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Original Articles

Occasional notes

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ORIGINAL ARTICLE

The Osmani Medical Teachers Association Journal Volume 9 Number 2

Non-descent vaginal hysterectomy -the least invasive and better cosmetic approach

Samar Kumar Ghosh[1] , Morshed Ahmed Chowdhury[1] , Dilip Kumar Bhowmic[1] Nasreen Akhter[1], Anwara Khatun [1]

Abstract

In this prospective study we performed 200 Non-descent vaginal hysterectomy (NDVH) on benign conditions (Fibroid, DUB, Adenomyosis, PID, Ovarian cysts) during the last 11 months period.(May/09 to March/10) in Sylhet MAG Osmani Medical College Hospital and different private Hospitals in Sylhet City. For the larger sized uterus we practiced volume reducing procedures such as Bi-section, Myomectomy, Debulking, Morcellation & combination of these procedures. Regional block anaesthesia (SAB) was used in all the cases. Specially designed volsellum, vaginal specullum & uterine clamps were used which could make a difference in performing NDVH opn.The mean time of opn. was 30.92 min (range15-60 mins), average operative blood loss was 40-100 ml in all, but five cases were given blood transfusion who lost 500 to 700 ml each. All patients were discharged by 72 hours, 01 %(2) patients developed major complication (Bladder injury). In our opinion, this procedure, amongst the routes of hysterectomy, is the least invasive with the least morbidity & obviously cosmetic one and is feasible, effective, safe procedure when done by expert vaginal surgeons.

[OMTAJ 2010; 9(2)]

Introduction

Hysterectomy is one of the most commonly performed major Operation. Approximately 600,000 hysterectomies are performed in the United States each year [1] and 20% of women in the UK undergo hysterectomy before the age of sixty.[2] Historically the uterus has been removed by either the abdominal or vaginal route. The vaginal operation is preferable when there are no contraindications because of lower morbidity and quicker recovery.[3] Vaginal hysterectomy has been considered valid alternative to the abdominal approach and Studies have shown it to be associated with fewer complications, [4] and a shorter recovery period and hospital stay than the abdominal procedure. [5]

In addition, the operation can be performed successfully even in women with an enlarged uterus, nulliparity or a history of pelvic surgery.[6-9] The need for oophorectomy should not be considered a contraindication.[10] Total hysterectomies, preferably by the vaginal route, has been better researched, with longer follow-up periods, and it is less costly in the long term. It therefore remains the procedure of choice for most women. The main supports of the uterus are the cardinal and uterosacral ligaments. These are the most caudal of the pedicles and are relatively easy to divide to allow further descent. [11] It may also be contemplated for women with endometrial[12,13] or cervical[14] malignancy. Many of the traditional contraindications to vaginal hysterectomy are no longer valid and the incidence of operative injury is low. [15] It is always difficult to handle large size uterus irrespective of method and route of surgery. Non-descent vaginal hysterectomy (NDVH) has become so well established that even a 18-20 week size uterus, if there is no adhesions, can be easily delivered vaginally [16] and it is not impossible to do a heroic vaginal hysterectomy on uterus of 30 week size. The only prerequisite will be proper training, right instrumentation & good lighting. NDVH technique has recently enjoyed an increased in popularity following realization that an experienced vaginal surgeon can achieve a similar low level of morbidity as that of laparoscopic hysterectomy but in reduced operation time and with better cosmetic effect. Usual limitation of NDVH is its size but now with larger sizes hysterectomy can be facilitated by bisection, morcellation, wedge debulking, myomectomy or

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combinations of these.[17] NDVH is least invasive than laparoscopic and abdominal hysterectomy. It is well accepted by both patients and gynaecologists. NDVH technique is superior in certain specific instances where pelvic floor repair is necessary. Ovaries and tubes can be removed if the need arise; even cystectomy can be done as well. Outpatient VH has been shown to be possible in the USA (Stovall et al, 1992). An absolute contraindication is suspected ovarian malignancy. Relative contraindications include moderate to severe endometriosis and adhesions. The aim of this paper is to study the safety, efficacy & feasibility of performing vaginal hysterectomy on non-descent uterus.

Methods

In this prospective study we recruited 200 cases who underwent Non descent vaginal hysterectomy for benign gynaecological conditions like Fibroid, DUB, Endometriosis, PID, Ovarian cysts, during the last 11 month period (May/09 to March/10) in Sylhet MAG Osmani Medical College Hospital and different private Hospitals in Sylhet City. Informed written consent was taken from each patient and told them that the operation may be converted to laparotomy if the need arises. The patients were placed in extended lithotomy position. Then cleaning and draping the operative field. Two volsellum were used to hold the two lips of the cervix. With mild traction to downwards and forwards the anterior vaginal wall was cut transversely below the lower transverse vaginal ridge. Then cut the pubo-vesico-cervical ligaments. Bladder was pushed upwards that opens the utero-vesical fold of peritoneum which then cut transversely and extended digitally to open the anterior pouch. Then the cervix was pulled upwards by giving traction on volsellum and open the posterior pouch in the similar way Two specially design vaginal speculum were placed through each opening which guard the rectum below and bladder above, also it exposed the operative field. Uterosacral and cardinal ligaments were situated in close proximity to vaginal vault which were clamped cut and ligated. Clamping of the uterine vessels was easy vaginally as their relationship to isthmus remained unchanged. The next step depended upon the size of the uterus. Uterine bisection, debulking, myomectomy, morcellation or combination of these, which were performed as and when required. After delivery of the uterus in the vagina hysterectomy was completed as usual fashion. Data regarding age, parity, uterine size, uterine weight, operation time, estimated blood loss, complications, hospital stay were recorded. Vaginal hysterectomy was considered successful if it was not abandoned or converted to abdominal route. All cases were performed under regional anesthesia either Spinal or Epidural block. The procedures are shown with Figs. 1 to 7.

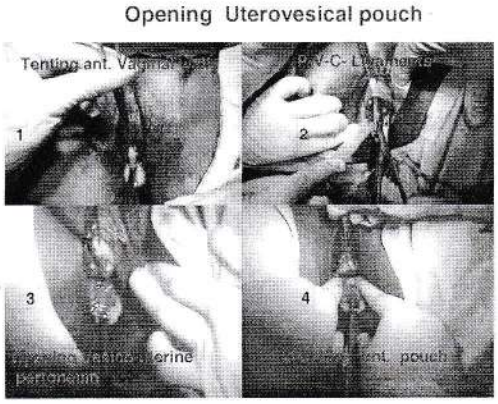


Fig.1, showing ant. Colpotomy.

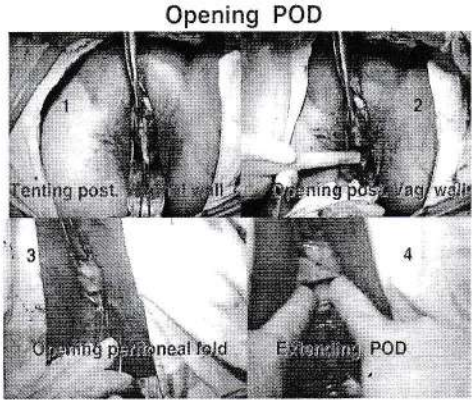
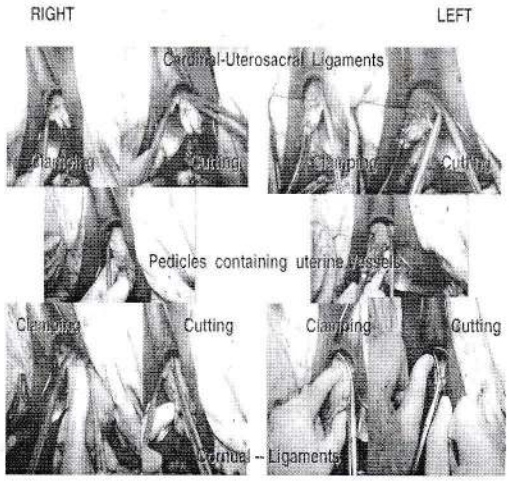
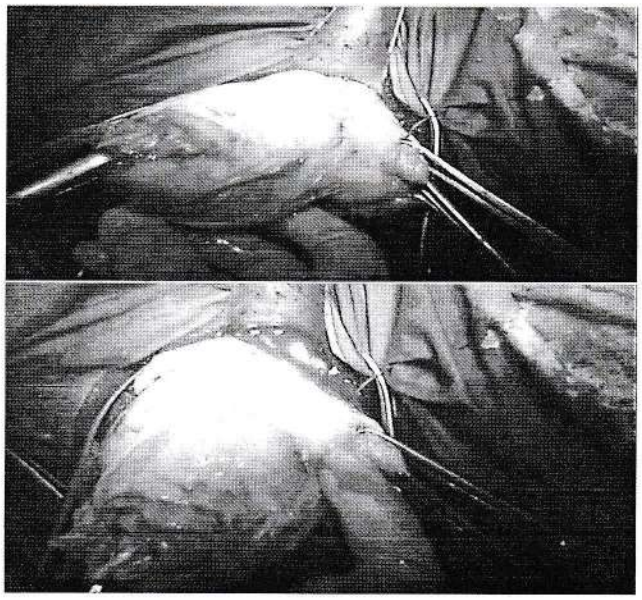


Fig. 2, showing post. colpotomy



ligatingof uterine pedicles.



Fundus

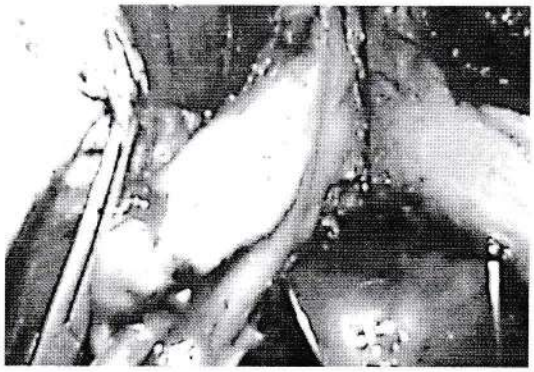


Fig. 4. Showing partial bisection of uterus

Body of uterus

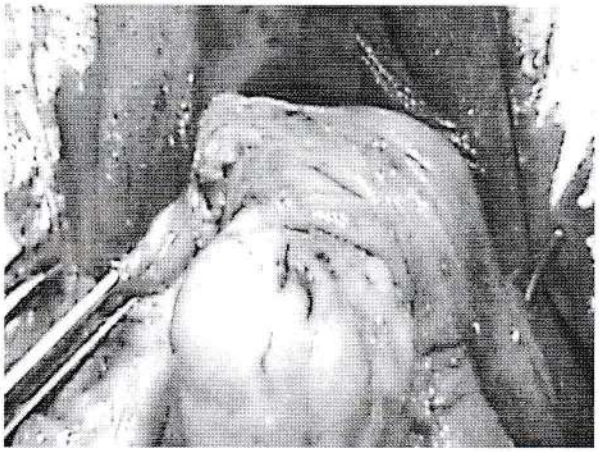
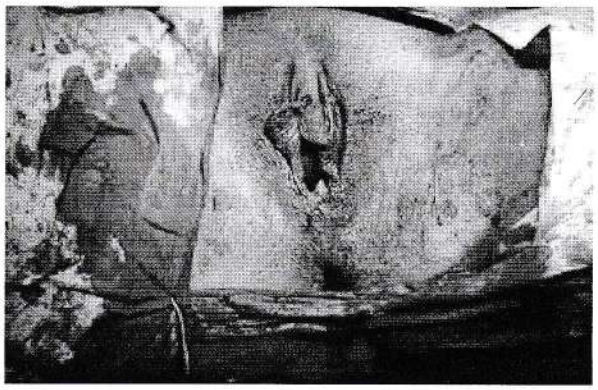
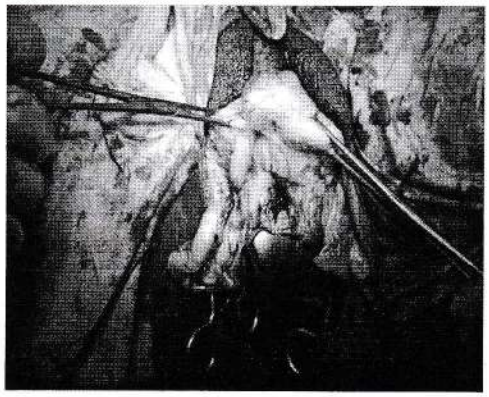


Fig.6, Showing myomectomy





Results

Total number of non-descent vaginal hysterectomy carried out during this period was 200.. Most of these women were in the age group of 41 to 50 years. 74%

with a median age of 44 years. More than 50% of them had parity of four or more, a favourable condition for non-descent vaginal hysterectomy (table 1). The commonest indications for surgery was dysfunctional uterine bleeding, followed by Fibroid, Pelvic inflammatory diseases, Adenomyosis, Endometriosis, Ovarian cysts(table-II). Different uterine sizes were removed among them 60 % were in the 6 to 8 weeks size while 10 % were in 20 to 30 weeks size(Diag. 1). Removed uteri were weighted of which, 30 % had weight between 50 to 100 grams, whereas10 % had weight between 500 to 800grams(Diag. 4).Additional surgery was done in 50 % cases, such as unilateral and or bilateral salpingo-oophorectomy, anterior and or posterior colpoperineorrhaphy, ovarian cystectomy(Diag. 2).Time needed for completion of operation was widely varied 15 to 20 mins were required for uteri below 10weeks size and without any additional surgeries. Larger sized uteri (20 to 30 wks.) and those who required additional surgeries were needed 50 to 60 mins for completion of operation. Two (1%) cases developed major complication (Bladder injury) and ten (5%) cases developed minor complications. Hospital stay was significantly lower. 40 % were discharged 36 hrs after operation and 10 % were discharged from hospital after 72 hours of operation. In this type of operation peroperative blood loss was significantly low. Only five(2.5%) patients were given blood transfusion.. Intact uteri were removed in 40 % cases whereas 60 % cases required one or combination of morcellation process (Diag. 3). Vault granuloma was reported in two cases and treated conservatively. Vault prolapsed was not reported yet by any cases. Neither of them developed secondary hemorrhage nor any one of them was readmitted with complications. The results were as good as or even better, than the surgery (TAH) it has replaced.

Table I: Showing age and parity distribution

Age(years)	No of patients	Parity	No of patients.
35- 40	24(12%)	1	10(05%)
41- 45	108(54%)	2	24(12%)
46- 50	40(20%)	3	64(32%)
Above 50	28(14%)	4 and above	102(51%)

Table II: Showing distribution of indicatiom

Indicationm	**No.of patient(n=200)**	**Percentage(%)**
DUB	106	53
Fibroid	50	25
PID	20	10
Adenomyosis	12	06
Ovarian cysts	12	06

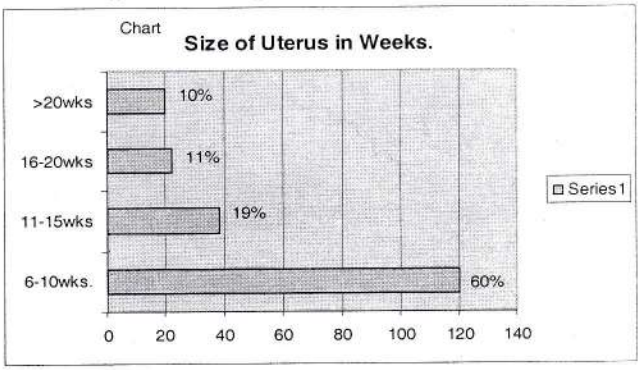
Table III: Showing complication

Bladder injuries were the major complications		
Complications	No of patients (n=200)	Percentage(%)
Bladder injury	03	01.5
Urinary tract infection	06	03
Haemorrhage	05	02.5
Retention of urine	03	01.5

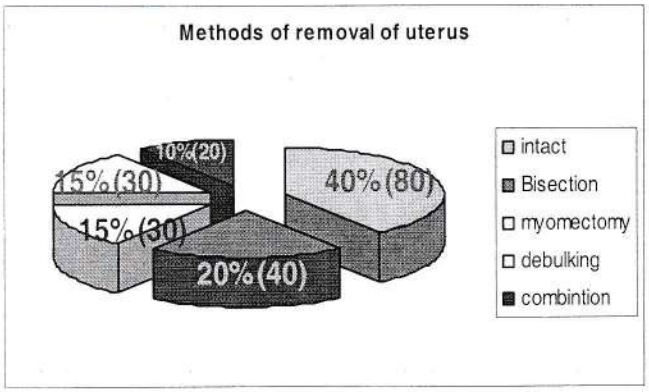
Table IV: Showing Surgical results

- Mean time required for operation was 30.92 mins (15-60 mins).
- Patients were discharged from the hospital usually 36-48 hours after operation.
- Only five patients needed blood transfusion who lost blood 500- 700 ml
- The operative blood loss were 40-100ml by rest of the patients who did not required blood transfusion
- No patients required Laparotomy conversion

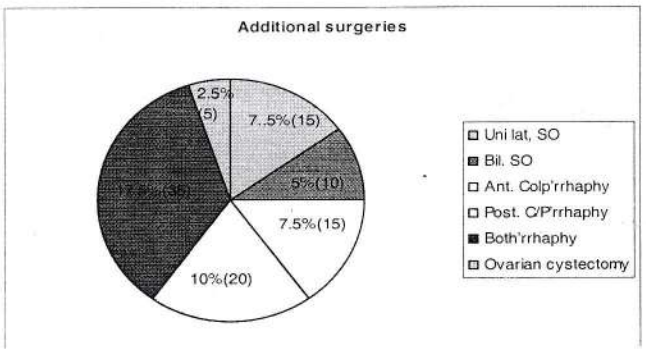
Diag. 1. Showing size of the uterus in weeks



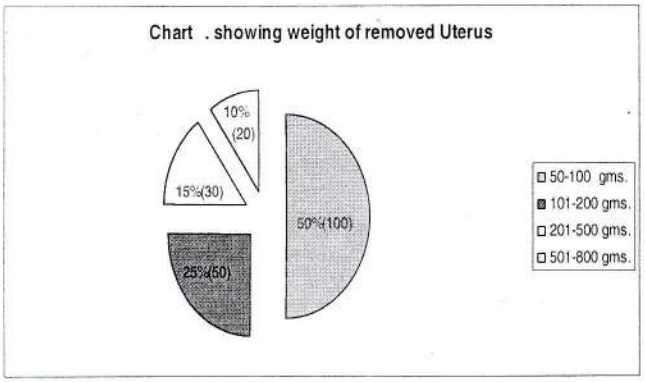
Diag. 2. Showing methods of removal of resected uterus



Diag 3: Additional Surgeries performed



Diag 4: Showing weight of resected uterus



Since most hysterectomies are performed for benign diseases the choice of surgical route depends almost entirely upon the surgeon's skill and experience. [18] Traditional contraindications to NDVH are numerous and varied, most determined more by surgeon's experience than true technical conditions. [19] Pelvic adhesive diseases are often not as severe as anticipated by surgeons and is not normally an impediment to NDVH. [20] With a skilled operator this procedure not only reduces medical morbidity but also financial requirements. These results can be compared with any existing or retrospective view.NDVH requires some retraining and practice to develop the skills necessary to produce a quality product in the operating theatre. The unfavourable factors for vaginal hysterectomy identified by many are absence of significant uterovaginal prolapse, presence of uterine enlargement, Previous abdomino-pelvic surgery(s) and the need for oophorectomy. [21] The indications for hysterectomy in this study were DUB, Fibroid and PID. Similar indications for PID has been reported by others. [17] Vaginal hysterectomy should be considered the operation of choice for the majority of women with dysfunctional uterine bleeding; [22, 23] the 2005 Cochrane review supports this view. [24] Different sizes of uteri have been removed vaginally using morcelation techniques. Unger [17] reported similar findings who operated upon uteri weighing 200 to 700 gm. Complications in our study were few and minor, comparable to the study by Kumar and Antony. [25] The shorter hospital stay, less requirement of post operative analgesics, less blood loss, early recovery and improved cost effectiveness made this operation acceptable to both patients and gynecologists.

In conclusion, NDVH operation presents the patients with the appropriate, most efficient and least invasive procedure with the least morbidity. As we run in the 21st century our goal should be to perform the vast majority of hysterectomy for benign diseases via the vaginal route, using laparoscopic assistance when necessary.

References

1. Keshavarz H, Hillis SD, Kiele BA, Marchbanks PA. Hysterectomy Surveillance- United States, 1994–1999. MMWR CDC Surveillance Sum. 2002;51 (SS05):1–8.
2. The Royal College of Obstetrics and Gynaecology. The management of menorrhagia in secondary care. The Royal College of Obstetrics and Gynaecology; 2004. National Evidence-Based Clinical Guidelines.
3. Clinch J. Length of hospital stay after vaginal hysterectomy. Br J Obstet Gynaecol. 1994;101:253–4.

4. Dicker RC, Greenspan JR, Strauss LT, Cowart MR, Scally MJ, Peterson HB et al. Complications of abdominal and vaginal hysterectomy among women of reproductive age in the United States. The Collaborative Review of Sterilization. Am J Obstet Gynecol 1982;144:841–8.
5. Miskry T, Magos A.. Randomized, prospective, double-blind comparison of abdominal and vaginal hysterectomy in women without uterovaginal prolapse. Acta Obstet Gynecol Scand 2003;82:351–8.
6. Benassi L, Rossi T, Kaihura CT, Ricci L, Bedocchi L,Galanti B, *et al.* Abdominal or vaginal hysterectomy for enlarged uteri: a randomized clinical trial. Am J Obstet Gynecol 2002;187:1561–5.
7. Hwang JL, Seow KM,Tsai YL, Huang LW, Hsieh BC Lee C. Comparative study of vaginal, laparoscopically assisted vaginal and abdominal hysterectomies for uterine myoma larger than 6 cm in diameter or uterus weighing at least 450 g: a prospective randomized study. Acta Obstet Gynecol Scand 2002; 81:1132–8.
8. Deval B, Rafii A, Soriano D, Samain E, Levardon M, Darai E. Morbidity of vaginal hysterectomy for benign tumors as a function of uterine weight. J Reprod Med 2003;48:435–40.
9. Agostini A, Bretelle F, Cravello L, Maisonneuve AS,Roger V, Blanc B.Vaginal hysterectomy in nulliparous women without prolapse: a prospective comparative study. *BJOG* 2003;110:515–8.
10. Sheth SS. Adnexectomy for benign pathology and vaginal hysterectomy without laparoscopic assistance. *BJOG* 2002;109:1401–5.
11. Davies A,Vizza E, Bournas N, O'Connor H, Magos A. How to increase the proportion of hysterectomies performed vaginally. Am J Obstet Gynecol 1998;179:1008–12.
12. Varma R,Tahseen S, Lokugamage AU, Kunde D.Vaginal route as the norm when planning hysterectomy for benign conditions: a change in practice. Obstet Gynecol 2001; 97:613–16.
13. Mehra S, Bhat V, Mehra G. Laparoscopic versus abdominal versus vaginal hysterectomy. Gynecol Endosco1999;8: 29–34.
14. Johnson N, Barlow D, Lethaby A,Tavender E, Curr E, Garry R. Surgical approach to hysterectomy for benign gynaecological disease. Cochrane Database Syst Rev 2005;:CD003677.
15. Doucette RC, Sharp HT, Alder SC. Challengin generally accepted contraindications to vaginal hysterectomy. Am J Obstet Gynecol 2001;184: 1386–9.
16. Kovac SR, Pignotti BJ, Binduetel GA. Hysterectomy: a comparative statistical study of abdominal v. vaginal approaches. Missouri Medicine 1988; 85:312-316.
17. Unger JB. Vaginal hysterectomy for the woman with moderately enlarged uterus weighing 200-700 grams. Am J Obstet Gynecol 1999; 180:1337-44.
18. Dorsey JH, Steinberg EP, Holfz PM. Clinical indications for hysterectomy route. Patients characteristics or patients preference ? Am J Obstet and Gynecol 1995;173; 1452-1460.
19. Ijaccs JH. Gynecology and Obstetrics. Clinical gynecology, vol. 1, 1990 pp. 1-11.
20. Kovac SR, Cruikshank SH, Retto HF. Laparoscopy assisted vaginal hysterectomy. JGynecologic Surg 1990;6:185.
21. Davies A, Wizza E, Bournas N et al. How to increase the proportion of hysterectomies performed vaginally. Am J Obstet Gynecol 1998;179:1008-12.
22. Unger JB. Vaginal hysterectomy for the woman with moderately enlarged uterus weighing 200 to 700 grams. Am J Obstet and Gynecol 1999; 180: 1337-44.
23. Carriero C, Nappi L, Melilli GA, Di Gesu G, Cormio G, Di Vagno G, *et al.* Prognostic factors and selective use of vagina hysterectomy in early stage endometrial carcinoma. Eur J Gynaecol Oncol 1999;20:408–11
24. Angioli R, Martin J, Heffernan T, Massi G. Radical vaginal hysterectomy: classic and modified. Surg Clin NorthAm 2001;81:82940.
25. Kumar S, Antony ZK. Vaginal hysterectomy for benign non-prolapsed uterus- initial experience. J Obstet and gynecol Ind 2004;54:60-3.

ORIGINAL ARTICLE

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Antipsychotic Effect of Olanzapine and Risperidone in Acute Schizophrenia Compared to Haloperidol

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Abstract

Documented effect and tolerability of typical antipsychotic like haloperidol warrant to explore the effect and tolerability of atypical antipsychotic in the treatment of acute schizophrenia. To compare the effect and tolerability of olanzapine and risperidone with haloperidol in the treatment of acute schizophrenia a study was carried out in the Department of Pharmacology & Therapeutics in collaboration with the Department of Psychiatry, Sylhet MAG Osmani Medical College Hospital. An open label, randomized controlled clinical trial was conducted on 105 patients with acute schizophrenia diagnosed by DSM-IV criteria and Brief Psychiatric Rating Scale score. Patients were randomized into three treatment groups, Group I (n=35) received Haloperidol, Group II (n=35) received Olanzapine and Group III (n=35) received Risperidone for 3 weeks. Evaluation of the patient's response was measured at 10 days interval for 2 times by brief psychotic rating scale scoring (BPRS). Adverse effects are scored with Simpson-Angus Scale for EPS and Barnes Akathisia rating scale.

At baseline BPRS scores among different groups were alike but after three weeks treatment mean of BPRS score reduction was observed in Group I, Group II and Group III. Olanzapine and risperidone group achieved more reduction of BPRS score than the haloperidol group ($p=0.001$). Effective outcome was achieved in 82.9% of haloperidol, 100.0% of Olanzapine and 91.4% of risperidone treated patients. Statistical significant better treatment outcome was observed in olanzapine and risperidone group than that of haloperidol group ($p<0.05$) and olanzapine appeared more effective. More adverse events were recorded in Haloperidol group, although extrapyramidal syndrome and drug induced akathisia were almost similar among three groups ($p>0.05$).

Olanzapine and risperidone shows more effective and safe than haloperidol in the treatment of acute schizophrenia and olanzapine appears better and safer among the three studied drugs.

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Introduction

Schizophrenia is a severe and destabilizing psychiatric disorder with devastating effects on both its victims and their families. Furthermore, it extracts enormous economic cost from society[1]. Schizophrenia is the most difficult to define and describe among all the major psychiatric Syndromes. Schizophrenia is a disorder with a low incidence but a relatively high prevalence and cost[2] reflecting its chronicity in many patients. Although incidence rate is about two to three times lower than actual rate for more restricted diagnosis[3] but the prevalence of schizophrenia is same in the different countries. Prevalence of Schizophrenia in Bangladesh is 0.6 percent[4].With a typical onset in late adolescence or early adulthood schizophrenia generally follows a

recurrent and chronic course. While the majority of the patients recover from their psychotic symptoms following their first episode of illness[5].

They are subsequently at a high risk for a relapse and, ultimately, for persistent morbidity in the form of residual positive or a negative symptoms or both[6].Conventional neuroleptic may adversely affect patient's abilities to function and develop normally. To avoid the adverse effects of conventional typical antipsychotic, alternative atypical antipsychotic are introduced. Atypical antipsychotic have been heralded as a significant advance in the treatment of patients with schizophrenia. Head to head studies are lacking. There is little rational basis for selecting one over another other than a patient's history of response, lack of response or side effects.

The traditional antipsychotic binds D_2 receptor fifty times more avidly than D_1 or D_4 receptors. Several of the atypical antipsychotic drugs have much less effect on D_2 receptors and yet are effective in schizophrenia has redirected attention to the role of other dopamine receptors and to non dopamine receptors especially serotonin receptor subtypes that may mediate synergistic effects or protect against the extra pyramidal consequences of D_2 antagonism.

Several studies conducted by others and established that atypical antipsychotic has a greater efficacy and tolerability profile that demonstrates several benefit over typical antipsychotic in psychotic over activity, quieting the patient, extrapyramidal symptoms and other side effect. To the best of knowledge no comparative study had been done in our country. So to compare the effect and tolerability of atypical antipsychotic agents with a typical one in the treatment of acute schizophrenia was the objective of this study.

Materials and Methods

A randomized clinical trial was carried out to conduct a comparative study between haloperidol, olanzapine and risperidone in the treatment of acute schizophrenia. Patients having acute schizophrenia diagnosed by DSM-4 criteria attending the Psychiatry outdoor of Sylhet MAG Osmani Medical College Hospital were enrolled as study population. Sample was enrolled purposely in the study that fulfills the inclusion and exclusion criteria. A total of 105 subjects who met the enrollment criteria were purposively included in the study. For treatment allocation randomization was done by lottery and the sample was divided into three groups. To avoid selection bias, there were three cards. One marked with 'H' (for haloperidol), another marked with 'O' (for olanzapine) and other marked with 'R' (for risperidone). The investigator himself shuffled the cards and participating patients were asked to draw a card blindly. If the patient got the card marked with 'H', he/she was assigned with haloperidol as Group-I. . If the next patient got the card marketed with 'O', he/she was assigned with olanzapine as Group-II. The consecutive patient must be assigned with risperidone as Group-III. All the patients were given the study drugs for at least three weeks. Evaluation of the patient's response was assessed on 10th day and 21st day by brief psychiatric rating scale scoring. Effectiveness was evaluated by scoring the severity of schizophrenia by scoring of brief psychiatric rating scale (BPRS). During drug therapy patients were instructed to report to psychiatric department or to investigator if any problem aroused. The safety of the drug in terms of adverse events encountered during the course of treatment was assessed by scoring Simpson-Angus Scale for Extrapyramidal symptoms and by scoring of Barnes Akathisia rating scale for drug induced akathisia . Data were collected by researcher himself with designed questionnaire. All statistical analysis was done by SPSS 15.0 version for windows software package. The result was expressed as mean ± SD, 95% confidence limit was taken as level of significance. BPRS score was analyzed using analysis of variance (ANOVA). Categorical variables were analyzed using a χ^2 test. Ethical permission was obtained from the Institutional Ethical Review Committee of Sylhet MAG Osmani Medical College Hospital to undertake the present study. Written consent was obtained from each subject who voluntarily consented to participate in the study

Results

In the incidence of age of the patients of different treatment groups shows majority of patients belonged to 21 to 40 years age group. No statistical significant difference was observed among these groups in term of age distribution ($F=0.337$, $p=O.715$). Mean duration of suffering was 4.97 ± 5.83, 4.55 ± 5.11 and 6.1 ± 5.31 years for the patients of Group I, Group II and Group III respectively. No statistical significant difference was observed in term of duration of suffering among all groups ($F=0.452$, $p=0.452$).

Table I: Incidence of patients of different groups by age and duration of disease

Age (in year)	Group		
	Group I Haloperidol	Group II Olanzapine	Group III Risperidone
≤20	10 (28.6)#	7 (20.0)	13 (37.1)
21-40	21 (60.0)	25 (71.4)	19 (54.3)
>40	4 (11.4)	3 (8.6)	3 (8.6)
Total	**35 (100.0)**	**35 (100.0)**	**35 (100.0)**
Mean ± SD	29.06 ± 9.98	30.31 ± 9.02	28.40 ± 10.66
Duration(Years) Mean ± SD	4.97±5.83	4.55±5.11	6.1±5.31

In all groups male were predominant. In Group I 77.1%, in Group II 57.1% and in Group III 71.4% were male. No statistically significant difference was observed among group in term of sex distribution ($x^2=4.35$, $p=0.178$). In GroupI 88.6% patients had schizophrenia and 11.4% had schizophreniform disorder. In GroupII 82.9% had schizophrenia, 5.7% had schizoaffective disorder and 11.4% had schizophreniform disorder. In groupIII 80.0% had schizophrenia, 5.7% had schizoaffective disorder and 14.3% had schizophreniform disorder. No statistical significant difference was observed in term of clinical diagnosis among groups ($x^2=2.31$, $p>0.678$).

Table II: Incidence of sex and clinical diagnosis in different groups

	Group		
	Group I	Group II	Group III
Sex	Haloperidol	Olanzapine	Risperidone
Male	27 (77.1)#	20 (57.1)	25 (71.4)
Female	8 (22.9)	15 (42.9)	10 (28.6)
Total	35 (100.0)	35 (100.0)	35 (100.0)
Clin diag			
Schizophrenia	31 (88.6)#	29 (82.9)	28 (80.0)
Scz affec disorder	0 (0.0)	2 (5.7)	2 (5.7)
Scz phrn disorder	4 (11.4)	4 (11.4)	5 (14.3)
Total	35 (100.0)	35 (100.0)	35 (100.0)

Table III: Incidence of BPRS score in different groups

BPRS score	Group		
	Group I Haloperidol	Group II Olanzapine	Group III Risperidone
Baseline	47.54 ± 8.69	44.91 ± 6.79	45.97 ± 7.52
At 10th days	34.17 ± 6.21	28.69 ± 6.89	31.29 ± 5.91
At 21st days	22.31 ± 6.60	11.00 ± 4.45	18.69 ± 5.73

No significant difference of BPRS score ($F=1.031$, $p=0.360$) among different groups was observed on baseline. At 10th day significantly lower BPRS score ($F=6.532$, $p=0.002$) was observed in Group II (olanzapine treated group) than Group III (risperidone treated group) and Group I (haloperidol treated group). At 21st day significantly lower BPRS score ($F=36.469$, $p<0.001$) was observed in Group II (olanzapine treated group) than from Group III (risperidone treated group) and Group I (haloperidol treated group).

In detail the percentage changes (reduction) of BPRS score among the three groups are as follows:

Group 0-10th day 10th-21st day 0-21st day

Group	0-10th day	10th-21st day	0-21st day
Group-I	28.1%	34.7%	53.0%
Group-II	36.1%	61.6%	75.5%
Group-III	31.9%	40.2%	59.3%

Percentage changes of haloperidol were 28.1%, 34.7% and 53.0% on 10th day, 21st day and (0-21st) day respectively. The most Percentage reduction (53.0%) was observed on (0-21st) day. Percentage changes of olanzapine were 36.1%, 61.6% and 75.5% on 10th day, 21st day and (0-21st) day respectively. The most Percentage reduction (75.5%) was observebed on (0-21st) day. Percentage changes of risperidone were 31.9%, 40.2% and 59.3% on 10th day, 21st day and (0-21st) day respectively. The most Percentage reduction (59.3%) was observebed on (0-21st) day. So among three drugs the most percentage change (75.5%) was observed in olanzapine treated group on (0-21st) day.

Table IV: Incidence of adverse effect in different groups

Adverse effect	Group I Haloperidol	Group II Olanzapine	Group III Risperidone
Present	12 (34.3)#	3 (8.6)	10 (28.6)
Absent	23 (65.7)	32 (91.4)	25 (71.4)
Total	35 (100.0)	35 (100.0)	35 (100.0)

Table VI shows the adverse event observed in different treatment groups during trial. More adverse events 34.3% were observed in group I, than 8.6% and 28.6% in group II and group III respectively. Statistically significant difference was observed among these groups in term of adverse effect ($x^2=7.04$, $p=0.030$).

Table V: Incidence of Simpson Angus and Barnes Akathisia rating scores in different groups

Simpson Angus Score	Group I Haloperidol	Group II Olanzapine	Group III Risperidone
Base line	0	0	0
At 10th days	0.63 ± 1.09	0.11 ± 0.40	0.80 ± 2.59
At 21st days	0.14 ± 0.36	0	0.11 ± 0.53
Rating scale for drug induced akathesia			
Base line	0	0	0
At 10th days	0.09 ± 0.28	0.09 ± 0.37	0.23 ± 0.43
At 21st days	0.03 ± 0.17	0.03 ± 0.17	0.09 ± 0.28

At baseline Simpson Angus score was 0 in all group. At 10th day of follow up mean score was 0.63 ± 1.09, 0.11 ± 0.40, and 0.80 ± 2.59 in Group I, Group II and Group III respectively, difference were not significant ($F=1.633$, $p=0.195$). At day 21st day mean score for Group I was 0.14 ± 0.36, Group II was 0 and Group III was 0.11 ± 0.53 were also not significant ($F=1.475$, $p=0.234$). Rating scores for drug induced akathesia were 0.09 ± 0.28, 0.09 ± 0.37, 0.23 ± 0.43 in Group I, Group II and Group III respectively on 10th day and 0.03 ± 0.17, 0.03 ± 0.17 and 0.09 ± 0.28 on 21st day. No significant differences ($F=1.778$, $p=0.174$; $F=0.829$, $p=0.4390$) were observed among groups in term of Barnes akathesia rating scale statistically.

Table VI: Incidence of the patient's outcome in different groups

Treatment outcome	Group I Haloperidol	Group II Olanzapine	Group III Risperidone
Effective	29 (82.9)	35 (100.0)	32 (91.4)
Lack of clinical response	6 (17.2)	0 (.0)	3 (7.6)
Total	**35 (100.0)**	**35 (100.0)**	**35 (100.0)**

Table VI shows the treatment outcome at the end of the trail. From Group I effective outcome were seen in 82.9% patients and lack of clinical response were seen in 17.2% patients. From group II effective outcome were seen in 100.0% patients. From group III effective outcome were seen in 91.4% patients and lack of clinical response were seen in 7.6% patients. Statistical significant difference was observed in term of treatment outcome among groups ($x^2=6.56$, $p=0.038$).

Discussion

Schizophrenia is a mental illness that is among the world's top ten causes of long-term disability. Among psychiatric disorders, schizophrenia is the most disabling and requires a disproportionate share of mental health services[7].Most studies evaluating the comparative efficacy of atypical antipsychotic during its clinical developmental trials have used haloperidol as a comparative agent because of its proven efficacy in treating schizophrenia[8]. In the field of antipsychotic, olanzapine and risperidone are newer member. Haloperidol works well but gives to a number of side-effects which may lead to drug discontinuation. On the other hand, olanzapine and risperidone has so far been tested as an equally effective to haloperidol with high safety profile.

Most of the patients of the study belonged to 21 to 40 years age group. There was no statistical

significant difference among three treatment groups in term of age distribution and duration of disease ($p > 0.05$). Different clinical types of schizophrenia (Schizophrenia, Schizoaffective disorder and Schizophreniform disorder) among the study groups were also not significant ($p > 0.05$). Baseline BPRS score among different groups was alike but after three weeks treatment olanzapine and risperidone group achieved more reduction of BPRS score than the haloperidol group ($p < 0.001$) and Olanzepine was the most effective drug.

Tran[9] compared olanzapine and risperidone in a double blind 28-weeks prospective trial with 339 patients who met DSM-IV Criteria for schizophrenia, schizoaffective disorder or schizophreniform disorder. Both olanzapine and risperidone were safe and effective. Olanzapine demonstrated significantly greater efficacy in negative symptoms, as well as overall response rate (40% decrease in the positive and negative syndrome Scale total score). A statistically greater proportion of the olanzapine-treated than risperidone-treated patients maintained their response at 28 weeks based on Kaplan-Meier survival curves. The incidence of extrapyramidal side effects, hyperprolactinemia, and sextual dysfunction was significantly lower in olanzapine-treated than risperidone-treated patients. In addition, statistically significantly fewer adverse events were reported in olanzapine-treated patients than their risperidone-treated counterparts. In the current study the response rate as effective outcome was best seen in the olanzapine treated group (100%) compared to that of risperidone (91%) and haloperidol (82.9%) treated group. The results were statistically significant ($p = 0.038$).

Conley[10]compared subjects ($n = 377$) who met DSM-IV criteria for schizophrenia or schizoaffective disorder were randomly assigned to risperidone or olanzapine for 8 weeks. The two study groups were similar at baseline except that the olanzapine group was slightly younger than the risperidone group. Similar proportions of the risperidone and olanzapine groups reported extrapyramidal symptoms (24% and 20%, respectively). Severity of extrapyramidal symptoms was low in both groups, with no inter-group differences. Efficacy was determined by Total Positive and Negative Syndrome Scale scores and scores on the five Positive and Negative Syndrome Scale factors which were improved in either group at week 8. There were overall inter-treatment differences in efficacy. They concluded that both treatments were well tolerated and efficacious. Analysis of age group in the current study found that age between 21 to 40 years were most among other groups although that result was not significant ($F = 0.337$, $p = 0.715$). Efficacy was determined by BPRS score where positive and negative symptoms were included in which lowest BPRS score was observed in olanzapine group at the endpoint. More patients of haloperidol treated group (34.3%) were suffered from adverse effect than risperidone (28.6%) treated group and the least (8.6%) were observed in olanzapine treated group. This result was statistically significant ($p > 0.001$)

Haloperidol is a comparator because of its excellent efficacy in schizophrenia. Although there were more withdrawn because of side-effects with this drug, but those who were able to tolerate it had a response rate of 98%[8]. In the current study the most adverse effects were also observed in patients of haloperidol treated group (34.3%) than olanzapine (8.6%) and risperidone (28.6%) treated group and effective outcome found 100.0% in olanzapine group than 91.4% in risperidone and 82.9% in haloperidol group.

A retrospective muli-centre observational study was done by Pelagotti[11]. From the meta-analysis of this study confirms the results were shown that olanzapine might imply a lower risk of dropout than risperidone and olanzapine had more effective outcome as well. In the current study the most effective outcome were shown in olanzapine treated group.

An international, multicenter double-blind trial by Tollefson[12] compared olanzapine and haloperidol over 6 weeks. Olanzapine demonstrated superior to haloperidol in reducing BPRS score and other secondary measure. 66.5% patients of olanzapine completed than 46.8% haloperidol treated patients for 6 weeks. In the current study more reduction of percentage change (75.5%) of BPRS score were observed in olanzapine treated group than risperidone treated group (59.3%) and haloperidol treated group (53.0%). In Simpson-angus rating scale score were 0; (0.11 ± 0.53) and (0.14 ± 0.36) in olanzapine, risperidone and haloperidol treated groups respectively at the end point reflected less EPS in olanzapine than risperidone and haloperidol treated groups.Sikich[13]compared the efficacy of olanzapine and risperidone with 1st generation molindone. No significant different in response rate of molindone: 50%, olanzapine: 34%; risperidone:

46%. In the current study most effective out come were seen in olanzapine:100.0%, risperidone: 91.4%, haloperidol : 82.9%.

The antipsychotic was classified as effective if the patient's mental status improved sufficiently to no longer necessitate acute in-patient care. Such patient was moved to alternate form care. The antipsychotic was classified as ineffective if in the treating psychiatrist's assessment, the patient had made no significant improvement after 3 weeks of treatment[8].In the current study, in haloperidol group 82.9% of patients had effective outcome and 17.2% had lack of clinical response, in olanzepine group 100.0% had effective outcome and in risperidone group 91.4% patient's treatment outcome was found effective and 7.6% had lack of clinical response. Statistically significant better treatment outcome was observed in olanzapine and risperidone group than that of haloperidol group ($p=0.038$) and olanzepine was the most effective drug among three drugs.
Volavka[14] compared the efficacy and safety of three atypical antipsychotic (clozapine, olanzapine, and risperidone) with one another and with haloperidol in the treatment of patients with chronic schizophrenia or schizoaffective disorder. Consistent with current study they found that atypical antipsychotic drug were more effective than haloperidol.

Purdon[15] found that olanzapine has some superior cognitive benefits relative to haloperidol and risperidone. The three treatment groups showed no difference related to either in dystonia or dyskinesia at end point. Parkinsonian symptoms showed marked changes in between groups, in contrast comparisons showing more improvement in the olanzapine group compared to the haloperidol group So, in the current study atypical antipsychotic, olanzapine and risperidone are more effective than haloperidol in the treatment of acute schizophrenia. Olanzepine is the most effective and safe among these three drugs. Because the percentage changes (reduction) of BPRS score of three study drugs, olanzapine group shows maximum reduction (75.5%) than that of risperidone group (59.3%) and haloperidol groups (53.0%). Olanzapine shows maximum tolerability in term of adverse effect than that of risperidone and haloperidol groups. Because more adverse events were observed in haloperidol group than in olanzapine and risperidone group ($p<0.05$). Extrapyramidal syndrome and drug induced akathisia was almost similar among groups ($P>0.05$).

References

1. Torrey EF (ed): Surviving Schizophrenia: A Manual for Families, Consumers, and Providers. New York, HarperCollins, 1995; 409
2. Knapp M, Mangalore R, Simon J. The global cost of schizophrenia. Schizophr Bull. 2004; 30: 279-93.
3. Jablensky A. The Epidemiological horizon. In: Hirsch SR and Weinberger D, eds. Schizophrenia, 2nd edn. Blackwell, Oxford.2003; 203-31.
4. Firoz AHM, Karim ME, Alam F, Rahman AHMM, Zaman MM, Chandra V. Community based multy-centric service oriented research on mental illness with focus on awareness, prevalence, care, acceptance and follow up in Bangladesh,2003-2005. Manual on mental health for primary health care physician, National institute of mental health. 118.
5. Tohen M, Stoll AL, Strakowski SM, Faedda GL, Mayer PV, Goodwin DC, Kolbrener ML, Madigan AM. The McLean First-Episode Psychosis Project: six-month recovery and recurrences outcome. Schizophr Bull. 1992; 18:273–82.
6. Ciompi L. The natural history of schizophrenia in the long term. Br J Psychiatry. 1980; 136:412-20.
7. Mueser KT, McGurk SR. Schizophrenia. Lancet.2004; 363:2063–72.
8. McCue RE, Waheed R, Urcuoyo L, Orendain G, Joseph MD, Charles R, Hasan SM. Comparative effectiveness of second-generation antipsychotic and haloperidol in acute schizophrenia. Br J Psychiatry. 2006; 189: 433-440
9. Tran PV, Hamilton SH, Kuntz AJ, Potvin JH, Andersen SW, Beasley C Jr, Tollefson GD. Double-blind comparison of olanzapine versus risperidone in the treatment of schizophrenia and other psychotic disorders. J Clin Psychopharmacol.1997; 17:407–18.
10. Conley RR, Mahmoud R. A Randomized Double-Blind Study of Risperidone and Olanzapine in the Treatment of Schizophrenia or Schizoaffective Disorder. Am J Psychiatry. 2001; 158:765-74.

11. Pelagotti F, Santarlasci B, Vacca F, Trippoli S, Messori A. Dropout rates with olanzapine or risperidone: a multi-centre observational study. Eur J Clin Pharm.2004; 59 : 905-9.
12. Tollefson GD, Beasley CM Jr, Tran PV, Street JS, Krueger JA, Tamura RN,Graffeo K, Thieme M. Olanzapine versus haloperidol in the treatment of schizophrenia and schizoaffective and schizophreniform disorders: results of an international collaborative trial. Am J Psychiatry.1997; 154:457-65.
13. Sikich L, Frazier JA, McClellan J, Findling RL, Vitiello B, Ritz L. Double-Blind Comparison of First- and Second-Generation Antipsychotic in Early-Onset Schizophrenia and Schizo-affective Disorder: Findings from the treatment of early onset Schizophrenia Spectrum Disorders (TEOSS) Study. Am J Psychiatry.2008; 165:1420-31.
14. Volavka J, Czobor P, Sheitman B, Lindenmayer J, Citrome L, McEvoy JP,Cooper TB, Chakos M, Lieberman JA. Clozapine, Olanzapine, Risperidone, and Haloperidol in the Treatment of Patients with Chronic Schizophrenia and Schizoaffective Disorder. Am J Psychiatry. 2002; 159:255–62.
15. Volavka J, Czobor P, Sheitman B, Lindenmayer J, Citrome L, McEvoy JP,Cooper TB, Chakos M, Lieberman JA. Clozapine, Olanzapine, Risperidone, and Haloperidol in the Treatment of Patients with Chronic Schizophrenia and Schizoaffective Disorder. Am J Psychiatry. 2002; 159:255–62.

ORIGINAL ARTICLE

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Computed tomography-guided fine needle aspiration cytology of lung lesions: A study of 27 cases.

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Abstract

A total of 27 patients of computed tomography (CT) guided fine needle aspiration cytology of lung lesions were studied over a period of July 2008 to June 2010. Out of 27 cases, 85.1% (n = 23) were male and 14.9% (n = 04) were female. Most of the cases were above the age of 50 years. Cytologically 13(48.14%) cases were neoplastic lung lesion and remaining 14(51.85%) cases were non-neoplastic lung lesion. Among the neoplastic lung lesion most common tumour was squamous cell carcinoma 8(61.5%) followed by adenocarcinoma 04(30.7%) and 01(7.6%) small cell carcinoma. In 14 cases of non-neoplastic lung lesions 7(50%) cases were lung abscess followed by granulomatious inflammation 4(28.57%).No post procedural complication were noticed. In conclusion CT guided FNAC of lung lesions is safe and reliable procedure for early diagnosis of lung lesions.

[OMTAJ 2010; 9(2)]

Introduction

Percutaneous trans-thoracic fine needle aspiration cytology is well established diagnostic tools for cytological evaluation of lung lesion. At present computed tonography (CT) guided FNAC of lesions of the lung is widely practiced at several institutions where facilities for standard imaging technique and cytopathology are available. The procedure provides a safe, rapid and accurate diagnosis in patients having lung mass lesion as well[1]. CT-guided FNAC also provides an accurate diagnosis lung mass lesion even if it is small lesion. In one study it is concluded that CT-guided FNAC of small thoracic mass lesions (one cm or smaller) can provide a high diagnostic accuracy rates approaching those of larger lesions[2]. In cases of malignancy of the lung cytopathological diagnosis from material obtained by CT-guided FNAC offers a quick and specific diagnosis which helps clinician's implements appropriate measures like chemotherapay and radiotherapay as well[6]. It has been concluded in different literatures that CT-guided FNAC has very high sensitivity rates in regarding malignant lung lesions. On the other hand post procedural complication like pneumothorax, pulmonary haemorrhages and haemoptysis is very minimal. Severe chronic obstructive pulmonary diseases, bleeding diathesis and pulmonary arterial hypertension are relative contradications[7].

Material and Methods

A total of 27 patients were included in this study that had lung lesions that were suspected to be neoplastic lesions in most of the cases in chest radiographs and CT scan. Consecutive CT- guided FNAC of lung lesions of these patients were performed in private clinics and diagnostic laboratories in Sylhet town, from July 2008 to June 2010 with immediate cytological assessment.

Exclusion criteria were patients who were not able to hold their breath, or patients having severe COPD, bleeding disorder and contralateral pneumonectomy. Proper aseptic care was taken by cleaning the skin surface with povidone iodine before every FNAC. Aspiration was done by using 21g, 88 mm long spinal needle through percutaneaous transthoracic approaches, identifying the lesions in the exact section by CT scan after the measurement of the site of entry of the needle, route of the needle, and the distance between the skin and the lesion of the CT scan monitor. The patient's position was supine,

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prone, or lateral decubitus depending on the site of location of the lesions. Following placement of the needle, a CT-scan slice was taken to ascertain whether the tip of the needle was with in the lesion. The aspirate was obtained by to and fro and rotating movements of the needle with in the lesions and five to ten smears were prepared from the sample in the CT scan room. The smears were immediately fixed in the 95% alcohol and stained with papanicolou technique. The prepared slides were than examined under light microscope.

A follow up CT scan was done in every patient to rule out whether pneumothorax developed or not. Although all patients were observed carefully whether there is any post procedural complications developed or not. No active treatment was required for any of these patients.

Results

Out of 27 cases 21(77.77%) were male and 06(22.22%) were female the youngest patient was female of 41 years whereas oldest patient was male of 80 years, mean ages of patients 56.9 years. A genderwise distribution shows that mean age was 57.2 years for the male patients and 47.3 years for the female patients. The significant findings of the present study is maximum male patients were in the age group 51-60 years and no female patients were found in the age group 71-80years.

Table- 1: Age and sex distribution of patients (n=27)

Age group in years	Male (%)	Female(%)
41-50	03(11.11%)	02(7.40%)
51-60	10 (37.03%)	01(3.70%)
61-70	07 (25.92%)	01 (3.70%)
71-80	03 (11.11%)	0
Total	23	04

Out of 27 cases definitive cytological diagnosis was obtained in 24 cases and rest three cases were inconclusive and descriptive reports were given to the patients. Among 24 cytological diagnosed cases 13(48.1%) were malignant and 7(25.9%) were diagnosed as lung abscess and remaining 4(14.8) cases were diagnosed as granulomatous inflammation cytologically consistent with tuberculosis. Out of 13 malignant cases 8(61.53%) were squamous cell carcinomas, 4(13.76%) were adenocarcinoma and 1(7.69%) was small cell carcinoma. No metastatic lung tumour was diagnosed in the present series. Microscopically both the granulomatous inflammatory lung lesions and lung abscess showed classical cytomorphological feature.

Table-II: FNA Cytological diagnosis of patients (n=27).

Lung lesions	Cytological diagnosis	Number of cases	Percentage (%)
Prinary lung tumour			
	Squamous cell carcinoma	8	29.62
	Adenocarcinoma	4	14.81
	Small cell carcinoma	1	3.70
Benign (non-Neoplastic			
	Granulomatous inflammation cytologically consistent with tuberculosis	4	14.81
	Lung abscess	7	25.92
	Inconclusive	3	11.11

No post procedural complication was observed.

Discussion

The accuracy of CT- guided FNAC in the diagnosis of thoracic masses has been widely reported[8]. In our study we try to see the findings of CT- guided FNAC of lung lesion.

In this study all the 27 patients were adults the peak incidence were in the age group (51 -60 years) which was same as that was reported in a recent study [5]. The mean age was 56.9 years which was almost likely similar to another recent study [3]. The age ranged varies in most of the study from third to eighth decades whereas a study of 190 cases of thoracic mass lesions, the age ranged varied from sixty to 83 years[2]. In the present study male patients are 77.7% and female patients are 22.3% which were also more were comparable to observation made by others[4].

In this study, lung tumours were located more in the right side than in the left. In order to zone wise distribution of lung tumour on the basis of CT- scan

finding it was observed that upper zone is the most common site of lung tumour.

Most of the lung lesions were quite large in the present study (15 out of 27 lung lesions) were more or less 4-8 cm in diameter. The lesions were more variable in size (1.2-13.6cm) than those reported in other series[6].

Considering cytological diagnosis it was observed that maximum lung lesions were non-neoplastic 14 cases out of 27 cases. Among the neoplastic caases all were malignant lung tumour. Among the malignant lung lesions majority were squamous cell carcinoma (8 cases out of 13 cases) which were comparable to other observation[6,7].

No metastatic lung tumour was found in the present study. Among the benign and non neoplastic lung lesaions granulomatous inflammation consistent with tuberculosis were 4 cases and lung abscess were 7 cases. The incidence of inconclusive (unsatisfactory for diagnosis) 3 cases is in our studies was less than in other series[6,8]. The inconclusive results were due to scanty aspirate and inadequate cellularity.

In conclusion CT-guided FNAC of lung lesions is a safe, rapid and reliable procedure for the early diagnosis of lung lesions. On the basis of cytomorphological features it also can provide subclassification of lung tumour.

References

1. Santambrogio L, Nosotti M, Bellaviti N, Pavoni G, Radice F, Caputo V. CT-guided fine needle aspiration cytology of solitary pulmonary nodule. A prospective, randomized study of immediate cytologic evaluation. Chest 1997; 112: 423-5.
2. Klein JS, Interventional technique in thorax. Clin Chest Med 1999; 20:805-26
3. Bandyadhyay A, Laha R, Das TK, Sen S, Mangal S, Mitra PK. CT guided fine needle aspiration cxytology of thoracic mass lesion. Indian J Pathol Microbiol 2007; 50: 51-5.
4. Saha A, Kumar K, Chowdhury KM. Computed tomography guided fine needle aspiration cytology of thoracic mass lesions: A study of 57 cases. Journal of Cytology 2009; 26: 55-9.
5. Wallace MJ, Krishnamaruthy S, Broemeling LD, Gupta S, Ahrar K, Norello FR, Jr et al. CT- guided percutaneous fine needle aspiration biopsy of small pulmonary lesion. Radiology 2002; 225:823-8.
6. Saha S, Shukla K, Patel P. Role of fine needle aspiration cytology in the diagnosis of lung tumour- a study of 100 cases. Indian J Pathol Microbiol 2007; 50:56-8.
7. Sing JP, Grag L, Setia V. Computed tomography (CT) guided transthoracic needle aspiration cytology in difficult thoracic mass lesions-not approachable by USG. Indian J Radiol Imaging 2004; 14:395-400.
8. Ahmed S, Ahmed SU. Computed tomography guided fine needle aspiration cytology of lung lesions: A study of 162 cases. JCMCTA 2009; 20(1):50-2.
9. Saha S, Shukla K, Patel P. Role of fine needle aspiration cytology in the diagnosis of lung tumours- A study of 100 cases. Indian J Pathol and Microbiol 2007; 50: 56-8.
10. Abrari A, Aziz M, Haq R. Cytology of lung tumours- study of 60 cases with emphasis on accuracy and problemb areas. J Cytol 2003; 20:79-81.

ORIGINAL ARTICLE

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Preoperative evaluation of CA -125 levels in differentiating benign from malignant ovarian lesions

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Abstract

The purpose of this study was to evaluate the ability of serum CA125 level, to discriminate a benign from a malignant ovarian lesion. A total of 75 cases from July 2008 to June 2009 who had ovarian tumor and tumor like lesions on the basis of clinical findings were included. Serum CA 125 assays and histopathological examination of ovary were performed in all cases. Serum CA125 level was more reliable in discriminating benign and malignant ovarian lesions. The sensitivity, specificity, positive predictive value, negative predictive value were 80.95%, 81.48%, 62.96% 91.66% respectively. This study was mostly consistent with others published in the literature. An elevated pre-operative level of CA 125 is invariably associated with post surgical diagnosis of ovarian cancer.

[OMTAJ 2010; 9(2)]

Introduction

Ovarian cancer is characterized by few early symptoms, presentation at an advanced stage and poor survival. As a result it is the most frequent cause of death from gynecological cancer. A premalignant precursor for ovarian cancer has not been identified, limiting the focus of screening at present to detection of asymptomatic and early stage of disease. The relationship between stage at presentation and survival in ovarian cancer has long been provided a rationale for efforts to improve outcome by detection of early stage disease. During the last decade, a research effort has been directed toward improving outcomes for ovarian cancer by screening for preclinical, early stage disease using both imaging techniques and serum markers. Numerous biomarkers have shown potential in samples of clinically diagnosed ovarian cancer patients but few have been thoroughly assessed in preclinical disease and screening. The most thoroughly investigated biomarker in ovarian cancer screening is CA125.

CA125 antigen is a high molecular weight glycoprotein expressed by fetal amniotic and coelomic epithelium. The surface epithelium of normal fetal and adult ovaries do not express CA125, except expressed by a large proportion of epithelial ovarian cancers. CA125 was initially detected using a murine monoclonal antibody OC 125 raised in response to immunologic challenge with an ovarian cancer[1]. CA125 as a screening test was initiated by the fact that approximately 83% of patients with epithelial ovarian cancer had CA125 levels $>35U/ml^2$.

However, it has some limitation in early detection of ovarian cancer due to nonspecificity. Serum CA 125 may be increased in endometriosis, PID, adenomyosis, pregnancy and other malignancies like lung, breast and prostate cancer. And it may not be increased in mucinous carcinoma of ovary [3]. In spite of these situations, studies were carried out by different authors to see the serum CA 125 levels in clinically diagnosed cases of ovarian cancer with taking different cut off values for differentiating benign from malignant tumor. The sensitivity and specificity of those study were ranged from 76% - 83 % and 78% - 95%.[4, 5, 6, 7] Serum CA 125 is the current gold standard tumor marker in evaluation of pelvic masses to distinguish benign condition from malignant. Upper limit for a normal serum level of CA 125 is commonly 35 U/ml and above this level is suspicious of ovarian malignancy[8] .The purpose of this study was to evaluate the ability of serum CA125 level, to discriminate a benign from a malignant ovarian lesion.

Materials and Methods

A total 75 cases presenting with ovarian lesions reported in the inpatient and outpatient department of Obstetrics and Gynecology of Sylhet M A G Osmani Medical College Hospital and JRRMCH from July 2008 to June 2009 were consecutively selected in this present study. Serum CA125 assays and histopathological examinations of ovarian lesions

were performed in all cases. The serum CA125 was determined by MEIA technique for quantitative measurement (IMX, Abbott Laboratories, USA) [9]. The optimal cutoff value of serum CA125 was 35U/ml.[2, 10, 11, 12]

Postmenopausal status is defined as more than one year of amenorrhea or age older than 50 years in women who had a hysterectomy. Women who did not meet these criteria were classified as premenopausal[13].

Results

The age of patients ranged from 15 to 75 years. Considering the decade as a group, patients were divided into seven groups. The maximum number 21 cases (28.0%) belonged to the age group 21 to 30 years.

Among the histopathplogically confirmed diagnosed cases of 75 ovarian lesions, 54(72.0%) cases were benign tumors and 21(28.0%) were malignant tumors. Of the 75 cases of ovarian lesions, 51 (68.0%) were premenopausal and 24 (32.0%) were post menopausal. Of these 51 premenopausal cases, 41 were benign, 10 were malignant tumor. Of the total 24 postmenopausal cases 13 were benign, 11 were malignant tumor. The result is shown in table I

Serum CA 125 assays and histopathological examination of ovary were performed in all cases. Serum CA125 was <35U/ml in 48 cases and >35U/ml in 27 cases. Of these 48 cases 44 were benign, 4 were malignant. Of the rest 27 cases 10 were benign and 17 were malignant. The result is shown in table II.

Among the premenopausal group, in 34 cases serum CA125 were <35U/ml and 17 cases serum CA125 were >35U/ml. Among the post menopausal group, in 13 cases serum CA125 were <35u/ml and 11 cases serum CA 125 were >35U/ml. The result is shown in table III

Sensitivity, specificity, positive predictive value and negative predictive value of serum CA125 were determined by comparing with final histopathological diagnosis. Serum CA125 in evaluation of ovarian lesions had sensitivity 80.95%, specificity 81.48%, positive predictive value 62.96% and negative predictive value 91.66%. The result is shown in table IV.

Table I: Menopausal status distribution

Menopausal status	Histopathologic nature of the mass	
	Benign	Malignant
	No (%)	No (%)
Premenopausal	41(75.9%)	10 (47.6%)
Postmenopausal	13(24.1%)	11(52.4%)
Total	54(100%)	21 (100%)

Table II: Comparison between serum CA125 and histopathological nature of ovarian lesions

Serum CA125 (Cut off value 35 U/ml)	Benign	Malignant
	No (%)	No (%)
<35 U/ml	44 (81.5%)	4 (19.0%)
>35U/ml	10 (18.5%)	17 (81.0%)
Total	54 (100%)	21 (100%)

Table III: Comparison of serum CA125 and menopausal status

Menopausal status	Serum CA125 (Cut off value 35 U/ml)	
	<35 U/ml	>35U/ml
	No (%)	No (%)
Premenopausal	34 (72.3%)	17 (60.7%)
Postmenopausal	13 (27.7%)	11(39.3%)
Total	47(100%)	28 (100%)

Table IV: Sensitivity, specificity, positive predictive value and negative predictive value of serum CA125 (at cut off level 35U/ml)

Efficacy of serum CA125	Percentage (%)
Sensitivity	80.95
Specificity	81.48
Positive predictive value	62.96
Negative predictive value	91.66

TP=17 FP=10 TN=44 FN=4;

(TP=True positive, TN= True negative, FP=False positive, FN=False negative)

Discussion

In the evaluation of ovarian lesions there are several methods in obtaining a preoperative diagnosis. Any method used to obtain a preoperative diagnosis must be entirely reliable and also provide a diagnosis in a large enough proportion of patients to achieve its objective.

CA125 is a useful preoperative test for prediction of the benign or malignant nature of a pelvic mass. Preoperative serum CA125 appears to be of prognostic significance in ovarian malignancy. Several studies have reported preoperative serum CA125 levels in relation to stage and histological type of ovarian malignancy. There is general agreement between these reports that serum CA125 levels are elevated preoperatively in 80%-85% of women with epithelial ovarian cancer. Disease

disseminated outside the ovary is associated with elevation of serum CA125 in >90% of cases. Patients with early stage disease are less likely to have an elevated serum CA125 preoperatively and are known to have a better prognosis. The majorities of epithelial ovarian malignancies are disseminated at presentation, associated with an elevated serum CA125 and have a poor outcome.

In present study, optimal cut off value of serum CA125 was 35U/ml in contrast to other studies, where the cutoff value ranged from 10 -200 U/ml but most of the authors used cutoff level of serum CA125 at 35U/ml [9,10,11, 12, 14]. Large screening trials for ovarian cancer indicated the use of serum CA125 cutoff value at >35U/ml as suggesting malignancy. Therefore, the level of 0-35 U/ml of serum CA125 has been used as normal value in most laboratories. Serum CA125 at cutoff level of 35U/ml was found to be better in distinguishing ovarian cancer from benign tumor and tumor like lesions with increased specificity, positive predictive value [12].

On the histologic basis, among the 17 malignant cases were correctly predicted by serum CA125 as malignant and 44 cases were correctly predicted as benign lesions. In the present study the sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) for serum CA125 were 80.95%, 81.48%, 62.96%and91.66% respectively.

The value of CA 125 as a potential screening tool has been assessed in separate studies.

Einhorn and co-authors (1986) found that sensitivity 78%and specificity 95% by estimation of serum CA 125 in ovarian lesions[5]. Vasilev and co-authors (1988) found that sensitivity 78%, specificity 78% and positive predictive value 28% by serum CA 125 estimation of ovarian lesions[7]. Gadducci and co-authors (1994) found that sensitivity 76.8%, specificity 93.8%, positive predictive value 91.5% and negative predictive value 82.4%[6]. Asif N and co-authors (2003) found that sensitivity 83% and specificity 82% by serum CA 125 of ovarian lesion.[4]. The result of the present study is near similar with observation by those authors [4, 5, 6, 7].

In conclusion despite advances in the medical and surgical treatment of patients with ovarian cancer, early diagnosis is relatively uncommon event, and death from disease occurs in most women diagnosed with this malignancy. To reduce disease related mortality are now focusing on early detection of disease during its preclinical phase.

In this perspective serum CA125 and its correlation with histopathology, it may be concluded that, this easy, highly beneficial method would be used as guide to a surgeon about surgical procedure to be undertaken.

References

1. Jakob JJ, & Menon U. Progress and Challenges in screening for early detection of ovarian cancer. Molecular & Cellular Proteomics 2004; 3:355-66.
2. Bast RC Jr, Klung TL, St John E, Nillof JM.. A Radioimmunoassay using a monoclonal antibody to monitor the course of epithelial ovarian cancer. N Eng J Med 1983; 309:883-87.
3. Jenifer B & Quentin D. Cancer of ovary. Current Obstet & Gynecol 2003;13: 88-94.
4. Asif N, Sattar A, Dawood MM, Rafi T. Preoperative evaluation of ovarian mass: Risk of Malignancy Index. JCPSP 2004; 14:128-31.
5. Einhorn N, Bast RC Jr & Knapp RC. Preoperative evaluation of serum CA125 levels in patients with primary epithelial ovarian cancer. Obstet Gynecol 1986; 67:414-16.
6. Gadducci A, Ferdeghini M, Moretti L & Moriani G. The concomitant determination of different tumor markers in patients with epithelial cancer and benign ovarian masses: Relevance of differential diagnosis. Gynecol Oncol 1992; 44:147-54.
7. Vasilev SA, Schlaerth JB, Campeau J & Morrow CP. Serum CA125 Levels in Preoperative Evaluation of Pelvic Masses. Obstet Gyneco 1988; 71:751-56.
8. Roohi R, Zaaffar AS, Salauddin M & Maryam B. CA-125 Tumour Marker for Ovarian Malignancies. JK Pract 2003; 10: 224-25.
9. Jacob I, Oram D, Fairbanks J,Turner J, Frost C. A risk of malignancy index incorporating CA 125, ultrasound and menopausal status for the accurate pre operative diagnosis of Ovarian Cancer. Br J Obstet Gyneecol 1990;97:922-29.
10. Schutter EM, Kenemans P, Sohn C, Kriston P.. Diagnostic value of pelvic examination, ultrasound and serum CA 125 in postmenopausal women with ovarian mass: an international multicentric study. *Cancer* 1994; 74:1398-406.
11. Bloch B, Soeters RP, Dehaeck, CMC, Levin W, Smith JA. Tumour marker CA125 level in a variety of benign and malignant conditions. S Afr Med J 1989;76:670-71.
12. Benjapibal M, Neungton C. Pre-operative Prediction of Serum CA125 Level in Women with Ovarian Masses. J Med Assoc Thai 2007; 90: 986-89.
13. Tingulstand S, Hagen B, Onsrud M, Kiserud T. Evaluation of Risk of Malignancy Index based on .serum CA125, Ultrasound findings and menopausal status in the preoperative diagnosis of pelvic masses. Br J Obstet Gynecol 1996; 103:826-31.
14. Bast RC Jr, Knauf S, Epenetor A, Dhokia B & Daly L. Coordinate Evaluation of Serum Markers in Ovarian Cancer but not in Benign Disease. Cancer1991; 68:1758-63.

ORIGINAL ARTICLE

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Histopathological Evaluation of Upper Endoscopic Biopsy Specimens

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Abstract

This study was designed to see the correlation between endoscopic and histopathological findings and to provide histological types of malignant tumors. The study was done on 105 patients from January 2006 to December 2009 at Popular Diagnostic Complex, Sylhet. Age of the patients ranged from 19 to 100 years with a mean of 59.88 years. Endoscopic specimens were taken from all 105 patients. Three biopsy samples were taken from each patient. Out of 105 cases, endoscopically 70 were malignant and 35 were benign or uncertain lesions.Tissue diagnosis showed 43 benign, 56 malignant and 6 dysplastic lesions. Among 70 endoscopically diagnosed malignant lesions, 51(72.86%) were proved as malignant, 6(8.57%) as dysplastic and 13(18.57%) cases were proved as benign lesions by tissue diagnosis. Out of 35 benign or uncertain lesions diagnosed by endoscopy, 30(85.71%) cases were proved as benign and 5(14.29%) cases as malignant by tissue diagnosis. Among the 56 malignant lesions, 34 were esophageal carcinomas and 22 were gastric carcinomas. All the dysplastic lesions were seen in the esophagus. Number of biopsy specimens, size of the biopsy specimens, biopsy sites of the lesions, type of tumors and serial sectioning of biopsy specimens are important to provide accurate tissue diagnosis.

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Introduction

Cancer is a growing problem[1]. Gastrointestinal cancers are a world wide problem and Bangladesh is not an exception. Incidence of gastrointestinal carcinomas varies widely and mortality from these carcinomas are quite significant in our country though there are no such statistics about it. Upper gastrointestinal tract is a common site for neoplasms, especially malignant tumors. Worldwide, gastric adenocarcinoma is the second most common cancer and carcinoma esophagus is the sixth leading cause of death[2,3]. Early detection of malignancy greatly improves the survival rate of the patients. The 5-year survival rate of early esophageal cancer is 83.5% and early gastric cancer is more than 90%[4].

Over the past 30 years, there has been a remarkable progress in the various techniques used in the diagnosis of gastrointestinal cancer. The advent of endoscopy and endoscopic biopsy has greatly facilitated the detection and diagnosis of gastrointestinal lesions[5]. The modern video endoscope offers great opportunities for the diagnosis and management of gastrointestinal lesions. Endoscopy not only allows inspection of the lesion but also permits to take biopsy specimens from lesional sites. The advantage of taking biopsy specimens is to give precise histopathological diagnosis of all gastroesophageal surface lesions. Tissue diagnosis is the confirmatory test of any gastroesophageal surface lesions as the endoscopist may give wrong interpretation because of the variable external appearances. Biopsy has been proved to be the most accurate technique in the diagnosis of ulcerating lesions[6]. In most cases, the endoscopist is asked to identify the benign or malignant nature of a mass, ulcer, stricture or other

mucosal abnormalities. But the endoscopist may not be able to give a conclusive opinion in all cases. The primary role of biopsy is to verify malignancy and to give histologic types of tumors.

With this background the present study has been designed to see the correlation between endoscopic and histopathological findings and to provide histological types of malignant tumors.

Materials and Methods

The study was done on 105 patients at Popular Diagnostic Complex, Sylhet from January 2006 to December 2009. Of the 105 patients, 73 were male and 32 were female. These patients were studied by endoscopy and biopsy. Biopsy specimens were taken from all mucosal lesions seen in the esophagus, stomach and duodenum. The biopsy specimens were obtained from margin of the lesions of each patient using Olympus video endoscope. After each procedure, the endoscopist recorded an opinion of lesions-benign,malignant or uncertain. The tissue was fixed in 10% formalin and processed routinely. The sections were stained with hematoxylin and eosin(H&E) stain.

Results

This study was done on 105 cases. Of these, 73 were male and 32 were female with a ratio of 2.28:1. The age of the patients ranged from 19 to 100 years with a mean of 59.88 years. The age of the patients diagnosed as having malignancy by histopathology ranged from 30 to 100 years with a mean age of 60.95 years.

Endoscopic findings of 105 cases are shown in table-1. Among 47 esophageal lesions, 42 were malignant and 5 were benign or uncertain lesions. The uncertain lesions are those in which no definite diagnosis could be given. Out of 51 gastric lesions, 24 were benign or uncertain lesions and 27 were malignant lesions. In the duodenal lesions, endoscopically 6 were benign or uncertain lesions and 1 was malignant lesion. Table-11 shows the histopathological diagnoses of 105 cases. Among 47 esophageal lesions, 7 were benign, 34 were malignant and 6 were dysplastic lesions(dysplasia grade-1). Among 51 gastric lesions, 29 were benign and 22 were malignant. Histologically, all 7 duodenal lesions were proved as benign lesion. Among 34 malignant esophageal lesions, 29 were squamous cell carcinoma grade-1 and 5 were squamous cell carcinoma grade-11. Out of 22 malignant gastric lesions, all were adenocarcinomas in which 21 were intestinal type and 1 was diffuse type. Histologically, 7 esophageal lesions were diagnosed as benign which included squamous papilloma(1) and chronic esophagitis(6). Among 29 benign gastric lesions, 28 were gastritis and gastric ulcers of different types and 1 was hyperplastic polyp.

Table-111 shows histopathological opinions in malignant lesions diagnosed by endoscopy. Among 42 endoscopically diagnosed esophageal cancers, histopathologically 33(78.57%) were malignant, 6(14.29%) were dysplastic and 3(7.14%) were benign lesions. Out of 27 gastric cancers diagnosed by endoscopy, histopathologically 18(66.67%) cases were diagnosed as malignant and 9(33.33%) as benign. One duodenal cancer diagnosed by endoscopy was confirmed as benign lesion by histopathology. In total 70 cases diagnosed as malignant lesions by endoscopy, 51(72.86%) cases showed positive results by tissue diagnosis, 6(8.57%) cases showed dysplasia and 13 (18.57%) cases were proved as benign lesions. Table-IV shows histopathological opinions in endoscopically diagnosed benign or uncertain lesions. Among 5 benign or uncertain esophageal lesions, 4(80%) were diagnosed as benign and 1(20%) was as malignant by histopathological examination. Among 24 benign or uncertain gastric lesions, 20(83.33%) cases were diagnosed as benign and 4(16.67%) cases showed positive results for malignancy by tissue diagnosis. In 6 benign or uncertain duodenal lesions, all were diagnosed as benign by tissue diagnosis. In total 35 benign or uncertain lesions, 30(85.71%) cases were proved as benign and 5(14.29%) cases as malignant by tissue diagnosis. Esophageal carcinomas were present in middle and lower third. Majority of the gastric carcinomas were present in the antrum.

Table-1: Endoscopic findings in upper gastrointestinal tract lesions.

Number of patients	Sites of lesions	Benign/uncertain lesions	Malignant lesions
47	Esophagus	05	42
51	Stomach	24	27
07	Duodenum	06	01
105		35	70

Table-11: Histopathological findings in upper gastrointestinal tract lesions.

Number of patients	Sites of lesions	Benign lesions	Malignant lesions	Dysplastic lasions
47	Esophagus	07	34	06
51	Stomach	29	22	
07	Duodenum	07		
105		43	56	06

Table-111: Histopathological opinions in endoscopically diagnosed malignant lesions.

Number of patients	Endoscopic diagnosis	Histopathological opinions		
		Benign	Malignant	Dysplastic
42	Esophageal cancer	03(7.14%)	33(78.57%)	06(14.29%)
27	Gastric cancer	09(33.33%)	18(66.67%)	
01	Duodenal cancer	01(100%)		
70		13(18.57%)	51(72.86%)	06(8.57%)

Table-1V: Histopathological opinions in endoscopically diagnosed benign/uncertain lesions.

Number of patients	Endoscopic diagnosis	Histopathological opinions	
		Benign	Malignant
05	Benign/uncertain esophageal lesions	04(80%)	01(20%)
24	Benign/uncertain gastric lesions	20(83.33%)	04(16.67%)
06	Benign/uncertain duodenal lesions	06(100%)	
35		30(85.71%)	05(14.29%)

Discussion

Neoplasms of upper gastrointestinal tract, especially malignancy, are one of the leading causes of death worldwide. The primary role of upper gastrointestinal tract endoscopy is cancer detection. The advent of endoscopy and endoscopic biopsy has greatly facilitated the detection and diagnosis of gastrointestinal lesions[5]. The endoscopist should provide adequate biopsy material to verify and confirm the diagnosis, so that appropriate therapy can be instituted. Many studies indicate that biopsy of the mucosal lesions provides an extremely high accuracy of tissue diagnosis. Many patients have had an early diagnosis of gastric carcinoma from a biopsy specimen of benign appearing gastric ulcer. The accuracy of tissue diagnosis in gastric malignancies varies widely. Graham et al[7] found that first biopsy specimen yielded a correct diagnosis in 93% of esophageal carcinomas and 70% of gastric carcinomas. Three additional biopsy specimens increased the diagnostic accuracy to more than 95%. With seven biopsy specimens more than 98% cases showed positive diagnosis. In the present study, the number of biopsy spercimens taken were three and the biopsy specimens yielded positive diagnosis in 78.57% cases of endoscopically diagnosed esophageal cancers and 66.67% of endoscopiclly diagnosed gastric cancers.

There is a tendency among endoscopists to take more biopsy specimens in obvious cancers and less in endoscopically considered benign lesions. Dekker and Tytgat[8] advocated to take at least 10 biopsy specimens in suspicious gastric lesions. Graham et al[7] found 45% positive tissue diagnosis with one specimen, 69% with two, 83% with three, 91% with four and 98% with seven. This indicates that the accuracy of tissue diagnosis is directly related to the number of biopsy specimens. In the present study, the findings of 72.86% positive diagnosis of malignancy from three biopsy specimens in both esophageal and gastric lesions nearly corroborates the findings of previous study[7]. In contrast to the tissue diagnosis in mucosal lesions of stomach, submucosal or intramucosal tumors of stomach provide difficulties in tissue diagnosis. Such lesions include

lymphomas, infiltrating gastric adenocarcinomas, carcinoid tumor, leiomyoma and leiomyosarcoma. It has been found that an increase in the number of biopsy specimens would be helpful to increase the diagnostic yield of the submucosal, intramucosal and infiltrating lesions[9]. In the present study, 14.29% cases of endoscopically diagnosed benign or uncertain lesions of esophagus and stomach were proved as malignant by tissue diagnosis. In study of Graham et al[7], 17% of all lesions thought to be benign endoscopically, were subsequently proved as malignant by tissue diagnosis. Graham et al[7] also found that 7% cases diagnosed as malignant by endoscopy were found to be benign by histopathology. In the present study, 18.57% cases diagnosed as malignant by endoscopy were also found to be benign by histopathology.

Besides the number of biopsy specimens, a number of other factors may influence whether the result of a biopsy of a malignant lesion is positive or negative. It has been suggested that biopsy specimens should be obtained from the edge and base of the gastric ulcer. Hatfield et al[10] obtained greater than 95% accuracy by taking biopsy specimens from both the base and rim of the ulcer. In the present study, biopsies were taken from the margin of the lesions and may be a reason of low positive tissue diagnosis. Serial sectioning of the biopsy specimens has been suggested as an important factor to increase the diagnostic accuracy[7]. During the endoscopic procedure, significantly larger, deeper and histologically more acceptable biopsy specimens should be taken[11]. Because smaller specimens tend to fragment more easily and are technically more difficult to process correctly even multiple sections are taken. The type of tumors whether early, infiltrating or exophytic has been reported to influence the results. Winawer et al[9] showed low positive result(33%) in infiltrating lesions. Advanced gastric carcinomas of the exophytic type and mass type ulcerating carcinomas usually provide no difficulties in tissue diagnosis.

In conclusion it has been found that number of biopsy specimens, size of the biopsy specimens, biopsy sites of the lesions, type of tumors and serial sectioning of the biopsy specimens are important to provide accurate tissue diagnosis. It can be concluded that a prospective study can be carried out with endoscopic biopsy and endoscopic cytology to see whether these two methods combined can increase the diagnostic yield.

References

1. Clements Akhter PS, Uddin MM, Sharma SK. Patterns of malignant neoplasm: a three year study. Bangladesh Med J 1998; 27: 29-32.
2. Zhan XF, Huang CM, Lu HS, Wu XY, Wang C, Guang GX. Surgical treatment and prognosis of gastric cancer in 2613 patients. World J Gastroenterol 2004; 10: 3405-8.
3. Enzinger PC, Mayer RJ. Esophageal cancer. N Engl J Med 2003; 349: 2241-52.
4. Kato H, Tachimori Y, Watanube H, Yamaguchi H, Ishikawa J, Itabashi M. Superficial esophageal carcinoma: Surgical treatment and results. Cancer 1990; 66: 2319-23.
5. K Vidyavathi, M L Harendrakumar, Y C Lakshmana Kumar. Correlation of endoscopic brush cytology with biopsy in diagnosis of upper gastrointestinal neoplasms. Indian Journal of Pathology and Microbiology 2008; 51(4): 489-492.
6. Gowen GF. Endoscopic biopsy for improved accuracy in upper gastrointestinal tract diagnosis. Arch Surg 1982; 117: 485-489.
7. Graham DY, Schwartz JT, Cain D, Gyorkey P. Prospective evaluation of biopsy number in the diagnosis of esophageal and gastric carcinoma. Gastroenterology 1982; 82: 228-231.
8. Dekker W, Tytgat GN. Diagnostic accuracy of fibre endoscopy in the detection of upper intestinal malignancy. A follow up analysis. Gastroenterol 1977; 73: 710-714.
9. Winawer SJ, Posner G, Loghtdale CJ. Endoscopic diagnosis of advanced gastric cancer. Factors influencing yield. Gastroenterol 1975; 69: 1183-1187.
10. Hatfield ARW, Slavin G, Segal AW. Importance of the site of endoscopic gastric biopsy in ulcerating lesions of the stomach. Gut 1975; 16: 884-886.
11. Danesh BTZ, Burke M, Newan J, Aylott A, White field P, Cotton PB. Comparison of weight, depth and diagnostic accuracy of specimens obtained with 16 different biopsy forceps designed for upper gastrointestinal endoscopy. Gut 1985; 26: 227-231.

ORIGINAL ARTICLE

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Working Environment of Nurses in Two District Hospitals

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Abstract

This cross sectional descriptive study was carried out in two district hospitals to see the components of working environment the nurses are satisfied with and the factors for which they are dissatisfied as well. Study was conducted in Narayangonj Sadar Hospital(NSH) and Adhunic Sadar Hospital, Kishoregonj during the period of April 2005 to June 2005 for partial fulfillment of MPH (HM) course in the National Institute of Preventive and Social Medicine (NIPSOM), Mohakhali, Dhaka. Both the hospitals were selected by purposive sampling and the nurses totaling 60 were by convenience sampling. Data were collected by the researcher himself from 57 nurses as 3 of them were not available at the time of data collection. Findings were mostly positive as nurses expressed their satisfaction regarding freedom in daily work(98%), getting cooperation from colleagues (97%), doctor-nurse relationship (97%) and getting respect from society (87.50%) but majority of them (94%) expressed their dissatisfaction regarding the number of subordinate staffs and more than half (53%) regarding workload.

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Introduction

Among the health service provider's nurses are the personnel who remain in closest contact with the patients and interacts in many ways. They fill in the gaps between doctors- patients, hospital- patients, services- patients and so on by virtue of their position in the organization and the assignment given. They can minimize the anguish of diseases with their sympathized professional help & have ample of time to cover social aspects of medical service.

More over nurses work for patients who are in obvious physical discomfort of various intensity and mentally stressed and so are their relatives and attendants. So, in one hand we never know how such a group will react in a critical situation and on the other hand how the nurses will response to the situation. A healthy person has many problems, demands & desires and unending thirst for achievements & success and ready to try for years together. Now, in contrast to healthy one a sick person has only one problem that is his disease and his only thirst is for cure but not ready to tolerate any delay or discrepancy. Memorizing all these and many other factors and situations nurses are to deliver their services in the best possible way.

To perform this artistic task of nursing the diseased, nurses must have good physical and best mental capability. In order to keep the nurses in a sound mental condition & motivated towards the fulfillment of patient needs, a good working environment is essential, and could be considered as primary requirement. So, the present study was designed to identify the factors with which they are satisfied and dissatisfied as well and to find out the ways to provide a good positive working environment.

Meterials and methods

This was a cross sectional descriptive type of study conducted in Narayangong Sadar Hospital (NSH) and Adhunic Sadar Hospital, Kishoregong (ASHK) among the nurses (excepting supervisors) with the aim to see their working environment. Both the

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hospitals for study were selected by purposive sampling. Reason for that is NSH is situated near to Dhaka City where plenty of health service facilities available and ASHK is the only hospital in that area that could make a big difference in patient loads. A total of 60 (sixty) nurses were selected by systematic random sampling method, 30 (thirty) from each of the hospitals but 2 (two) in ASHK and 01 (one) in NSH were not available at the time of data collection. So, the actual sample size was 57(fifty seven). The duration of study period was from April, 2005 to June, 2005. Data were analysed in the National Institute of Preventive and Social Medicine (NIPSOM), Mohakhali, Dhaka. The information and opinions from the respondents were collected by the researcher himself by face- to-face interview using a questionnaire consisting of both close ended and open ended questions.

Results

Bed strength, Patient load and staffing:

Narayangong Sadar Hospital : This hospital was established with 31(thirty one) beds as Thana Health Complex. Thereafter, this hospital was modernized and increased its bed strength to 100(one hundred). At present, the number of nurses is 56(fifty six); opined as adequate, so the number of beds in relation to the patients load ranging from 70(seventy) - 90(ninety) , although wards and cabins of some departments are situated in different floors making difficult to cover with the same group of nurses assigned for both. There is no dormitory for nurses. No guard at all is appointed and is rather surprising because the area is known as 'crime zone'. Occasional threats to the nurses and other workers at nights are common, and even at day times. Electrician and Plumber are not appointed. Number of MLSS and cleaners found insufficient

Adhuni Sadar Hospital, Kishoregong :

This hospital was established with 50(fifty) beds. Thereafter it was modernized and named Adhunik Sadar Hospital, Kishoregong and the number of beds was increased to 100(one hundred) . The average number of admitted patients always exceeds 200(Two hundred) with a highest number of 269(two hundred sixty nine) patients as recorded in the month of August, 2004. The number of nurses is inadequate; only 44(forty four) . Number of MLSS and cleaners is negligible & some outsider found to control visitors at the gate. It has a doctor's quarter and a dormitory for the nurses with in the hospital compound.

Table - I : Distribution of the respondents by their opinion regarding working environment
N= 57

Key Variables	Opinion					Total
	Highly satisfied	Satisfied	Uncertain	Dissatisfied	Poorly Dissatisfied	
Freedom in daily activity	0 (0%)	56 (98%)	1 (2%)	0 (0%)	0 (0 %)	57 (100%)
Getting respect from society	6 (10.5%)	44 (77%)	3 (5.5%)	4 (7%)	0 (0%)	57 (100%)
Doctor – nurses relationship	19 (33.5%)	36 (63%)	2 (3.5%)	0 (0%)	0 (0%)	57 (100%)
Workload	2 (3.5%)	21 (37%)	4 (7%)	16 (28%)	14 (24.5%)	57 (100%)
Co-operation from colleagues	38 (67%)	17 (29.5%)	2 (3.5)	0 (0%)	0 (0%)	57 (100%)
Number of subordinate staff	1 (2%)	1 (2%)	1 (2%)	27 (47%)	27 (47%)	57 (100%)

In table-1 opinion of the respondents regarding six key variables reflects that among the respondents highest 98.25%(56) are satisfied in relation to freedom in daily activities and lowest 1.75%(1) are satisfied in relation to number of subordinate staff. Unlike other aspects of job considered in this study the percentage of highly satisfied respondents in relation to getting cooperation from colleagues 66.66%(38) and doctor-Nurse relation, to number of subordinate staff 43.37%(27) and in relation to workload 66.66%(38) are the two aspects the respondents expressed their dissatisfaction in the highest percentage.

Figure – 1: Aspects of job the nurses are mostly dissatisfied with.

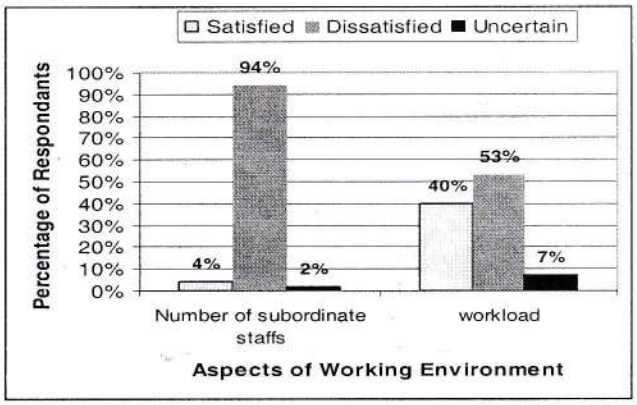

Figure 1 shows that the nurses are mostly dissatisfied with the number of subordinate staffs & workload.

Figure - 2: Aspects of job the nurses are satisfied with in good percentage.

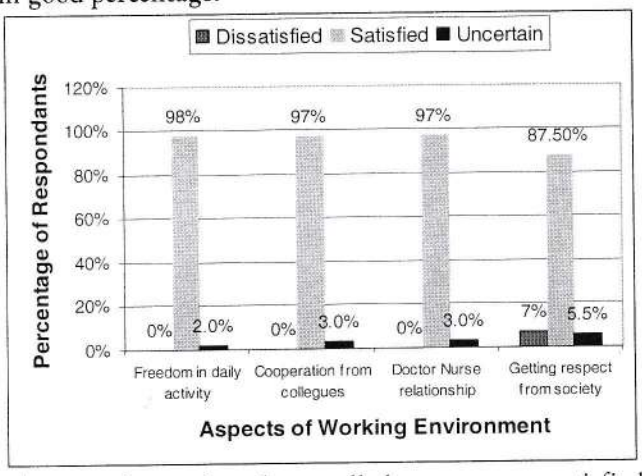

Figure 2 shows that almost all the nurses are satisfied regarding freedom in daily work, cooperation from colleagues, doctor-nurse relationship and getting respect from society.

Discussion

The present study was designed to see the working environment of nurses in two district hospitals of Bangladesh. Because the nursing work environment not only impacts nurses and also impact patients[1,2,3]. Unhealthy nursing work environments have been demonstrated to contribute to nursing turnover. Nursing turnover destabilizes the nursing workforce and coupled with the nursing shortage, leads to short-staffing and use of contract labor, both which have been associated with threats to patient's safety and patient's satisfaction with their health care .[4] Martha also stated that the nursing shortage is negatively affecting the quality, effectiveness, and timeliness of patient care, which warrants a transformation of the nursing work environment.[4] Agency for Healthcare Research and Quality of the US Department of Health and Human Services also stated that the work environment for nurses that likely have an impact on patient safety.[5]Marlene mentioned that Safe patient care is directly and positively linked to the quality of staff nurses' work environments. Healthy work environments are empirically linked to patients' satisfaction and to retention, reduced turnover, increased attraction, job satisfaction, and lower degree of job stress and burnout among nurses.[6] Increasingly, professional organizations and state and national commissions are challenging nurses, hospital administrators, and health-care organizations to improve the practice environment for staff nurses in order to reap the benefits, particularly patients' safety and nurses' job satisfaction and retention.[6,7,8] Achieving such improvement requires a baseline reading of staff nurses' perceptions of the health of the work environment, implementation of improvement strategies, and confirmation of the success or failure of the strategies by clinical nurses at the front line.[6]

In the present study six key variables were selected related to working environment. These are ranked in relation to the percentage of highly satisfied and satisfied respondents. From highest to lowest are-freedom in daily activity 98.25%(56), getting respect from society 87.71%(50) , getting cooperation from colleagues 96.5%(55), Doctor-nurse relationship96.5%(55), workload 40.35%(23) and number of subordinate staff 3.5%(2). The results were satisfactory in all aspects excepting in regard to the number of subordinate staffs and workload. Though patients load is more than double in ASHK than in NSH and the number of nurse in the former hospital is only three fourth of the later one. So, there is some discrepancy in staffing norm that needs to be minimized. Linda identified ten variables for working environment of nurses. She mentioned reasonable work load is the one of the variable of good working environment.[9]

Corley mentioned that a larger percent (25%) of nurses had left a position in the past due to moral distress compared to 13% in 1995. Their highest level of moral distress was due to inadequate staffing.[10]Roseline mentioned that in general; nurses had better opinion of doctors' work than doctors had about nurses' work. Nurse-doctor working relationships were statistically significantly affected by staff shortages, disregard for one's profession, and hospital management and government policies.[11] In this study nurses comment was positive about the relationship between doctors and nurses .

Leonard mentioned that doctors can do much to improve the nature of their relationship with nursing

colleagues by professional respect, common sense, involving awareness, act and sensitivity.[12]

Another important finding came out from this study regarding work place safety. It was revealed that there was no guard in NSH and nurses face some security problems especially at nights. Linda stated that work place safety also affects the nursing environment.[9] So, improving work place safety need to be ensured.

Highest degree of dissatisfaction revealed by the nurses in respect of number of supporting staff that is cleaners and MLSS. They are not only needed for the nurses' activity but also for the maintenance of cleanliness and for essentially needed hospital hygiene; a prerequisite to prevent cross infection. It should be worked out to recruit adequate supporting staffs. All district hospitals are not to bear same patients load. So, information regarding the patients load in different hospitals should be recorded and staffed accordingly.

Recommendation:

1. Hospitals should be staffed according to the number of patients.
2. Safety of the workers should be ensured.

References

1. Brown CE, Hunter L. Influence of the nursing work environment on nursing outcomes. Proceeding of the 18th International Congress Focusing on Evidence - Based Practice; 2007 July 11-14; San Diego,CA, USA.San Diego State University;2007. Available from: URL: http://stti.confex.com/stti/congrs07/techprogram/paper_34842.htm. (Accessed on : 4.6.2010)
2. Meraviglia M, Grobe SJ, Tabone S, Wainwright M, Shelton S, Miner H, Jordan C. Creating a positive work environment: implementation of the nurse-friendly hospital criteria. J Nurs Adm [serial online] 2009 Feb; 39(2):64-70.Available from:URL: http://www.unboundmedicine.com/medline/ebm/record/19190422/.(Accessed on : 4.6.2010)
3. Institute of Medicine of the National Academics. Work environment for nurses & patient safety. Washinton DC. Nov 3 2003.Available from: URL: http://www.iom.edu/Activities/Quality/nurseandpatientsafety.aspx. Accessed on : 4.6.2010
4. Kramer M, Schmalenberg C. Confirmation of a Healthy Work Environment. Crit Care Nurse. 2008;Apr;1(28): 56-63.Available from:URL: .http://ccn.aacnjournals.org/cgi/content/full/28/2/56. (Accessed on : 4.6.2010)
5. Hall LM. Quality Work Environment: For Nurse and Patient Safety. Jones & Bartlett; 2005. Available from:URL: http://www.pohly.com/books/qualitywork.html. (Accessed on : 4.6.2010)
6. Roseline IO and Clement AA. Questionnaire survey of working relationships between nurses and doctors in University Teaching Hospitals in Southern Nigeria. BMC Nursing 2006;5:2:[12 screens].Available from : URL: http://www.biomedcentral.com/1472-6955/5/2. (Accessed on : 4.6.2010)
7. Leonard F, and Anthony G. The doctor-nurse relationship. Adv Psychiatr Treat[serial online]. 2004; 10; 277-286.Available from : URL: http://www.scribd.com. (Accessed on 4.6.2010)

ORIGINAL ARTICLE

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Prevailing Common Diseases among Under 5 Children in a Rural Population of Sylhet and Shunamganj District

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Abstract

This study was carried out to know about the common prevailing diseases among under 5 children's in a rural population of Sylhet and Shunamganj Districts. This cross-sectional study was conducted among 360 children below 5 years of age from the period of August 2009 to October 2009. The data was collected by using pre-tested questionnaires with the help of a check-list. The study revealed that the majority (46.66%) of the respondents (mother) were within the age group of 26- 35 years and majority (40.56%)of them were illiterate. The study reveals that (26.92%) children suffered from diarrhoeal diseases (23.90%) acute respiratory tract infection,(12.83%) skin diseases , (8.93%) worm infestations. It was found that highest prevalence of diseases occured where the mothers were illiterate, diarrhoeal diseases (52.34%), acute respiratory tract infection (36.32%), skin diseases (41.18%), and warm infestation (8.93 %). Lowest numbers of diarrhoeal diseases (1.40%), acute respiratory tract infection (1.58%), and skin diseases (1.96%) found in under 5 children where mothers level of education was HSC and above

[OMTAJ 2010; 9(2)]

Introduction

Every year about 10.5 million children die before their fifth birthday in developing countries of the World. A large number of these deaths occur during the first year of life. Nearly 70% of these deaths are due to Acute Respiratory tract infections. Diarrhoeal diseases, Measles, Malaria and Malnutrition [1].Bangladesh is a developing country and its total population approximately 134.8 million. Since a large portion of population, about 16 million is 0-5 years aged children and there is high incidence of infant and child morbidity [2]. World health Assembly adopted Integrated Management of Childhood Illness (IMCI) as a cost effective strategy for reducing under Five Childhood Morbidity and Mortality and promoting child growth and development and survival [3]. Regarding common prevailing diseases acute respiratory tract infection (ARI), acute diarrhoeal disease (ADD), malnutrition, warm infestation and skin diseases are commonest diseases found in rural area of Bangladesh. Children with ARI make up a large proportion of patients seen by health workers in health centers, and 25-40% out patients visit by young patients in developing countries are sufferers of ARI [4].ARI alone contributes about 40-60%of paediatric out patient visits and 30-40% of paediatric admissions in hospitals in Bangladesh [5].In rural areas of Bangladesh a child under 5 years old experience two to three episodes of acute respiratory infections[6]. Problem of malnutrition is a national issue in Bangladesh where 93.8% of the children are suffering from different grades of malnutrition[7]. Severe protein energy malnutrition was often associated with infections, commonly diarrhea 80% and pneumonia 56% among children requiring nutrition rehabilitation in an urban nutrition centre in Bangladesh [8]. ARI alone or in combination with acute daarrhoeal diseases and protein energy malnutrition is the second most

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common cause of preventable death in children under 5 in Bangladesh [9]. Skin diseases is considered a serious health problem in developing countries .In Bangladesh 30-40 % of our people are suffering from skin diseases of which about 80% are suffering from scabies and pyogenic infections [10].

More than 80% of our total population is residing in rural area, which is very poor and mostly deprived from modern health facilities than urban population [11].One of the study shows that rural people are getting 50% less modern health facilities than urban population [12]. The aim and objective of present study was to collect information about the prevailing common diseases among under 5 children, socio-economic status and the level of mothers education in rural community.

Methods

This descriptive type of cross-sectional study was conducted in a rural community from the period of 08th August, 2009 to 22nd October, 2009 among 360 children below the age of 5 years. The study was conducted in the villages of Sylhetiapara, Banjamahal, Pakri, Nipara, Shikarkha, Debgram, Datagram, Suterkandi of Jaintapur, Bianibazar and Chhatak upazilla of Sylhet and Sunamganj district. Sampling method was non-random (convenience) type and data were collected by face to face interview with parents (mother) by 4th year MBBS students of MAG Osmani Medical College, Sylhet with the help of pre-tested semi-structured questionnaire and a check list. Simple statistical methods is applied for data analysis.

Results

Table 1. Age distribution of the respondents

Age (years)	Numbers	Percentage %
<15	0	0
16-25	146	40.55
26-35	168	46.66
36-45	43	11.94
>45	03	0.85
Total	360	100

Table 11. Educational status of the respondents.

Level of education	Numbers	Percentage %
Illiterate	146	40.56
Read & write	47	13.06
Up to primary	90	25.00
Up to secondary	56	15.56
SSC	17	4.72
HSC	04	1.10
Total	360	100

Table III. Common prevailing diseases among under 5 children in both sexes

Position (Rank)	Common diseases	Numbers	Percentage
1	Diarrhoeal diseases	214	26.92
2	Acute respiratory tract infection	190	23.90
3	Skin diseases	102	12.83
4	Worm infestation	71	8.93
5	Fever	1	7.67
6	Measles	47	5.91
7	Chicken pox	43	5.41
8	Ear infection	38	4.78

* Multiple responses

Table IV. Common diseases among under 5 children's and level of mothers education

Sl no.	Common diseases under 5	Mothers education. (Illiterate)	Read & write	Up to Primary	Up to Secondary	SSC	HSC & above	Total
1	Diarrhoeal diseases	112 (52.34%)	33 (15.42 %)	41 (19.16%)	15 (7.01 %)	10 (4.67 %)	03 (1.40 %)	214 (100 %)
2	Acute respiratory tract infection	69 (36.32%)	35 (18,42 %)	52 (27.37%)	21 (11.05 %)	10 (5.26 %)	03 (1.58 %)	190 (100 %)
3	Skin diseases	42 (41.18%)	15 (14.70 %)	25 (24.51%)	12 (11.76 %)	06 (5.88 %)	02 (1.96 %)	102 (100 %)
4	Worm infestation	42 (59.15%)	12 (16.90 %)	10 (14.08%)	05 (7.04 %)	01 (1.40 %)	01 (1.40 %)	71 (100 %)
5	Fever	24 (39.34%)	12 (19.67 %)	11 (18.03%)	10 (16.39 %)	02 (3.28 %)	02 (3.28 %)	61 (100 %)
6	Measles	17 (36.17%0	12 (25.53 %)	09 (19.14%)	05 (10.64 %)	02 (4.25 %)	02 (4.25 %)	47 (100 %)
7	Chicken pox	23 (53.49%)	10 (23.25 %)	06 (13.95%)	03 (6.98 %)	01 (2.32 %)	--	43 (100 %)
8	Ear infection	13 (34.22%)	10 ((26.32%)	09 (23.68%)	04 (10.53 %)	02 (5.26 %)	--	38 (100 %)

* Multiple responses

The study revealed that among 360 respondents majority 46.66% were within the age group of 26- 35 years followed by (40.55%) were in the age group of 16-25 years. Majority of them were illiterate (40.56%) followed by up to secondary education (15.56%) Regarding occupational status majority (93.88%) were housewife and (3.33%) were laborers. (40.28%) had income of taka less then 5000 and (36.94%) had income between taka 5000-10000. Regarding age of under 5 children majority (33.89%) within the age group of 2-3 years followed by (29.44%) were up to one year of age. Among the under 5 children (45.56%) was male and (55.44%) was female. In this study (91.67%) mothers given colostrum to the child and (8.33%) did not do this. All the under 5 child were breast feuded and exclusive breast feeding given (42.84%). Majority (40.18%) mothers started the complementary feeding within 5-6 months. The study reveals that (26.92%) children suffered from diarrhoeal diseases followed by (23.90%) acute respiratory tract infection, (12.83%) skin diseases, (8.93%) worm infestations, (7.67%) fever, (5.91%) measles, and (5.41%) chicken pox.. Common prevailing diseases among under 5 children in relation to level of mothers education reveals that, highest number of diarrhoeal diseases (52.34%) , acute respiratory tract infection (36.32%), skin diseases (41.18%), warm infestation ,(59.15%), fever (39.34%), measles (36.17%), chicken pox (53.49%), and ear infection (34.22%) found , and their mother was an illiterate . The study reveals that the lowest numbers of diarrhoeal diseases (1.40%), acute respiratory tract infection (1.58%), skin diseases (1.96%), warm infestation (1.40%), fever (3.28%), and measles (4.25%) found in under 5 children and their mothers level of education was SSC and above

Discussion

Globally about 11 million children under 5 years of age die annually by common preventable diseases [13] A large number of childhood morbidity and mortality is caused by acute respiratory tract infection mostly pneumonia, diarrhea, measles, malaria and malnutrition in each year in the developing countries [14]. In the study area majority (93.88%) of the respondents were housewife and illiterate (40.56%). Majority (40.28%) had a monthly income less than Tk 5000 followed by (36.94%) had income between Tk. 50000-10000. There is conventional idea that low socio-economic groups are vulnerable to malnutrition and infection. However, this study revealed that not only under 5 children of low class families but also middle class families are prone to suffer from different types of diseases. Children from low socio-economic families suffer more from acute respiratory tract infection, diarrhoeal diseases, skin infection and warm infestation than children of middle and affluent class. Lack of education, poor housing, over crowding , low birth weight baby, age, sex, passive smoking, are the risk factors for the causation of these diseases among the under 5 children. Bangladesh like other developing countries, more than half of total death of under 5 children are related to directly or indirectly to malnuitration[15].. Study revealed that 91.67% babies were given colostrum after birth which is very much important for the new born as it contains a high concentration of minerals, protein and low sugar content and many anti-infective factors which protects baby against respiratory infections and diarrhoeal diseases [16]. In this study the intake of colostrums 91.67% is much higher than the surveillance findings 77.7%of hannan et al . Here the prevalence of exclusive breast feeding up to 6 months 42.84% which is much lower than national level (59%) [20]. Breast milk contains antibody to influenza, parainfluenza, haemophilus, pertusis, C.diphtheria.[22]. Among the under 5 children (45.56%) was male and (55.44%) was female. It appears that female children were more vulnerable to infection. In a family the best food was allotted to male head of household and female child was offered only in 4.4% cases [17]. This may be one of the reason for female child's vulnerability to malnutrition and infection.

Diarrhoea is a major public health problem in developing countries. For children aged under 5 years in developing countries, a median of 3.2 episodes of diarrhea occurred per child-year [2]. Estimates of mortality, 4.9 children per 100 per year died in the developing regions as a result of diarrhoeal illness in the first 5 years of life. [2]. One of the studies done by Khan at, al. in the rural community of Peshawar, Pakistan 2005, found that the prevalence of diarrhoeal diseases in that area was

14.00 % and the rank was second. In our study 26.92% under 5 children suffered from diarrhoeal diseases and the ranking is first which is much higher then the study done by Khan et, al[24]. Diarrhoeal diseases are commonly associated with unsafe water and poor sanitation, poor food-handling practices.

Study done by Khan et. al, found that ARI was the highest rank 27% among the diseases under 5 children [24]. In our study 23.90% children under 5 suffered from acute respiratory tract infection and the rank is second, which is better than Pakistan. A prospective community based study at Matlab has shown ARI related mortality was 29% among under five children [18].Breast feeding of infant in early life is associated with reduced risk of respiratory infection. A child who is exclusively breastfed has 25 times and 4 times less chance of death from diarrhoea and acute respiratory infections respectively than a child who is bottle fed [21].

Study revealed that 2.83% children suffered from skin diseases have some simililaritie with the study done by Khan et. al. 11.00 % Scabies is the most common health hazard whose prevalence is common in rural areas. Overcrowding, poverty, poor hygiene causes the spread of scabies. Fever is a common health problem among the under 5 children. In our study the rank is five 7.67% which is much lower then the study done by khan et,al 19.00% and the rank was third.[24].

The study done by Khan et, al. found that the warm infestation was 04.00% which is higher 8.93% in our study. The most important way to control parasitic diseases among under 5 children include simple hygienic measures. In spite of good coverage of EPI vaccination, still the prevalence of measles is higher 5.91% in the study area.

In this study the children under 5 years of age suffered from chicken pox (5.41%) This is either due to failure of the health care services to reach their door steps or due to lack of knowledge of the respondents about healthful life style.

In this study most of the common prevailing diseases were found in under5 children's whose mothers have no education (illiterate) as the diarrhoeal diseases (52.34%), acute respiratory tract infection (36.32%), skin diseases (41.18%), warm infestation (59.15%), fever (39.34%), measles (36.17%) and chicken pox (53.49%). On the other hand the prevalence of these diseases, diarrhoeal diseases (1.40%), acute respiratory tract infection (1.58%), skin diseases (1.96%), warm infestation (1.40%), fever (3.28%) and measles (4.25%) found in lowest percentage among the children whose mothers were literate up to HSC level and above. Mother's education determine the knowledge and practices regarding child nutrition, child immunization, breastfeeding, childhood illness up to 5 years, child caring practices and management of childhood illness at household level. Study done by Mankar M et,al. found that prevalence of diarrhoea among under 5 children was 21.42% in the baseline survey, whereas in the end line survey (after health education to the mothers of children) only 9.43% children were found suffering from diarrhoea.[1].

This study reveals that the prevalence of acute diarrhoeal diseases, acute respiratory tract infection, skin infection, worm infestation and measles is high in rural areas. It may be due to weak socioeconomic conditions, lack of health consciousness of the people, lack of knowledge about personal hygiene, lack of proper sanitation, lack of modern health facilities and inadequate coverage of vaccination in this area. Study done by Rahman et,al. mention that rural people are getting 50% less modern health facilities than urban population [12, 19]. More than 80% of our total population is residing in rural area, which is very poor and mostly deprived from modern health facilities than urban population [11]. People particularly in the rural area, are still found to believe in various kinds of superstitions [23]. This study reflects that, in rural areas of our country children under 5 years were suffering invariably from preventable common health problems

Reference

1. Mankar J M, Mehendale A M, Garg BS. A Role of Integrated Management of Childhood Illness (IMCI) Strategy for Changing Child Rearing Practices at Household and Community Level. Bombay Hospital Journal, India. 2008 ; 30 (4):584-590.
2. Park K, Parks Text book of Preventive and Social Medicine. 19 th edition. M/S Banarsidas, Bhanot publishers. Jabalpur, India; 2007:391-408

3. Update Integrated Management of the sick child. WHO Bulletin 1995; 73: 735-740
4. Wahed M A .Rahman M. Host factors influencing the duration of hospital stay of under five children suffering from ARI in a selected teaching hospital. J of Bangladesh College of Physicians and Surgeons. 1998; 16(2) : 57-65
5. Hossain M A . Clinical profiles and outcome of ARI study of 100 hospitalized children of 0-5 years (Dissertation) .Bangladesh College of Physicians and Surgeons, 1994.
6. Rahman M, Huq F, Sack DA et al. Acute lower respiratory tract infections in Hospitalized patients with diarrhoea in Dhaka, Bangladesh. previous of infections disease. 1990; 12 (8) : 899-906.
7. Bangladesh National Plan of Action for Nutrition (NPAN).Bangladesh National Nutrition Council. Ministry of Health and Family Welfare Government of the Peoples Republic of Bangladesh. 1997 ; 29.
8. Khanum S, Kabir I. Survival and Growth of severe Protein- Energy malnourished (PEM) children 2 years after nutrition rehabilitation in an urban nutrition centre in Bangladesh. J Trop Paediatr 1989; 35 : 138-139.
9. Khan MA , Das MA ,Rahman SMK .Morbidity and causes of death among children in a rural area of Bangladesh. Int. J. Epidemiology. 1980 ; 9 : 25-33.
10. Zahid H B M, Chowdhury K M U. Prevalence of Scabies in Rural Areas. Bangladesh J Dermatol. Venereol. Leprol. 2006 ; 23(1) : 8-11.
11. Rahman M, Banerjee M., Rahman M, Akter FU.Vaccination Status of Tribal Mothers and Their Under Five Children. Mymensing Med J . 2006; 15(1) : 55-57.
12. Yasmin S. et al. Study on status of immunization in urban and rural people & contrast of Knowledge and attitude towards immunization between them. 1993 : 5-7.
13. UNICEF Statistic. Integrated Management of Childhood Illness (IMCI) . 2001.
14. World Health Organization Bangladesh Family and community Health IMCL-2000.
15. Baqui AH , Black RE , Arifeen SE , Hill K , Mitra SN , Sabir AA .Causes of childhood deaths in Bangladesh. Result of a nation wide verbal autopsy study. Centre for Health and Population Research, ICDDR,B: 1997.
16. Clayton, Lewis, Pinker. Obstetrics. Fourteenth edition. Edward Arnold Publishers. London, 1985: 407.
17. Engle PL , Nieves I. Intrahousehold food distribution among Guatemalan families in a supplementary feeding programme: behaviour and pattern. Social Science and Medicine.1993; 361: 605-12.
18. Spika J S, Murshi M H, Wojtyniak B, Sack D A. Acute lower respiratory infection: a major cause of death in children in Bangladesh. Annals of Tropical Pediatrics. 1989 ; 9: 33-39.
19. UNICEF, The Killer of Children, the advancement of the countries on the basis of child health, nutrition. 1996 ; 9 : 24.
20. Hannan A, Rahman A, Hassan MQ, Rahman ATMA, Begum RA, Rahman F. Surveillance report on Breastfeeding and Weaning situation and child and maternal health in Bangladesh .Bangladesh Breastfeeding Foundation. 1999.
21. Talukder MQK, CPPBF. First National Conference on Breast feeding, 9 Nov 1991: Dhaka.
22. Talukder MQK, Das D K. Nutrition status and ARI. Bangladesh J of Child Health. 1987; 11(4) : 149-153.
23. Infant mortality rate in Bangladesh. http:// www.indexmundi.com/ Bangladesh/ infant mortality rate /2005. html. Accessed on May 10, 2005.
24. Khan M S, Hussain I , Kazmi NR, Majid A, Javaid A. Morbidity and Mortality in children in Rural Community of District Peshawar, Pakistan. Gomal Journal of Medical Sciences January-June 2009; 7 (1) : 31-34.

ORIGINAL ARTICLE

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Psychiatric Disorders among adolescents in Orphanages

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Abstract

Orphanages are breeding grounds for many psychiatric problems. Present study was designed to find out the psychiatric morbidity among the adolescent orphan. This was a cross-sectional study conducted in the Department of Psychiatry, Sylhet MAG Osmani Medical College Hospital, Sylhet, Bangladesh during the period from July 2009 to June 2010. Hundred and fifty adolescents orphan aged 11 to 16 years without severe mental retardation irrespective of sex from nearby orphanages in Sylhet were included in this study. The age of the respondents was ranging from 11 to 16 years with the mean 13.0 ± 1.6 years. Sixty-two percent respondents were male and 38.0% were female with a ratio of male to female was1.6:1. Most of the respondents (87.3%) were paternal orphan, 10.7% were double orphan and only 2.0% were maternal orphan. The duration of stay in orphanage was ranging from 4 to 10 years with the 6.573 ± 1.307 years; and the duration of stay was up to 5 years in 25.3% and more than 5 years in 74.7% of respondents. Psychiatric illness was present in 44.0% respondents. Post traumatic stress disorder was the most common (15.3%) psychiatric illness followed by depressive illness (14.7%), generalized anxiety disorder (8.7%), phobic disorder (6.0%), conduct disorder (4.0%); and somatoform disorder and dissociative disorder constituted 1.3% each; and obsessive compulsive disorder (0.7%). Prolong stay in orphanage more than 5 years was associated with more psychiatric illness (p=0.023).Psychiatric morbidity, especially PTSD and MDD are common in adolescent orphan. However in order to generalize our findings further studies are needed in this regard.

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Introduction

An orphan is a child who has lost both parents is called an orphan. However, the United Nations Children's Fund (UNICEF), Joint United Nations Programmed on HIV and AIDS (UNAIDS), and other groups label any child that has lost one parent as an orphan. Orphanage is the name to describe a residential institution devoted to the care of orphans[1]

An Orphanage is often examined through problematic psycho-social functioning of children. The direct consequence of orphan hood is the reduced availability of parental support.[2] Orphan children seems socially deprived. They tend to encounter higher emotional distress, hopelessness, and frustration than non-orphans.[3]

There is general agreement among researchers that children placed in orphanage settings at a young age and for long periods of time are at greatly increased risks for development of serious psychopathology later in life.[4] From this agreement, has emerged a general notion that orphanages are breeding grounds for many psychiatric problems.[5]

The absence of natural parents is the chief characteristic of the inmates of an orphanage and various kinds of psychological disturbances are frequent in such a setting but no comprehensive study has so far been reported from this country, although thousands of children spend their child hood in these institutions.

Methods

This was a descriptive and cross sectional study conducted in Department of Psychiatry, Sylhet M A G Osmani Medical College Hospital, Sylhet during period from 1st July 2009 to 30th June 2010. Study population collected from the nearby orphanages from this institute. Adolescents orphan aged 11-16 years irrespective of gender were included but with severe mental retardation were excluded from the study. After fulfillment of the inclusion and exclusion criteria purposive sampling was done to select 150 adolescent orphans. The study protocol was approved by the institutional ethical committee of Sylhet M.A.G. Osmani Medical College, Sylhet.

Firstly, informed consent was taken from the all orphans and then interviewed using DWABA and semi-structure questionnaire containing socio-demographic and other relevant information about psychiatric disorders. For diagnosis of psychiatric disorders all attended were assessed subsequently using ICD-10: criteria and confirmed by supervised psychiatrist. The family history of psychiatric illness of the subjects was assessed from the history given by the patients and their care takers.

Statistical Analysis:

After collecting data, analysis was done with the help SPSS (Statistical Package for Social Science) version 16.0. Quantitative data were analyzed by mean and standard deviation. Qualitative data were analyzed by frequency and percentage, and comparison carried by Chi-square (χ^2) and Fisher's Exact Test. A probability value (p) of <0.05 ($p<0.05$) was considered statistically significant.

Results

The mean age of the adolescents was 13.0 ± 1.6 years (range 11 to 16 years). Most of the orphans (42.7%) were in the age group of 11 to 12 years, 38.6% in the age group of 13 to 14 years and 18.7% in the age group of 15 to 16 years. Out of 150 respondents 62.0% respondents were male and 38.0% were female with a ratio of male to female was1.6:1.

Among the respondents primary level of education was in 45.3%, secondary level in 51.4% and illiterate in 3.3% respondents.

Body mass index was less than 18.5 kg/m^2 (underweight) in 65.3% and between 18.5 to 24.9 kg/m^2 (normal weight) in 34.7% respondents. There was no significant association between psychiatric illness and body mass index ($p=0.516$).

Most of the respondents (83.3%) were from nuclear family and only 16.7% were from joint family.

Table:1: Distribution of demographic characteristics of the orphan adolescent (n=150)

Variables	Frequency	Percentage
Age group		
11-12 years	64	42.7
13-14 years	58	38.6
15-16 years	28	18.7
Sex		
Male	93	62.0
Female	57	38.0
Level of education		
Illiterate	5	3.3
Primary	68	45.3
Secondary	77	51.4
Body mass index		
<18.4	98	65.3
18.5-24.9	52	34.7
Type of family		
Nuclear	125	83.3
Joint	25	16.7
Duration of stay		
≤5 years	38	25.3
>5 years	112	74.7
Type of orphan		
Paternal	131	87.3
Maternal	3	2.0
Double	16	10.7

The duration of stay in orphanage, up to 5 years was in 25.3% respondents and more than 5 years in 74.7% respondents. There was a significant association between psychiatric illness and prolong duration more than 5 years ($p=0.023$).

Table: 11: Distribution of psychiatric illness according to age, sex, BMI and duration of stay in orphanage

Variables	Psychiatric illness		p value
	Present	Absent	
Age group			
11-12 years	25 (16.7)	39 (26.0)	0.429
13-14 years	26 (17.3)	32 (21.3)	
15-16 years	15 (10.0)	13 (8.7)	
Sex			
Male	41 (27.3)	52 (34.7)	0.978
Female	25 (16.7)	32 (21.3)	
Body mass index			
<18.4	45 (30.0)	52 (34.7)	0.516
18.5-24.9	21 (14.0)	32 (21.3)	
Duration of stay			
≤5 years	11 (7.3)	27 (18.0)	0.023
>5 years	55 (36.7)	57 (38.0)	

Among the respondents (87.3%) were paternal orphan and 10.7% were double orphan and only 2.0% were maternal orphan. Family history of psychiatric illness was present in 0.7% of respondents.

Most of the respondents were student (96.7%), followed by unemployed (3.3%). All the respondents in this series were from lower class of socio-economic status. Regarding religion 97.3% of the respondents were Islam by religion, followed by Hindu (2.0%) and Christian (0.7%). Eighty-eight percent respondents were from rural areas, 12.0% from urban areas. Psychiatric illness was present in 44.0% of respondents and absent in 56.0% of respondents. Psychiatric illness was present in 27.3% of male and 16.7% female respondents.

Table 111: Common psychiatric illness in relation to sex of the respondents (n=150)

Common psychiatric illness	Male (n=93)	Female (n=57)	p value
Major depressive disorder	13 (61.9)	8 (38.1)	0.992* NS
Generalized anxiety disorder	9 (69.2)	4 (30.0)	0.767† NS
Conduct disorder	6 (100.0)	0 (0.0)	0.082† NS
Post traumatic stress disorder	17 (73.9)	6 (26.1)	0.201* NS
Somatoform disorder	0 (0.0)	2 (100.0)	0.143† NS
Phobic disorder	4 (44.4)	5 (55.6)	0.301† NS
Dissociative disorder	0 (0.0)	2 (100.0)	0.143† NS
Obsessive compulsive disorder	1 (100.0)	0 (0.0)	1.000† NS

Among the psychiatric illness, post traumatic stress disorder was the most common (15.3%) followed by depressive illness (14.0%), generalized anxiety disorder (8.7%), phobic disorder (6.0%), conduct disorder (4.0%); and somatoform disorder and dissociative disorder constituted 1.3% each; and obsessive compulsive disorder (0.7%).

Table 1V: Distribution of respondents according to type psychiatric illness (n=150)

Type of psychiatric illness	Frequency	Percentage
Depressive disorder	21	14.0
Generalized anxiety disorder	13	8.7
Conduct disorder	6	4.0
Post traumatic stress disorder	23	15.3
Somatoform disorder	2	1.3
Phobic disorder	9	6.0
Dissociative disorder	2	1.3
Obsessive compulsive disorder	1	0.7

There was no association between male and female regarding common psychiatric illness such as post traumatic stress disorder (p=0.201), depressive illness (p=0.992), generalized anxiety disorder (p=0.767), phobic disorder (p=0.301), conduct disorder (p=0.082), somatoform disorder (p=0.143), dissociative disorder (p=0.143) and obsessive compulsive disorder (p=1.000).

Discussion

In this study the age of the respondents was ranging from 11 to 16 years with the mean age of 13.033 ± 1.599 years. The mean of the male and female did not vary statistically significant (p=0.396). In this regard

Margoob et al, [6] studied the orphans of the age group of 5 to 12 years with the mean age of 8.59 years. Chaturvedi et al,[7] found that the mean age of the orphan children was 11.4 years.

In this study 62.0% respondents were male and 38.0% were female, with a ratio of male to female was1.6:1. In this regard Chaturvedi et al,[7] found a male to female ratio of 2.2:1.

Among the respondents primary level of education was in 45.3%, secondary level in 51.4% and illiterate in 3.3%. This study result was not supported by Chaturvedi et al,[7] that 67.3% of the children were educated up to V class, 21.8% up to VIII class, and one subject above VIII class.

In the present study most of the respondents (87.3%) were paternal orphan, 10.7% were double orphan and only 2.0% were maternal orphan. This result was supported by Sirinivasan and Raman.[8] They found that 55.5% were paternal orphan, 18.5% were double orphan and 7.4% were maternal orphan.

In the current study most of the respondents (83.3%) were from nuclear family and only 16.7% were from joint family. This result was correlated with the study of Margoob et al,[6] that 81.3% were from nuclear family, 12.4% were from joint family and 6.3% were from extended family.

The duration of stay was up to 5 years in 25.3% respondents and more than 5 years in 74.7% respondents; and there was a significant association between psychiatric illness and duration of stay in orphanage ($p=0.023$). This result was supported by Shaheed, [9] that there was a significant relationship between the duration of stay in the orphanage and development of psychiatric disorder. Children and adolescents who were stayed more than four years in the institution had suffered more psychiatric disorder. This may be due to adverse effects of institutionalization on the children and adolescents. Other study found no significant association between psychiatric illness and duration of stay in orphanage.[7]

Psychiatric illness was present in 44.0% of respondents and absent in 56.0% of respondents. This result was similar to the study of Margoob, et al.[6] (2006), where they found that 42.1% of their series of orphanage children had psychiatric disorder. Stein et al, [10] reported the prevalence of psychiatric disorder among children placed in care was 41.0 to 63.0%.

Post traumatic stress disorder was the most common (15.3%) psychiatric illness followed by depressive illness (14.0%), generalized anxiety disorder (8.7%), phobic disorder (6.0%), conduct disorder (4.0%); and somatoform disorder and dissociative disorder constituted 1.3% each; and obsessive compulsive disorder (0.7%). In this regard, Margoob et al, [6] found that post traumatic stress disorder was the commonest psychiatric disorders (40.62%), next commonest diagnoses were major depressive disorder (25%) and conversion disorder (12.5%). The increased number of PTSD cases in the present study may be due to the fact that all the children in the study had experienced the traumatic event in the form of death of father, which was sudden, unexpected, natural or man-made.

This study was not without limitation; firstly, this study was conducted in an orphanage in Sylhet city and may not represent the actual scenario of the country. Secondly, DAWBA (self version) was only used to detect the psychiatric morbidity and other versions of DAWBA (teacher's and parent's version) were not used in this study.

References

1. UNAIDS Global Report 2008". Available at: http://en.wikipedia.org/wiki/Orphan [Accessed on 15 January 2010].
2. UNICEF: The framework for the protection, care and support of orphans and vulnerable children: living in a world with HIV and AIDS 2004. Available from: http://one.wfp.org/food_aid/doc/Framework_English.pdf. Accessed on 11 January 2010.
3. Mbozi PS, Debit MB, Munyati S. Psychosocial conditions of orphans and vulnerable children in two Zimbabwean Districts. 2006.Cape Town, South Africa: HSRC Press.
4. Hersor L. The Seventh Jack Tizard Memorial Lecture: Aspects of Adoption, J Child Psychology and Psych.1980; 31: 493-510.
5. Bowlby J. Maternal care and Mental Health. Geneva, WHO, 1961.

6. Margoob MA, Rather YH, Khan AY, Singh GP, Malik YA, Firdosi MM, Ahmad SA. Psychiatric disorders among children living in orphanages – experience from Kashmir. JK-Practitioner 2006; 13(Suppl 1): S53-S55.
7. Chaturvedi PK, Agarwal AK, Gupta SC. Psychiatric morbidity in a children's home. Indian J Psych 1980; 22: 265—70.
8. Srinivasan TN, Raman KJ. Early child parent separation and risk for childhood psychopathology. Indian J Psych. 1987; 31: 283-9.
9. Shaheed MF. Psychiatric morbidity among orphan children and adolescents in residential care in Bangladesh. Thesis (MD). BSMMU. Dhaka. 2004
10. Stein E, Rae-Grant N, Ackland S, Avison W. Psychiatric disorders of children In care: Methodology and Demographic correlates. Canadian J Psych. 1994; 39 :341-7.

ORIGINAL ARTICLE

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The Role Of Imprint Cytology In The Diagnosis Of Ovarian Lesions

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Abstract

The purpose of the study was to establish the validity and reliability of imprint cytology in the intraoperative diagnosis of ovarian lesions and compare it with histopathology. A total of eighty cases from July 2007 to June 2008 who had ovarian tumor and tumor like lesions on the basis of clinical findings were included. After imprint cytology, the findings were noted and compared with subsequent histopathology report. Imprint cytology showed effective role in the intraoperative diagnosis of ovarian tumor. The sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and accuracy for imprint cytology were 87.5%, 98.44%, 93.33%, 96.92% and 96.25% respectively. This study was mostly consistent with other published literature. Imprint cytology provides a simple, fast and reliable method for diagnosis of ovarian tumors during surgery.

[OMTAJ 2010; 9(2)]

Introduction

Ovarian neoplasm is one of the complex areas of gynecology because of its greater ranges and varieties than any other organ in the body[1]. Ovarian cancer is the fifth leading cause of cancer death among US women and has the highest mortality rate of all gynecologic cancers[2]. In India, incidence of ovarian tumor amongst the gynecological admission varies from 1-3%[3] and in Bangladesh ovarian tumor constitutes 6.11% of total gynecological admission [4].

Histologic interpretation of ovarian neoplasm is important in distinguishing different types of ovarian tumors. Fine needle aspiration cytology (FNAC), a popular preoperative investigation has been discouraged since the puncture of a cystic carcinoma of ovary might cause intraperitoneal seeding. But intraoperative imprint cytology will provide a rapid diagnosis (within 20 minutes) without the fear of dissemination in case of ovarian cancer. Intraoperative imprint cytology is being used increasingly and regularly in the diagnosis of diseases of certain organs like thyroid and breast neoplasm where it is found to improve the accuracy and rapidity of diagnosis [5]. One study stated that, rapid intraoperative diagnosis of the nature of ovarian tumor in young women avoids unnecessary removal of contra lateral ovary and helps to preserve fertility. It can allow individualization of treatment like complete surgery in a case of malignancy [6].

Rapid microscopic evaluation of fresh surgically excised tissue has traditionally involved the use of frozen section found in a study of Owings, 1984, cited by Hossian, 1997 [7]. All hospitals of Bangladesh cannot provide frozen section facilities. But imprint cytology can be done in any hospital with minimum facilities. Some authors had shown more or less similar results by imprint cytology with that of frozen sections [8]. In a study of Chang, the sensitivity and specificity of imprint cytology was 94.9% and 95.6% and that of frozen section was 94.9% and

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96.3% (Chang et al, 1993) [8]. So, interest has grown up to see the accuracy of imprint cytology in diagnosis of ovarian lesions.

In this perspective it was designed to study the role of intraoperative imprint cytology and its correlation with histopathology to focus this easy, highly beneficial but less utilized approach of diagnosis that instantly guide a surgeon about surgical procedure to be undertaken.

Materials and Methods

This comparative cross sectional study was carried out in the department of pathology, Sylhet M.A.G.Osmani Medical College and hospital. A total 80 patients of ovarian tumor and tumor-like lesions who were treated in inpatient department of Gynae & Obstetrics, SOMCH, during the period of July 2007 to June 2008 were consecutively selected in this present study. Detailed clinical history was collected, physical examination and investigations were done. Multiple imprint smears were taken from resected tumor masses after removal of massess during surgery.

Technique of imprint smears preparation and fixation:

After collection of the fresh specimen, an important smear of excised tissue was made immediately. Suspicious areas of the excised tissue were trimmed to approximately half an inch in diameter and were held between first finger and thumb so that it protruded slightly beyond the finger tips. The tissue was pressed firmly on a clean glass slide held in other hand.

It was then withdrawn without a sliding movement and pressed once or twice further down the slides, to obtain a series of imprints. The smear were immediately fixed in 95% alcohol and then stained with rapid Papaniculoau stain. Intra-operative imprint cytology is a simple, cost effective and less time consuming method. Institutions where the frozen section is not available imprint cytology can be employed as an alternative technique. Intraoperative imprint cytology will provide a rapid diagnosis (within 20 minutes) without the fear of dissemination in case of ovarian cancer. Rapid intraoperative diagnosis of the nature of ovarian tumor in young women avoids unnecessary removal of contra lateral ovary and helps preserve fertility. It can allow individualization of treatment like complete surgery in a case of malignancy.

Intra-operative imprint cytology smears of ovarian lesions in the present study were divided into following three groups.

Positive for malignancy: Cytological criteria for malignancy were fulfilled.

Negative for malignancy: No malignant cells were observed in the smears.

Suspicious for malignancy: cells were not adequately fulfilling the criteria for malignancy, yet enough deviation from the normal observed.

Each case under these cytodiagnosis groups was also examined by histopathological method and compared with histopathological diagnosis.

Results

A total of 80 cases were attended in this study. Their age ranged from 13 to 75 years.

Considering the decade as a group, patients were divided into seven groups. The peak incidence 26 (32.50%) was seen in 3rd decade. Among the histopathologically confirmed diagnosed cases of 80 ovarian lesions, 7 cases were non-neoplastic lesions, 57 cases were benign tumors, 2 cases were borderline tumors and 14 cases were malignant tumors.

Most of the benign lesions were unilateral and malignant tumors were bilateral. Among the benign lesions, 49(76.56%) cases were unilateral and 15(23.44%)cases were bilateral.

Among 80 cases of ovarian lesions, 65 cases were mobile and 15 cases were fixed with underlying structures. The consistency of ovarian lesions was cystic, solid and mixed. Among the 80 cases, 54 cases were cystic, 15 cases were solid and 11 cases were mixed.

In Imprint cytological diagnosis of ovarian lesions, touch imprint gave satisfactory smears in all cases of ovarian lesions. Cytological diagnosis was made in all of them. Among the 80 cases, 13 cases were diagnosed as positive for malignancy , 2 cases were

diagnosed as suspicious for malignancy and 65cases were negative for malignancy in cytology. The data are presented in **table-I.**

Among the all biopsy specimens of 80 cases, histopathological examination was done. The results of histopathological examination shows 7 (8.75%) cases non-neoplastic lesions, 57 (71.25%) cases benign tumors, 2 (2.5%) cases borderline tumor and 14 cases malignant tumors. These findings are depicted in the **tableII .**

EFFICACY OF IMPRINT CYTOLOGY IN THE DIAGNOSIS OF OVARIAN LESIONS:

The efficacy of imprint cytology was evaluated by the test of Sensitivity, Specificity, PPV, NPV and Accuracy. It was based on confirmed histopathological diagnosis of 80 cases of ovarian lesions.

On evaluation of Imprint cytological diagnosis, there were 14 cases true positive diagnosis, 63 cases true negative diagnosis and 2 cases were suspicious for malignancy. There was only 1 case false positive diagnosis and 2 cases false negative. The sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and accuracy for imprint cytology were 87.5%, 98.44%, 93.33%, 96.92% and 96.25% respectively. The data are presented in the **table- III.**

Table I- Imprint cytological findings of ovarian lesions in study subjects.

Imprint cytological diagnosis	Frequency	Percentage (%)
Positive for malignancy	13	16.25
Negative for malignancy	65	81.25
Suspicious	02	2.50
Total	80	100.00

TableII- Histopathology of ovarian lesion

Histopathology	Frequency	Percentage (%)
Non-neoplastic lesions	7	8.75%
Benign tumor	57	71.25%
Borderline tumor	2	2.50%
Malignant tumor	14	17.50%
Total	80	100.00%

Table-III: Efficacy of imprint cytological diagnosis of ovarian lesions

Efficacy of Imprint cytology	Imprint cytology	Histology Dx	True positive	True negative	False negative	False positive	Sensitivity %	Specificity %	PPV %	NPV %	Accuracy %
	80	80	14	63	2	1	87.5	98.44	93.33	96.92	96.25

Discussion

One of the methods of per-operative diagnosis is imprint cytology. This study revealed that imprint cytology showed good result of sensitivity and specificity in the diagnosis of ovarian lesions. The statistical evaluation of this study was based on histologically confirmed diagnosis. In this study, imprint cytology was showed sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and accuracy were 87.5%, 98.44%, 93.33%, 96.92% and 96.25% respectively .

Upreti et al.(2000) showed sensitivity, specificity, accuracy of imprint cytology of ovarian tumor were 100%, 98.80% and 98.98%[9]. In comparison to the results of Upreti, the sensitivity of was lower, but specificity and accuracy were almost similar to this study. Nagai et al. (2001) observed the accuracy, false positive rate, and false negative rate of intraoperative imprint cytology of ovarian tumor were 83.6%, 7.1% and 9.3% respectively [10]. The present study has higher accuracy and lower false positive rate and false negative rate in comparison with the study of Nagai. The result of present study indicates that intraoperative imprint cytology of ovarian lesions has quite high sensitivity, specificity, accuracy and consistent with above mentioned relevant studies.

The imprint cytology technique is an easy, cost effective and rapid intraoperative diagnostic method. It can help in the diagnosis of malignancy confined to

one small area of a large specimen, thus can reduce error due to inadequate sampling.

In places where frozen section facilities are not available the imprint cytology could be used as an alternative to frozen section as it is simple and less expensive method and not require any specialized instrument. As imprint cytology is a rapid diagnostic procedure in intraoperative setting, it may provide opportunities for interaction between surgeon and pathologist that would guide for better management of malignant disease like ovarian carcinoma.

Even in large referral hospitals, where frozen section facility is available, intraoperative imprint cytology can be used in combination with frozen sections examination that helps to understand the presence or absence of atypical cells in the tumor in question. It maximizes the percentage of correct frozen sections diagnosis. It could be a very helpful adjunct to frozen sections.

The present study indicates the result of imprint cytology is almost nearer to that of histopathology. So, this method of cytological examination may be suitable for hospitals not equipped with frozen section facilities or lacking both frozen section facilities and histopathological examinations.

In conclusion in the perspective of higher diagnostic accuracy of intraoperative imprint cytology and its correlation with histopathology, it may be concluded that, this easy, highly beneficial but less utilized diagnostic method would be used as instant guide to a surgeon about surgical procedure to be undertaken.

References

1. Sankaranarayanan R and Ferley J. Worldwide bueden of gynaecological cancer: the size of the problem. *Best Prac Res Clin Obstet Gynaecol* 2006;20: 207-225.
2. American cancer society. *Cancer Facts and Figures*. Atlanta : American Cancer society ; 2006.
3. Konar Hiralal, D*utta's Textbook of gynaecology*, 6th edn, ,Kolkata, New Central Book Agency 2005; pp-271.
4. Begum S.Clinical presentation of benign and malignant ovarian tumor-A comparative study, FCPS Dissertarion,1996, BCPS ,Dhaka, Bangladesh.
5. Tushar K,Asaranti K ,Mohapatra PC. Intraoperative cytology of ovarian tumors. *J Obstet Gynecol India*, 200; 55:345-349.
6. Veneti S, Ioannidou- Mouzaka L, Toufexi H, Xenitides J, Anastasiadis P.1996. Imprint cytology, A rapid, reliable method of diagnosing breast malignancy. *Acta Cytol* 1996; 40:649-652.
7. Hossain MA,Value of intraoperative imprint cytology in the diagnosis of breast lesion. M.Phil thesis 1997,IPGMR,Dhaka.
8. Chang MC,Chen RD,Ho WL. Intraoperative cytology: the use of Liu's stain for immediate diagnosi,*Chin Med J(Taipei)* 1993;51(5):368-375.
9. Upreti HC. Intraoperative imprint cytology and cytologic pattern of ovarian lesions, M. Phil. thesis,2000 , IPGMR, Dhaka.
10. Nagai Y, Tanaka N, Horiuchi F, Ohki S, Seki K, Sekiya S. Diagnostic accuracy of intraoperative imprint cytology in ovarian epithelial tumors. *Int J Gynaecol and Obstet*, 2001; 72: 159-164.

ORIGINAL ARTICLE

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Adolescent Pregnancy and Low Birth Weight Babies

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Abstract

This study was designed to see the association of adolescent term pregnancy with low birth weight babies. This was a cross sectional comparative study to compare the birth weight of term babies between adolescent (15-19 years) and adult mothers (20-35 years). The samples were taken consecutively and exhaustively from 1st Jan'2007 to 31st Dec'2007 in the Department of Obstetrics and Gynaecology, Sylhet M.A.G.Osmani Medical College Hospital, Sylhet. Of the total 110 samples 55 were adolescent mothers and 55 were adult mothers. Socioeconomic status, ANC, education level was more or less same. Normal birth weight was 43(78.18%) and 51(92.73%) and low birth weight was 12(21.82%) and 4(7.27%) in adolescent and adult mothers respectively. Adolescent pregnancy was significantly associated with delivery of low birth weight babies. Adolescent mothers should be discouraged to conceive and they should be provided with proper reproductive education and contraceptive materials.

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Introduction

Adolescence is the period of life during which the carefree child becomes the responsible adult[1]. WHO defined adolescence as the period between 10-19 years of age. The term is used synonymously with "teenager"[2]. According to Smith pregnancy in a girl of 19 years or less is called adolescent pregnancy[3]. Actually 15-19 years age group is termed adolescents according to data on reproductive health[4].

Although it is a transition phase from childhood to adult, it is the time that the adolescents experience critical and defining life events as sexual relations, marriage, child bearing and parenthood. Therefore, adolescent reproductive and sexual health involve specific sets of need, distinct from mature adult (20-35 years) needs.

Of the world's 6.1 billion population, 712 million people in the age group 10-19 years live in Asia[4]. In Bangladesh 23% (30 million) of total population belongs to adolescent group; 48% of them are female[5]. For every adolescent girl living in urban areas, there are more than 5 in rural areas [6]. In Bangladesh 73% of the girls are married before the age of 18 years. In Philippines and Srilanka 14% and in China 5% are married before 18 years[7]. Marriage during adolescence normally marks the end of a girl's education and the assumption of time consuming household responsibilities[6]. BDHS found that 31% of the girls in the 15-19 years of age group were mothers and 5% were pregnant with their first child. By the age 19 as many as 58 percent of girls had begun child bearing[6].

In many developing countries female status is equated with marriage and child bearing. Even the younger brides face immediate pressure to prove their fertility. Age at marriage is influenced by education, urbanization, employment opportunities and communication outreach[8]. In Bangladesh, legal age of marriage is 18 years for females. However, a large proportion of marriage still take place before the age of 18[9]. In developed countries a close correlation exists between unmarried adolescent mother and social deprivation, sexual intercourse, pubertal development, sexual abuse, poor school performance, unstable family[3]. The age at marriage is increasing in most countries of the Asia-Pacific

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region. Overall marriage during adolescence is less common than it was a generation ago[8]. Incidence of adolescent pregnancy is highest in Sub-Saharan Africa14.3%, in North America 14%, in India 10.7%, in Bangladesh 11.5%[2].

Pregnancy imposes a double set of risk on adolescents, one is the pregnancy itself, and another is the age. So, adolescent pregnancy is considered as a high risk pregnancy [6,10]. Pregnancy related complications are pre-eclampsia, eclampsia, anemia, obstructed labor, puerperal sepsis and psychological trauma[11,2]. Emotional maturity develops 4-5 years after the sexual maturity. Skeletal growth is not complete until the age of 18 years and the birth canal is not matured until 20-21 years. Physical immaturity including the pelvic bones increases the risk of prolonged and obstructed labor due to cephalopelvic disproportion, which leads to obstetric fistula[2,3,11].

According to United Nations, 132 million babies are born worldwide each year, of which 14 million babies are born to adolescent mothers and of the 14 million 6 million in Asian adolescents[4]. Adolescent birth involves a higher risk of low birth weight babies (LBW), stillbirths and neonatal death. Prematurity plays the greatest role but intrauterine growth retardation (IUGR) is also a factor[3,12,13].

The magnitude of low birth weight babies (LBW) in developing world is enormous. Out of a total 21 million of such infants in the world, 18.9 million belongs to developing countries [14]. In our country about 36% babies are of low birth weight. Of this, one-third babies are preterm and two-thirds babies are small for gestational age (SGA), which is also called IUGR[15,16,17]. The reverse is true for the developed countries where out of the LBW two third is premature and one third is small for gestational age[18].

The incidence of having LBW babies among younger adolescents is higher than adults and the infant mortality is at least 1.3 times higher as compared with woman aged 22-29 years[2,4]. In developing country malnutrition leads to stunted growth, which in turn gives birth to LBW babies due to increased nutritional demand of the growing mother as well as fetus[6]. Besides adolescents other causes of SGA babies are conditions that interfere with the function of the placenta or with the delivery of the nutrients or oxygen to the infants, maternal smoking, low calorie intake and poor weight gain. The reasons are rather than being preterm[15]. Low birth weight babies carry the risk of increased perinatal mortality and morbidity[12].

Materials and Methods

This was a Cross Sectional Comparative Study to compare the birth weight of term babies between adolescent and adult mothers. The study was done in Obstetric and Gynecological department of Sylhet M. A. G. Osmani Medical College Hospital, Sylhet from 1st January 2007 to 31st December 2007. Total 110 samples were taken of which 55 were adolescent mothers with their term babies and 55 were adult mothers with their term babies.

Inclusion criteria were: (a) All adolescent mothers (15-19 years) and their term babies, (b) all adult mothers (20-35 years) and their term babies and (c) all babies weighed within 24 hours of delivery.

Exclusion criteria were: *(a) Gestational age before 37 completed weeks and after 42 weeks, (b) pre-eclampsia and eclampsia, (c) maternal diabetes mellitus, (d) maternal hypertension, (e) chronic heart disease of mother,(f) chronic renal disease of mother, (g) maternal anemia (Hb < 7gm%), (h) tobacco user mothers, (i) multiple pregnancies, (j) mothers not sure about LMP, (k) antepertum hemorrhage, (l) maternal age more than 35 year, (m) strenuous working mother, (n) baby with congenital anomalies, (o) still born babies and (p) age of the baby beyond 24 hours.*

The sampling was Convenient, consecutive and exhaustive.

Methods of Data Collection:

At entry into the labor room or ward adolescent and adult mothers were identified from history and clinical examination within 24 hours of delivery. After explaining the purpose of data collection to the subjects, informed written consent was taken.

History about occupation, socio-economic condition, education status, antenatal checkup, use of contraception were taken. To identify socio-economic status patients were divided into three groups according to monthly income: upper, middle and lower income groups.

History was taken about time of delivery of the baby. Obstetric history about duration of marriage and number of children were taken. Menstrual history about onset of menarche and last- menstrual period (LMP) were taken. From LMP and other events and ultrasonogram report (if available), expected date of delivery was calculated. Patients were also asked about any complication during pregnancy and during labor where possible.

Questions also were asked about mode of delivery and fetal condition after delivery. Then subjects were examined about anemia, edema, weight, height, body mass index (BMI) & blood pressure (BP). To identify anemia, hemoglobin estimation was done, to calculate BMI weight was measured by bathroom scale and height was measured by measuring tape. Body mass index (BMI) was calculated as weight (kilograms) divided by height squared (meters squared), BP was measured by aneroid sphygmomanometer. To exclude diabetes random blood sugar (RBS) & to exclude preeclamsia, renal disease routine examination of urine, serum creatinine were done. Matching was done between the two groups.

Then the baby was examined thoroughly within 24 hours of delivery. Birth weight of the baby was taken on a thin cotton cloth on a same baby weighing machine (Camry, made in China, T no -2374010).

To diagnose gestational age New Ballard Score was used and during taking birth weight of the baby the University Of Colorado Medical Center Classification of New Born by birth weight and gestational age was followed. The weights of the babies were compared with the weights of the babies of control group.

All the data were collected by researcher herself using pre-designed structured questionnaire for the study. Data were analyzed by SPSS 13.0 program.

Results

A total of 160 patients were admitted in labor and general ward during data collection period. Among those 110 patients were recruited for the study as per inclusion / exclusion criteria. Selected eligible patients were grouped into group-I (adolescent mothers) & group-II (adult mothers).

Key findings regarding demographic profile of the patients, socioeconomic status, antenatal checkup, birth weight of babies and comparison of birth weight of babies between the two groups were summarized in the forms of tables and figures.

Table-I: Demographic Characteristics of the Two Groups:

Variables	Group-I n-55	Group-II n-55	p
Age in years Mean (±SD)	18.38 (±.56)	25.73 (±4.07)	p<0.001***
BMI in kg/m^2 Mean (±SD)	21.35 (±2.58)	21.31 (±2.38)	p>0.05
Gestational age in wks Mean (±SD)	39.70 (±1.36)	39.83 (±1.21)	p>0.05

Figure 1: Graphical Presentation of Socioeconomic Status of Study Groups.

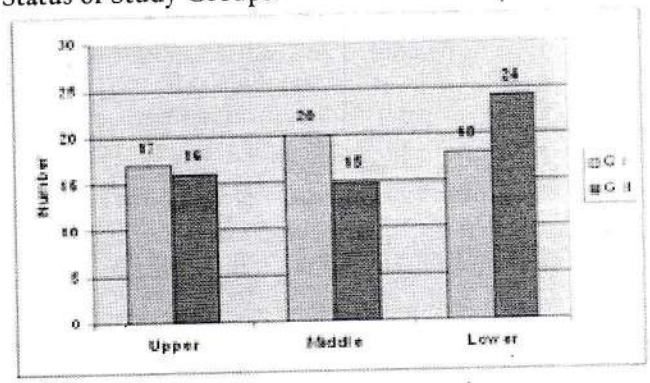

Table-II Status of Antenatal Checkup of the Two Groups:

Antenatal checkup	Group-I n-55	Group-I n-55	p
No checkup	12	11	p > 0.05
Irregular checkup	19	19	
Regular checkup	24	25	

Table-III Comparison of Birth Weight Status of Babies between Two Groups:

Name of the variables	Group-I n-55	Group-II n-55	p
Normal birth weight (2.5 - 4kg)	43	51	p < 0.001***
Low birth weight (<2.5kg)	12	4	

Discussion

Early marriage is widely prevalent on our country, more so in the lower socio economic group. Poor antenatal and intra natal care may account for poor pregnancy outcome in these women. But the question is whether age also plays a role in the obstetric outcome of these young women. It is estimated that at least 13.7 million infants are born every year at term with LBW, representing 11% of all new born in developing countries. This rate is approximately 6 times higher than in developed countries[19]. This comparative cross sectional study was carried on birth weight of the babies of both adolescent and adult Bangladeshi mothers.

All the study groups were married. In this study maternal age (years) range was (17-19) years in group-I and (20-35) years in group-II. Mean body mass index (BMI) was 21.35 (SD 2.58), 21.31 (SD 2.38) in group-I and group-II respectively. Normal BMI is 19-24. One of the risk factor for small for gestational age (SGA) baby is due to constitutionally small mothers[20]. In this study mean BMI of both the groups was within normal limits and there was no significant difference between the study groups. There was no significant difference ($P > 0.05$) of gestational age between the study groups. Both the study groups were matched regarding gestational age so that chance of variation of study parameters due to gestational age variation could be eliminated. During the study period minimum age of adolescent mother was found 17 years, which involved 2 adolescent mothers. The rest were 18-19 years and most were the first time mothers.

Regarding education level (not shown in table), percentage of literacy was almost same between the two groups. Numbers of group-II were more in primary level and group-I were more in secondary and above level, but nobody was service holder. Better education empowers the girl to decide on their own lives, it enables them to develop planning behavior, for instance to find ways and methods of contraception[2]. Regarding socio economic status most of the study subjects came from the middle and low socioeconomic status and most of them were housewives. Constitutional maternal characteristics such as maternal weight at booking (<45kg) and weight gain (<7kg) during pregnancy have been found to be consistently associated with LBW in various studies and settings, even after controlling other factors. There is high degree of sensitivity and specificity of maternal weight and weight gain in pregnancy as indicators for LBW in Bangladesh even after controlling other factors[18]. In this study weight at booking and weight gain during pregnancy could not be recorded as the samples were taken with in 24 hours after delivery. Status of antenatal checkup was studied in group-I and group-II. Inadequate/ irregular checkup means <4 checkup during the whole pregnancy period. Adequate/ Regular checkup means ≥4 checkup during the whole pregnancy period [21]. LBW deliveries were less common among mothers who had made over four prenatal visits [22]. In this study antenatal checkup was more or less same in both the study groups. This finding is consistent with the results of Hosain[18] which showed no association of LBW baby with maternal body mass index (BMI), economic status, education level and ANC visits. This study suggests that adequate prenatal care does not completely eliminate the risk inherent in teenage pregnancy presumably because biologic immaturity increases the risk of a poor pregnancy outcome.

Regarding contraceptive use (Not shown in table) prior to current pregnancy, No body in group-I used contraceptive regularly, if some, used irregularly. In group-II, some used contraceptive regularly most did not use and a few irregularly. Consistent use of contraception delays first childbirth. In this study, the comparisons of birth weight of babies were done between group-I and group-II. The rates of birth weight status of babies were normal birth weight 43 (78.18%), 51 (92.73%) in group-I and group-II respectively. Low birth weight (LBW) 12 (21.82%), 4 (7.27%) in group-I and group-II respectively. Incase of group-I the LBW rate is 21.82% and normal birth weight is 78.18% and the LBW babies were term delivery. This is consistent with the study done by Hosain et al. (2005) [18]. In their study the LBW was 20.7% and normal birth weight was 79.3% and 73% of all the low birth weight babies were term deliveries. This is also consistent with a study done at Sweden, 1996, which showed rates of LBW and preterm delivery were highest among the infants of the mothers aged 17 years or less and small for gestational age (SGA) babies among the mothers aged 18-19 years[23]. Most of the adolescent mothers in this study were aged 18-19 years; only 2 were 17 years

old. Bukulmez & Deren (2000) showed in their study LBW 12.2% in teenage group and 9.1% in control group[23].

In conclusion, this study showed increased number of low birth weight babies in adolescent mothers with term pregnancy than adult mothers which was statistically significant. So we can conclude that adolescent pregnancy is associated with low birth weight babies.

References

1. Kumar P & Malhotra N. eds. Jeffcoate's Principles of Gynaecology. 7th ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2008.
2. WHO Geneva. Adolescent Pregnancy, Issues in Adolescent Health and Development; 2004: 1-76.
3. Smith MN. Adolescent Pregnancy, Medical Encyclopedia, National Library of Medicine and the National Institutes of Health, US; 2006: 1-4.
4. Gubhaju BB. Adolescent Reproductive Health in Asia, South-East Asia's Population in a Changing Asian Context, Bangkok. Thailand; 2002: 1-24.
5. UNICEF. A Report on Dialogue on Adolescent Reproductive Health in Bangladesh, A challenge; 2003: 9-48.
6. UNICEF, Kabir R. Adolescent Girls in Bangladesh; 1999: 9-43.
7. The Alan Guttmacher institute. Into a New World; Young Women's Sexual and Reproductive Lives, New York; 1998: 4 of 13.
8. UNESCO PROAP, UNFPA. Handbook for Educating on Adolescent Reproductive and Sexual Health, Demographic Profile of Adolescents Regional, Cleaning House on Population Education and Communication, Bangkok; 1998: 1-38.
9. Mitra & associates. Bangladesh Demographic and Health Survey, National Institute of Population Research and Training, Dhaka, Bangladesh; 2004: 94.
10. Dutta DC. Text Book of Obstetrics. 6th ed. India: New Central Book Agency (P) Ltd; 2005. pp.222-631.
11. WHO. Safe Motherhood Fact Sheet. Adolescent Sexuality and Child Bearing; 1998: 1 of 4.
12. Barbara J, Stoll BJ, Kliegman RM. The Fetus and the Neonatal Infant. In Behrman RE, Kliegman RM, Jensen HB, editors. Nelson Text Book of Pediatrics. 17th ed. New Delhi, India : Saunders; 2005. pp. 519-523.
13. Cunningham GF, Leveno KJ, Hauth JC, Gilstrap L, editors. Williams Obstetrics. 22nd ed. USA: McGraw-Hill Companies; 2005.
14. Arias F, Daftany SN, Bhide AG. Practical Guide to High-Risk Pregnancy & Delivery. 3rd ed. India: Elsevier; 2008.
15. Khan MR, Rahman ME. Essence of Pediatrics. 3rd ed. Dhaka: Asian Color Printing; 2004.
16. UNICEF. The State of the World's Children. New York, USA 2006. p.102.
17. Hasin A, Begum R, Khan MR, Ahmed F. Relationship between Birth Weight and Biochemical Measures of Maternal Nutritional Status at Delivery in Bangladesh Urban Poors. Int J Food Sci Nutr 1996; 47: 273-279.
18. deOnis M, Blossner M, Villar J. Levels and Patterns of Intrauterine Growth Retardation in Developing Countries. Eur J Clin Nutr1998; 52: S5-15.
19. Thato S, Rachukul S, Sopajaree C. Obstetrics and Perinatal Outcomes of Thai Pregnant Adolescents: A Retrospective Study. International J Nursing Studies. Elsevier Ltd; 2006: 1-7.
20. Dinh PH, To TH, Vuong TH, Hojer B, Persson LA. Maternal Factors Influencing the Occurrence of Low Birth Weight in Northern Vietnam. Ann Trop Paediatr. 1996; 16: 327-333.
21. Nahar N, Afroza S, Hossain M. Incidence of Low Birth Weight in Three Selected Communities of Bangladesh. BMRC Bull. 1998; 24: 49-54.
22. Olausson OPM, Cnattingius S, Goldenberg RL. Determinants of Poor Pregnancy Outcomes among Teenagers in Sweden. Teenage Pregnancy Obstet Gynaecol 1997; 89 : 451-457.
23. Bukulmez O, Deren O. Perinatal Outcome in Adolescent Pregnancies; a Case Control Study from a Turkish University Hospital. Eur J Obstet Gynaecol Reproductive Biology. Elsevier, Ireland Ltd. 2000; 88: 207-212

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Some tips for more effective power-point presentation

Ferdous Hasan[1] and Rubina Sultana[2]

Introduction

Microsoft PowerPoint, usually called just PowerPoint, is a presentation program or software by Microsoft. It is part of the Microsoft Office suite, and runs on Microsoft Windows operating system.[1] Powerpoint presentation now a days is an integral part of class room teaching, seminars and symposiums. It is the most effective and easiest way to express matters to the audience. A well constructed presentation could not only ease things but also suits to the audience. Presentations whether they are made with PowerPoint or other applications, are a great way to support a speech, visualize complicated concepts or focus attention on a subject. However, a bad presentation can achieve the opposite. Badly designed slides with too much text or bad graphics can distract or worse, irritate the audience. This topic is designed to cover most of the steps in preparing a suitable powerpoint presentation in general and in different situations. Here's is some tips for making a good PowerPoint presentation, so that your presentation will be preferred and given applause by the audience.

Suggestions to prepare a power-point presentation:

1. Start with a good planning: Planning is probably the most important step in creating a successful presentation of any kind. Planning helps you to decide on the content [2]. A good presentation should follows good storytelling conventions; it has a beginning, middle, and end.[3] Determining the order of your slides; whether text or picture is another part of planning.[4]

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2. Layout of Your Slide is Important [5]

- **Put the title at the top** where your audience expects to find it.
- Keep **important information** near the **top of the slide.**

(Often the bottom portions of slides cannot be seen from the back rows because heads are in the way.)

3. Carefully use the design templates / themes again [5]

Use simple design templates. Many of the templates are simply too busy or glitzy, and some are downright ugly. You can create your own design templates, it is better because audience may already bore to see the common design templates. You can make design template by placing a graphic on a slide (always insert graphic in a particular location of the slides) [6]

4. The Color Scheme: Use Contrasting Colors for Text and Background. [7] Sharp contrast is important between the colour of the fonts on the slide and the colour of the slide background. The rule is: Little contrast = little readability.[8]

i. If you will be presenting in a dark room (such as a large hall), then a dark background (dark blue, grey, etc.) with white or light text will work fine.[9]

ii. But if you plan to keep most of the lights on (which is highly advisable) then a white background with black or dark text works much better.[9]

iii. Avoid patterned or textured backgrounds because it often imposes difficulty in reading. [7,10]

iv. Keep your color scheme, font size & font type consistent throughout your presentation.[10,8,7] For a long presentation, you may change when shifting to a new topic. [11,12,7]

v. Carefully use color to highlight your message!

vi. Use color well: Colour evokes feelings. Colour is emotional. The right colour can help

persuade and motivate. Studies show that colour usage can increase interest and improve learning comprehension and retention. Audiences don't like unusual colour combinations. (Red and green combos can't be differentiated by those with colour blinds.) [9] Don't weaken the colour effect by using too many colours at an instance. It is better to use two colour in a slide and use a third colour sparingly. [13]

5. Correct use of font in power point presentation:

- Choose a font that is simple and easy to read such as **Arial, Times New Roman or Verdana.** On screen presentations the **Serifs** (Times New Roman) tend to get lost due to the relatively low resolution of projectors. [7] **San-serif fonts (Arial) are generally best** for PowerPoint presentations.
- **Avoid script type font**: This font is hard to read in dark room and especially at the back of the room. [13, 8] **Use Italic sparingly**: It has the same problems like the script type of font. [13, 8]
- **Avoid All Capital Letters:** Words with all capital letters are difficult to read. Try to avoid even for heading. [8]
- **Don't use more than two different fonts in a slide** – Use one for heading and another for contents.
- **Choose a font that is suitable for your audience:** For adult people use simple font but for younger people use fancy font.[8]
- Keep all fonts large enough **(at least 24 pt and preferably 30 pt according to the size & shape of the Gallery)**, so that people at the back of the room will be able to easily read what is on the screen.

6. Structuring a Slide: Each slide should easy to read. (before making the presentation it is better to sketchout the slides on paper)

i) Each slide must contain a clear title at the top of the slide. Sans Serif font (Arial , Tahoma, Verdana) and 44 size font is better for title.[9]

ii) For subtitle or text it is better to use Serif font (Time New Roman) and font size between 24-34 are better.[9]

iii) Keep your sentences short, about 10-20 words each is ideal (This is the way people usually talk).

iv) Use simple language and limit the number of bullets (line) to three or four per slide.[9]

v) Your topic may be vast, but choose only the top three or four points .The surrounding space will make it easier to read.

vi) Try to avoid paragraph/text: The general rule for PowerPoint text is no more than three lines of text on a slide and no more than 6 words per line. Too many texts make the slide unreadable so; include only the most important information.[3,12,14]

vii) Use text occasionally as a reference point for big ideas; e.g. the three main objectives of a lesson.

7. Numbers:

- Numbers are usually confusing to the audience. Use as few as possible.
- Numbers should never be ultra precise: "Anticipated Revenues of $660,101.83" looks silly. Just say "approximately $660 thousand if applicable." [11]
- If you have more than 12-15 numbers on a slide, that is probably too many.
- Using only one number per sentence helps the audience absorb the data. [11]

8. Statistics:

- Use the same scale for numbers on a slide. Don't compare thousands to millions.[11]

9. Charts:

- Charts need to be clearly labeled. You can make more interesting charts by adding elements from the drawing toolbar. [11]

10. Animation & Transition: Animation or animated information can be rather powerful tools to visualize and explain complicated matters. A good animation can not only improve understanding, but can also make the message stick with your audience.[7] But, limit transition and animation of slides. This will certainly be entertaining, but rarely will the audience be paying attention to the message of the presentation. So use animation and slide transitions judiciously. A simple "Wipe Left-to-Right" (from the "Animations" menu) is good for a bullet point.[6, 9, 2, 13, 5]

Dim text feature for bullet points is better because it emphasis on the current issue while you are making your points.

11. Add Images: A picture says everything. Images are key elements of every presentation. So have more images in your slides than text. Your audience has ears and eyes – they will want to see what you are talking about, and a good visual cue will help them to understand your message much better. Use images to visualize and explain.[5, 12, 13]

12. Use video and audio to convey your message more effectively[7]

13. Sound Effects: Don't use Inappropriate or too many sounds. Although the sound effects are included with the program and you can easily add your own sound effect to make a crucial point or as subtle ambient background music. [13]

End Notes:

i. K.I.S.S(Keep it Silly Simple) Principle: Use the K.I.S.S. principle while creating your visual presentation. Keep your slide simple. Use simple language, font & design templates, and animation scheme. A simple slide should have plenty of "white space" or "negative space" that contributes better understanding. [13,7,4]

ii. One thing at a time, please

Plan your presentation, so just one new point is displayed at any given moment. Bullet points can be revealed one at a time as you reach them. [2] For discussing one thing at a time you can temporarily clear the screen pressing W or B during the presentation. Press Enter to resume the presentation.[11]

iii. Limit the Number of Slides: Too many slides in a presentation will cause you to be rushing to get through them, and your audience might end up paying more attention to the changing slide than to what you are saying. On average, one slide per minute is about right in a classroom presentation. Keep the number of slides to a minimum 10-12 is plenty. [2]

References

1. Wikipedia, the free encyclopedia; 2010. Available from: URL: http://en.wikipedia.org/ wiki/ Microsoft_PowerPoint. Accessed on: 4-11-2010.
2. Russel W.About com. guide. Nine presentation tips for students. Available from: URL: http://presentationsoft.about.com/lr/tips for students /25279/2/. Accessed on:4-11-2010.
3. Lifehack organigation. 10 tips for more effective powerpoint presentation; 2008. Available from : URL: http://www.lifehack.org/articles/technology/10-tips-for-more-effective-powerpoint- . Accessed on: 4-11-2010.
4. Russel W .About com. guide. The Key to Creating an Effective PowerPoint Presentation; 2007. Available from:URL: http://presentationsoft.about.com/b/2007/04/11/the-key-to-creating-an-effective-powerpoint-presentation.htm.Accessed on: 4-11-2010.
5. Russel W. About com. guide. Ten tips for creating successful business presentation; 2010. Available from: URL: http://presentationsoft.about.com/ od/ powerpointinbusiness/tp/bus_pres_tips.htm . Accessed on: 4-11-2010.
6. Krieger S. Twelve tips for creating better presentations. Microsoft at work;2010. Available from: URL: http://www.microsoft.com/atwork/ skills/presentations.aspx . Accessed on-4-11-2010.
7. Tina S. May. Ten PowerPoint Tips for Preparing a Professional Presentation; 2009.Available from: URL: http://www.makeuseof.com/tag/10-tips-for-preparing-a-professional-presentation/ . Accessed on-4-11-2010.
8. Russel W.About com. guide. Ten font tips for presenters. How to use font correctly in powerpoint presentation;2010. Available from: URL: http://presentationsoft.about. com/lr/font in powerpoint/251840/1/ . Accessed on-4-11-2010.
9. Reynolds G. Garreynolds. com.Top ten slide tips; 2005.Available from: URL: http://www. garrreynolds.com/ Presentation/ slides.html . Accessed on:4-11-2010.
10. Russel W.About com. guide. The ten most common presentation mistakes; 2010. Available from: URL: http://presentationsoft.about.com/presentation mistakes/ 306754/1/ . Accessed on:4-11-2010.
11. Splane M. PowerPoint Advice; 2006.Available from: URL: http://www.cob.sjsu.edu/ splane_m/ presentationtips.htm . Accessed on: 5-11-2010.
12. Steven H K. The PowerPoint presentation. The good, bad and the ugly; 2003.Available from: URL: http://www.shkaminski.com/Classes/Handouts/ powerpoint.htm. Accessed on: 4-11-2010.
13. Russel W. About com. guide. Powerpoint-The ugly PowerPoint presentation that are not so pretty; 2010. Available from: URL: http://presentationsoft. about.com/lr/presentation mistakes/92198 /2/ Accessed on: 4-11-2010.
14. Zen Presentation .What is good PowerPoint presentation;2005. Available from: URL: http://presentationzen.blogs.com/presentationzen/2005/09/whats_good_powe.html. Accessed on: 5-11-2010.

The Osmani Medical Teachers Association Journal Volume 9 Number 2

Multiple Stones In Ectopic Gall Bladder

Nurul Alam[1], Mrigen Kumar Das Chowdhury[2]

Introduction

It means calculi in abnormaly Positioned gall bladder. Aberrant location of the gall bladder occurs in 5-10 %. of population. It may be intrahepatic (partial or complete) surrounded by normal liver tissue[1,2] or may be found on the left side of liver[2,3,4]. This abnormal position of gall bladder is called Ectopic gall bladder. The risk of developing gall stones between ages 30-70 years is 18% in men & 24% in women[2].

Case Report

A fifty years Old house wife came from Gobindogonj, Sylhet, was admitted in Sylhet Women's Medical College Hospital on 01-12-2010 with ultrasonographic diagnosis of cholelcystolithiasis, having pain in the Right upper abdomen for 2 years. On clinical examination nothing abnormality was detected except slightly tender Rt. Upper abdomen. Her CBC, LFT, Urine, X-Ray Chest & ECG showed normal. USG of HBS revealed cholecytolithiasis otherwise the size and wall thickness of gall bladder was within normal limit. Hepatic echotecture was also showed uniform. Open cholecystectomy was done on 4-12-2010 with right subcostal incision. To the surprise the gall bladder was missing in its usual position (Fig-1). Multiple stones containing gall bladder was detected near the falciform ligament & ligamentum Teres through the extended incision medial wards (Fig-2). Formal cholecystectomy (Fig3 & Fig-4) was done and the abdomen was closed as usual. The patient was discharged on 9-12-2010. The postoperative period was uneventful.

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Fig-2 Ectopic gall bladder in midline .

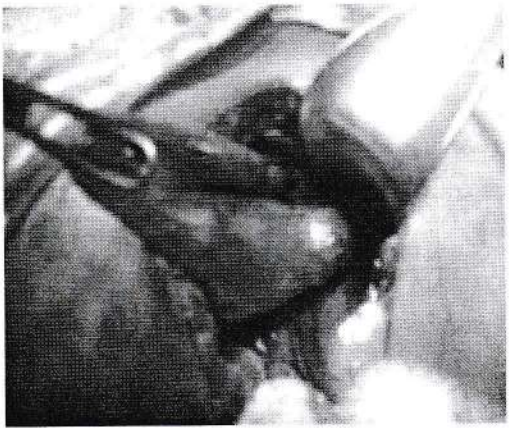

Fig-3 Ectopic gall bladder during cholecystectomy.

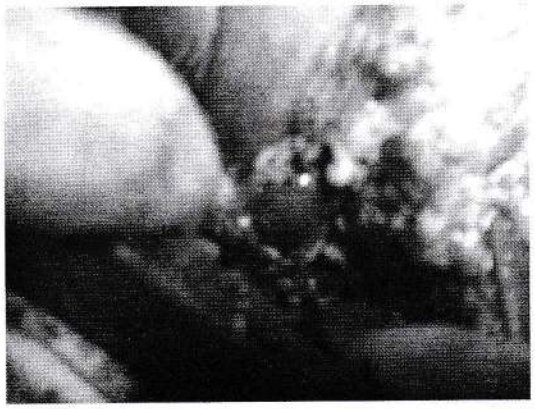

Fig-4 after removing gall bladder.

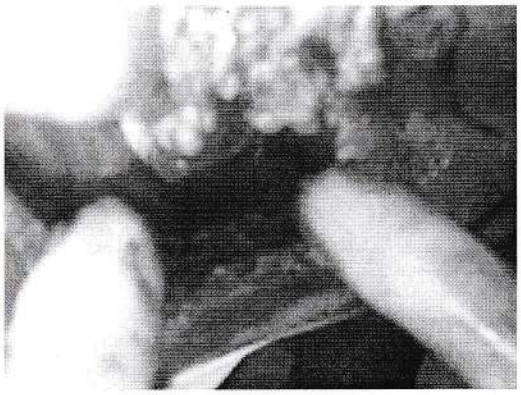

Fig-1 Missing gall bladder.

Discussion

The left sided gall balder is an integral component of situs invertus. In the absence of this condition, malposition (Ectopic gall bladder) is generally regarded as a very rare anomaly. Two type of Ectopic (malposition) gall bladder have been described[3].

i) Medioposition of gall bladder – The gall bladder is displaced medially to lie on the under surface of the quadrate lobe (segment-IV) but still on the right side of falciform ligament and ligamentum Teres.

ii) Sinistroposition of gall bladder[3,4,5] the gall bladder lies under the left lobe (segment-III) to the left of the falciform ligament and ligamentum Teres. The cystic artery in this always crosses in front of the common bile duct from right to left. The cystic duct may open on the left or right side of the common hepatic duct. Despite the malposition of the Gall bladder, the biliary pain experienced by these patients is always on the right side. The preoperative diagnosis of this anomaly is made rarely by routine USG or ERCP[3,4,5].

Conclusion

It is a development anomaly. This anomaly does not preclude safe laparoscopic cholecystectomy[3] or open cholecystectomy; but modification of port site for laparoscopic cholecystectomy or change the incision site for open cholecystectomy, the use of falciform and Teres ligament lift facilitate the procedures. Pre-operative detection of actual site of gall bladder by USG or ERCP is essential for a safe operative procedure.

References

1. James M Crawfold. The liver & the biliary tract. Congenital anomalies, Ramazi's cotran, Vinay Kumar et al. Robbins pathologic basis of disease. 5th edition 1994, WB. Saunders company, -P-884.
2. L.H. Blumgart & L. E Hann Anomalies of the accessory biliary apparatus. Leslie H. Blumgart, Jacques Belghiti et al. Surgery of the liver, Biliary tract and pancrease. Fourth Edition Volume I, 2007 Saunders Elsevier P-16
3. Sir Alfred Cuschieri, Anamolies of gall bladder In sir Alfred Cuschieri, Robert J.E. Steele et al. Essential surgical practice . Fourth Edition Volume two-2002, London Hodder armold P-376 & 377.\
4. John R. Haaga, Thomas E. Herberner . The gall bladder & biliary tract. John R Haaga, Charles. F. Lanjieri et al. CT and MR Imaging of the whole body. Fourth Edition. Volume-Two, 2003 Mosby, P-1345.
5. Chapter-6, Biliary Tract In Jone E. Skandalakis, Stephen W. Gray eds. Anatomical complications in general surgery Mc. Grow-hill Book company 1983,P-129.

The Osmani Medical
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Volume 9 Number 2

A young boy with scarlet fever

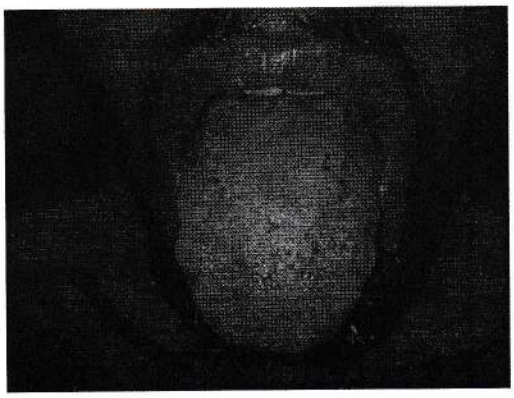
Goutam kumar roy[1], Shishir ranjan chakroborty[2], KMJ Zaki[2], Jonmejoy datta[3], Shubharthi kar[3].

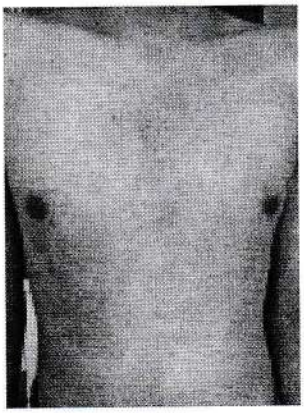
Introduction

Scarlet fever is a bacterial illness accompanied by pharyngitis and characteristic body rash. The organism responsible for scarlet fever is *Streptococcus pyogens* (Group A Streptococci).The rash of scarlet fever arises from the effects of one of three toxins, currently known as streptococcal pyrogenic exotoxins A, B and C[2].Although anybody can catch scarlet fever it usually affects children between four and eight. Most children over 10 will have developed immunity against the toxins and children under two will have congenital immunity from their mother. Scarlet fever is a notifiable disease as worldwide Group A streptococcus infection and their post infectious sequelae (primarily ARF and Rheumatic heart disease) account for an estimated 500,000 deaths per year[1].For reasons that are not clear yet, scarlet fever has become less common in recent years, although strains of Group A Streptococcus that produce pyrogenic exotoxins continue to be prevalent in the population[1].We are reporting a case of young boy presenting with typical features of Scarlet fever.

Case Report

A young boy of 18 years got admitted in the medicine department of M.A.G.Osmani Medical College Hospital with the complaints of fever for 5 days, difficulty in swallowing for 5 days and rash in the body for 3 days. The fever was continued in nature and for this he took some common antibiotic such as amoxycilln and ciprofloxacin. From the third day of illness he developed rashes over the upper trunk, spreading to involve the extremities but sparing the palms and soles. The rash blanched on pressure and made up of minute papules giving a `sandpaper` feel to the skin. Examination of the mouth cavity reveals intense erythema and swelling of the pharyngeal mucosa and presence of purulent exudates over posterior pharyngeal wall and tonsiller pillers. The throat swab sample was sent and it revealed a good number of cocci on gram staining. WBC count, Chest x-ray ,febrile antigen, ASO titer were normal. Antibiotic was given on clinical ground (Azithromycin) and the fever and rash was subsiding from the 9th day of illness. Desquamation of skin of palms and soles were seen at the day of discharge.





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Discussion

Development of scarlet fever rash may reflect a hypersensitivity reaction requiring prior exposure to toxin. Susceptibility to scarlet fever was correlated with the result of Dick test in which a small amount of erythrogenic toxins injected intradermally produced local erythema in susceptible persons[3]. The symptoms of the scarlet fever may be mimic commonly with measles, drug allergy or other causes of fever and generalized rash, such as Dengue.

As our patient has a history of known hypersensitivity to sulfar containing drugs it was initially diagnosed as a case of drug allergy. But after repeated inquiry it was confirmed that the patient didn`t take any sulfar containing drugs for his present illness. Moreover, after admission, on the 7th day of his illness he developed epistaxis with a declining platelet count from 2,05,000 to 1,50,000.But after consultation from ENT department it is ensured that this bleeding is due to local cause(DNS).Moreover the subsequent platelet count become normal with negative anti dengue antibody (both IgG and IgM).

Mild cases of scarlet fever go away in about a week without treatment. The most common treatment for scarlet fever is a 10 days course of antibiotics. This will usually be penicillin taken by mouth. Those who is allergic to penicillin the antibiotic erythromycin can be used instead[2]. Scarlet fever may be complicated by ear infection, throat abscess, pneumonia, ARF, rheumatic fever etc if it has not been treated. So proper treatment along with some preventive measures, such as isolation of patients and maintenance of personal hygiene[4] may help a lot.

Conclusion

Though the age and the ASO titer of our patient is not typical for scarlet fever ,characteristics clinical findings along with a throat swab positive for Group A Streptococcus make it convenient to diagnose him as a case of scarlet fever.

References

1. Caraprtis JR et el. The global burden of group A streptococcal diseases. Lancet infectious disease 2005; 5:685
2. Bisno AL et el. Practice guidelines for the diagnosis and treatment of Group A streptococcal pharyngitis. Clin infect Dis 2002; 35:113.
3. Stevens DL. Streptococcal infection of skin and soft tissues. N Eng J Med 1996; 334:240
4. Centres for disease control and prevention; prevention of Group A streptococcal disease. Clin Infect Dis 2002; 35:950.

The Osmani Medical Teachers Association Journal Volume 9 Number 2

A Young Pregnant Woman With Fulminant Hepatic Failure Due To Hepatitis E Virus

Goutam kumar roy[1], Kallol bijoy kar[2], K M J Jaki,[3] Jonmejoy datta[4].

Introduction

Hepatitis E virus (HEV) is a single stranded RNA virus that causes large scale epidemics of acute viral hepatitis, particularly in developing countries[1].The route of transmission of Hepatitis E virus is fecal-oral route. The disease was first recognized in the Indian subcontinent in 1950s[2].Studies from various developing countries shows that the incidence of HEV infection in pregnancy is high (8%, 19% and 18% in first, second and third trimester respectively) and a significant proportion of these pregnant women can progress to preterm labour and fulminant hepatic failure with high mortality (Varying from 30- 100%)[3].But the patient who survive may have a complete biochemical and histologic recovery. Our case, a 21 years old young pregnant lady, represents a typical fulminant hepatic failure by Hepatitis E virus.

Case Report

A 21 year old young lady was admitted in a private medical centre of Sylhet with the complaints of yellow discoloration of skin and sclera for 2 days with disorientation and confusion. The patient was primigravida with 24 weeks of pregnancy. On examination patient was moderately icteric ,liver is not palpable, upper border of liver dullness was obliterated with a resonant percussion note over liver area except 6th intercostal space and planter reflexes were bilaterally extensor . Flapping tremor cannot be demonstrated as the patient was on acute confusional state. The patient didn't develop any ascites or edema. Investigation shows Serum bilirubin 16.7 mg/dl, serum amino transferases SGPT 427,SGOT 78 IU, prothrombin time 20 sec, alkaline phosphate 190 u/l, HbsAg negative, serum electrolyte Na 118,K 3,Cl 88,Co2 15,USG 24 week live pregnancy with small liver size.. The patient was diagnosed as a case of fulminant hepatic failure and was treated conservatively. But as the patient's condition was gradually deteriorating she was referred to Dhaka BIRDEM hospital for better management. All the liver function markers were continue to deteriorate .Moreover IgM Anti-HEV and IgM anti-HBc was done. IgM anti-HEV was positive but IgM anti-HBc was negative. The patient was transferred to ICU with the aim to maintain life in the hope that the hepatic regeneration will occur. From the 8th day of her illness the improvement began to occur and after 15 days she was discharged from the hospital. Later after 4 months she delivered a healthy male baby per vaginally. Hepatitis E marker of the baby was negative.

Discussion

Enterically transmitted hepatitis E virus infection is most common cause of acute viral hepatitis in developing world[4]. In men and non-pregnant women, the disease is usually self limiting and has a case fatality rate of less than $< 0.1\%$[1].However in pregnant woman, particularly from certain geographical areas such as in indian subcontinent HEV infection is more severe and may lead to fulminant hepatic failure and death in a significant proportion of patients. Certain studies shows that HEV infection can be complicated by fulminant

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hepatitis in only 1-2% of all cases but 20% of cases occurring in pregnant women[5].Case fatality of the HEV infected patients with fulminant hepatic failure vary from 30-100%[3].The high mortality rate in pregnancy has been thought to be secondary to the associated hormonal (oestrogen and progesterone) changes during pregnancy and consequent immunological changes[1].Though vertical transmission from pregnant mother to newborn babies is well documented[6],further data is needed to determine the frequency of transmission by this mode. Patients with fulminant hepatic failure need measures to control cerebral edema and consideration of liver transplantation. In pregnant women, no proven benefit to terminating the pregnancy has been documented. Postpartum hemorrhage resulting from deranged coagulation requires treatment with fresh frozen plasma. Prevention of hepatitis E in endemic areas depends primarily on the supply of clean drinking water and strict attention to sewage disposal. Measures to improve the quality of drinking water –as simple as boiling water – have been shown to lead to rapid decrease in the number of new cases.

Conclusion

Although the mortality rate in the pregnant woman with fulminant hepatic failure infected by HEV is very high, management in the high dependency unit or ICU until hepatic regeneration may save many lives. Moreover the patient who survive may have a complete biochemical and histologic recovery like our patient.

References

1. Navaneethan U, Mohajer MA and Shata MT. Hepatitis E and pregnancy- understanding the pathogenesis. Liver International 2008:28;1190-9.
2. Vishwanathan R. Infectious hepatits in Delhi (1955-1956)-a critical study. Indian J Med Res 1957; 45(supp 1) :1-29.
3. Kumar A, Beniwal M, Kar P, Sharma JB and Murthy MS. Prevalence and severity of acute viral hepatitis and fulminant hepatic failure in pregnancy - a prospective study. Int J Gynaecol Obstet 2004 ;85:240-4.
4. Purcell R and Emerson S . Principle and practice of infectious diseases, 6th edition, Newyork, Elsevier, 2005; 2204-17.
5. Medhat A, Shaaban MM, Makhlouf MM, Ghaneima SE. Acute viral hepatitis in pregnancy. Int J Gynaecol Obstet 1993;40:25-31.
6. Khuroo MS, Kamili S, Jameel S: Vertical transmission of hepatitis E virus. Lancet 1995; 345 :1025-6.

REVIEW ARTICLE

The Osmani Medical Teachers Association Journal Volume 9 Number 2

Nutritional Status, Morbidity and Mortality in Elderly People –A Serious Community Problem

A Z M Monzurul Hoque Choudhury[1], Ashoke Bijoy Das Gupta[2], Md.Sadullah[1].

Introduction

Nutritional status of elderly people is commonly underestimated and often ignored in a developing country like Bangladesh. The dangerous consequences of malnutrition especially in underprivileged family in a developing country cause immense pain & suffering of the victims. Early diagnosis and proper education with nutritional support will certainly reduce the morbidity and mortality of older persons. The aim of this review is to focus on the nutrition related sufferings which lead to ultimate death of the elderly and special emphasis is given on the triggering factors like anorexia, weight loss and infectious diseases, and the recovery from illness including drug treatment.

A very few researches have been conducted regarding the nutritional status of older people (Age above 60 years) and its impact on the morbidity and mortality in Bangladesh. Therefore, scanty information is available on this grievous issue. Most of the research and public health activities are done on women in reproductive age and children particularly, but less attention is given to the aged people. Many studies conducted in the different countries of the world revealed that more than 60% older people living in the community are at risk of being malnourished[1-5]. In a study conducted by Ferdous et.al. in a rural area (Matlob Thana in Comilla district) of Bangladesh showed that more than one fourth of the population has prevalence of protein energy malnutrition (PEM) and Body mass index (BMI) indicates chronic energy deficiency in more than half of the population[5]. Nutrition is very vital and important to the health and functioning of elderly people. Affected by inadequate nutrition or an insufficient diet, the death rate is two to three time higher in older persons. Malnutrition paves the way to worsening of previous diseases or to additional diseases, mainly infectious diseases. Malnutrition is highly prevalent problem, particularly in older persons. Estimates of the prevalence of malnutrition vary different parts of the world due to socio-economic condition as well as plan, as methods for detection are not standardized and much of malnutrition goes undetected. Both the number and the proportion of older person – defined as aged 60 and above are growing virtually all countries.

Research conducted in rural Bangladesh showed that education level and food cost i.e., socio-economic condition are directly involved with nutritional status[5]. According to the recent human development report, approximately one third of the population of Bangladesh is undernourished. In another study, conducted by Mahjabeen(2007) in a nursing home at Dhaka showed that 41.1% older people had no knowledge about their health care. As the world's older population is increasing dramatically in most of the developing countries it is expected that Bangladesh, with a projected 14 million older people, will be one of the ten nations with largest older population by 2020[3]. The United Nations aims to reduce malnutrition as well as morbidity and mortality into half all over the world by 2015, it is necessary to pay special attention with adequate support for the elderly people of the developing countries.

Diagnosis of Nutritional status

Undoubtedly, early diagnosis of malnutrition will help to reduce the various adverse effects of it and mortality of older people as well. Profound

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malnutrition and serious illness often exist concurrently, and each may enhance the progression of the other. The importance of early detection and quick measures are necessary to stop the advance of the diseases. Measurement of nutritional status is based on individual history taking, physical examination, anthropometric and biochemical investigations, and may be aided by nutritional screening tolls like: questionnaire and follow-up sheet. It has been disappointing that a number of different anthropometric, biochemical and clinical indices have been used to define nutritional status in the literature each with a variety of cut-off points. Particularly the interaction between nutritional status and subsequent mortality (mostly from infection) shows different results in different communities which means that there is no single-cut off point.

Unintentional weight loss of 10 pounds or more over a period of 6 months is a strong indicator of nutritional risk or morbidity[6]. The history should also include the presence of risk factors for deficient nutrition intake such as poverty, social isolation and inability to shop, prepare food or feed[7]. In addition, any chronic medical condition that may potentially affect nutritional status must be pointed out. Diabetes, cardiopulmonary diseases, GIT disorder, depression and rheumatological diseases are in the list of morbidity of elderly due to nutritional deficiency. Anorexia and weight loss are the most important indicators of morbidity. Many commonly used drugs are also anorexigenic, notably NSAIDs and strong antimicrobials including OTC drugs, will be discussed later.

The Physical examinations should determine body weight and height, and presence of any sign of nutritional deficiency in the skin, hair,, nail, eyes, mouth and muscles. The body mass index (BMI) is a useful measurement for assessing nutritional status and can be calculated using the formula [BMI=weight(kg) / height(m)2][3]. The desired BMI for older people is 24 to 29, compared with 20 to 24 in younger persons and a measure below 24 is an indicator of malnutrition in older persons[8]. Knee height has been measured in the 3rd National Health and Nutrition Examination Survey for persons 60 years or above[9].

Other anthropometric methods include measurement of arm circumference, mid-arm muscle area, calf circumference, triceps skin folds, and subscapular skin fold thickness (10).. Skin fold thickness is used to assess body fat stores.

Laboratory Evaluations

Serum albumin level, serum cholesterol level and total lymphocyte count are the most frequently used biochemical markers for malnutrition. Albumin level less than 3.5mg/dl are strongly suggestive of PEM [11], and levels less than 3.2 mg/dL are excellent predictors of mortality and morbidity in the elderly. Cholesterol level below 160 mg/dL to be highly predictive of subsequent mortality in nursing home residents and even lower levels were correlated with a ten fold increase in mortality[12]. Selzer et al reprted a four fold increase in mortality with a TLC of less than 1500 cells/mm[13]. Levels less than 800 cells/mm indicate sever malnutrition, and the CD4:CD8 ratio declines, as occurs with HIV patients[13]. The relative immune comprise is reversed with nutritional support, but left untreated may progress to sepsis and death.

Screening Tools: Since no single physical finding, historical fact, or biochemical test in itself is a sufficient predictor or determinant of malnutrition, several screening tools have been developed to better assessment and monitor PEM. For example: The Instant Nutritional Assessment (INA), is one of the simplest and most practical nutrition screening tools was developed by Seltzer and coworkers. The Mini-Nutritional Assessment (MNA) is another simple, rapid and reliable tool for assessing nutrition in the elderly and has rapidly become the screening tool of choice for many geriatric clinicians. The MNA was shown to be 98% accurate when compared with a comprehensive nutritional assessment which includes food records and laboratory tests[14].

Adverse effects of malnutrition in the elderly: The extent of the clinical manifestation of malnutrition is related to the duration and the degree of nutritional compromise. The most striking clinical manifestations include delayed wound healing, rise or fall of blood pressure, gastric ulcer, susceptibility to focal and systemic infections, functional and

cognitive decline, also delayed recovery from acute illness. In the nursing homes or hospitalized elderly, the risk of developing delirium is about four times higher. Most manifestations are reversible with appropriate nutritional support, but with prolonged and profound malnutrition, clinical deterioration supervenes, culminating in irreversible organ damage and ultimately death.

Survey and Prevalence of malnutrition: A report from the 3rd National Health and Nutrition Examination Survey (NHANES III) clearly demonstrated that that a linear decline in food intake from the age 20 to 80 years in both man and women. In another study showed that older persons ate 55% less fat and 40% less carbohydrate than younger individuals[9]. Blaum et al reported that about 10% of nursing home residents lost 5% of their weight within one month of admission and 10% of their weight within 6 months[15]. It is approximately estimated that upto 15% or more of community dwelling and ambulatory elderly persons, 5% to 44% of home bound patient are malnourished[15]. The prevalence of PEM varies greatly with the population of different communities and countries. Nutritional supplementation has been shown to improve the prevalence and outcome of PEM, with 50% of malnourished residents gaining weight and 63% showing improvement in PEM diagnostic criteria[16].

Anorexia, Weight loss and infections in elderly: There is a marked decline in test and smell with aging which is further associated with several changes in both the central feeding system and the peripheral satiety system. With aging, a decline in gastric emptying of large meals has been associated with satiation. Factors involved in the development of anorexia and subsequent weight loss in the elderly are numerous. Poverty, Social isolation, elder abuse and expensive medication play very vital role in the development anorexia and weight loss. Depression and dementia are the most important causes of anorexia and weight loss. Various psychological conditions that may contribute to anorexia and weight loss that produce long lasting malnutrition. Physical causes, especially diseases that interfere with the ability of the person to eat or to prepare food, such as stroke, tremors or arthritis can all lead to decreased food intake.

Older persons suffering from various infections diseases like chronic obstructive pulmonary disease, Acquired immunodeficiency syndrome (AIDS) and rheumatoid arthritis result in increased levels of circulating cytokines which in turn lead to decreased serum albumin levels[17]. Chronic infectious diseases causes sever anorexia that leads to weight loss in elderly and to death.

Numerous medications are associated with anorexia and weight loss. Those most frequently implicated include digoxin, theophylline, NSAIDs, Chemotherapeutics, psychotropic drugs like fluoxetine, lithium and phenothiazines, and also strong antimicrobials.

Prevention and Treatment of Anorexia, Weight loss and Infections: Therapeutic diets, including low salt, low fat and sugar restricted diets should be avoided in the elderly. Proper nutritional support with strict follow-up will reverse anorexia and weight loss, and will provide protection against various infections. Nutrition therapy one of three forms: oral caloric supplementation, tube feeding or parenteral feeding. Different oral and enteral feeding formulas are available with variable compositions like percent proteins, fat, lactose content, vitamins and calorie per unit volume. There is good evidence that oral supplementation improves outcome in elderly persons with hip fracture, pneumonia and other sever diseases. In a study on nursing home residents on about 1400 elderly, found no evidence that tube feeding prolong survival. There was no improvement in the quality of life or morbidity in tube-feeding patients. Metabolic parameters and electrolytes must be monitored closely. Parenteral nutrition has no place in the management of chronic age-related malnutrition.

Several medication have been suggested for the treatment of anorexia and weight loss in older persons. Megestrol acetate has been used successfully to stimulate appetite and promote weight gain in patients with aids and cancer[18]. Growth hormone, is expensive and also has some severe side effects, shown to stimulate appetite and weight gain in severely malnourished older patients. Oxanddrolone, an oral anabolic steroid is shown to have a positive

impact on weight gain in patients with AIDS and alcoholic hepatitis. Nandrolone and testosterone improve nutritional status and muscle strength[19]. Metoclopramide, a prokinetic agent and Cyproheptadine, an antiserotonergic agent has been shown to have mild positive effect on appetite. Duranabinol (tetrahydrocannabinol) is an antiemtic that increased weight in patients with cancer and AIDS, and also in Alzheimer's disease[20]. To choose an antimicrobial for infectious diseases that usually has many adverse effects, physicians must be careful not to deteriorate one's nutritional status further. Although several potential drugs have been suggested for the management of anorexia, weight loss and infections, none of these are cost effective and devoid of adverse effects.

Conclusion: Nutritional status of the elderly people should carefully be diagnosed and properly supplemented. Older people are dramatically increasing all over the world; unfortunately, older people of developing countries are the most sufferers. Malnutrition is a highly prevalent problem and a silent killer particularly in older persons of the developing countries like Bangladesh. Early detection is the key to management of malnutrition and to reduce the sufferings of older persons. The majority of diseases of older persons related to nutritional cause are treatable if can be detected early. The government of every country should take proper initiative to encounter malnutrition of the older people who served the country in their youth.

References

1. Holmes S.: What do we know about nutrition and older people? J Fam Health Care , 2004; 14: 153-5.
2. Sullivan DH, Wallas RC: Impact of nutritional status on morbidity in a population of geriatric rehabilitation patients. J Am Gertiatr Soc 1994;42:471-7,.
3. Hajjar RR, Kamel HK, Denson K: Malnutrition in Aging. Internet J Geriatrics Gerontol 2004; 1:.403-7
4. Morley JE, Silver AJ Silver: Anorexia in the elderly. Neurobiol Aging1985; 9:9-16,
5. Kabir ZN, Redous T, Cederholm T, Khanam MA, Steatfied K, Wahlin A: Mini Nutritional Assessment of rural elderly people in Bangladesh: The impact of demographic, socio-economic and health factors. Public Health Nutr 2006; 9: 968-74..
6. Rosenberg IH. Nutrition aging. In: Hazzard's WR. ed.: Principal's of geriatric Medicine and gerontology, New York: McGraw-Hill, 1990, pp49-59,.
7. Kamel HK, Morley JE: Anorexia of aging. "Oxford Text book of Geritric Medicine," 2nd ed. London: Oxford University Press 2000, pp 158-168,.
8. Dimaria RA, Amella E. Malnutrition in the elderly: In: Maddox GL. ed. The encyclopedia of aging, 2nd ed. New York: Springer,2007: pp.599-601.
9. The 3rd National Health and Nutrition Examination Survey (NHANES- III): Daily dietary fat and total food energy intake. MMWR Morb Mortal Wkly Rep 1994; 43:116-25,.
10. Pearson MB, Bassey EJ, Bendall MJ: The effects of age on muscle strength and anthropometric indicies within a group of elderly men and women. Age Aging, 14:230-234, 1985.
11. Reilly JJ, Hull SF, Albert N: Economic impact of malnutrition: A model system for hospitalized patients. JPEN 12:371-376, 1988.
12. Rudman D, Mattson DE, Nagraj HS: Prognostic significance of serum cholesterol in nursing home men. JPEN 12:155, 1988.
13. Kaiser FE, Morley JE: Idiopathic CD4+ lymphopenia in older persons. J Am Geriat soc42:1291-1294, 1994
14. Guigoz Y, Vellas B, Garry PJ: Mini Nutritional Assessment: A practical assessment tool for grading the nutritional status of elderly patients. Facts Res Gerontol 4(suppl 2): 15, 1994.
15. Blaum CS, Fries BE, Fiaterone MA: Factors associated with low body mass index and weight loss in nursing home residents. J Gerontol A Biol Sci Med Sci 50:162-168, 1995.
16. Thomas DR, Verdery RB, Gardener L: A prospective study of outcome from protein energy malnutrition in nursing home residents. J parenter Enteral Nutr 15:400-404, 1991.

17. Roubenoff R, Grimm LW, Roubenoff RA: Albumin, body composition and dietary intake in chronic inflammation. In Rosenberg IM (ed): Nutritional Assessment of Elderly population, New York: Raven, pp 30-39,1999.
18. Simons JP, Aoronson NK, Vansteenkiste JF: Effects of medroxyprogesteron acetate on apptite, weight and quality of life in advanced state non-hormone sensitive cancer: Aplacebo controlled multicenter study. J Clin Oncol 14: 1077-1084, 1996.
19. BergerJR, Pall L, Hall CD: Oxandrolone in AIDS-wasting myopathy. AIDS: 1657-16662, 1996.
20. Beal JE, Olson R, Laubenstein L: Dronabinol as a treatment for anorexia associated with weight loss in patients with aids. J Pain Sympton Manage 10: 89-97, 1995.
21. Mahjabeen SB: Geriatric health problem and health care seeking practice among elderly people attending one selected geriatric hospital. Bangladesh J physiol Pharmacol 23(1&2): 20-24, 2007).

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5. Chapter in Book: Wenzel RP. Organization for infection control. In: Mandell GL, Douglas RG, Bennett JE, eds. Principles and practice of Infectious Disease, 3rd ed. USA: Churchill Livingstone Inc 1990: pp. 2176-80.

6. Thesis/ Dissertation: Kaplan SJ. Post-hospital home health care: the elderly's access and utilization [dissertation]. St. Louis (MO): Washington University 1995.

7. Formally published abstracts: Geesy GG, Costerton JW. Bacterial population adherent to submerged surfaces in a pristine mountain stream. Abstracts of the Annual Meeting of the American Society for Microbiology 1977: 235.

8. Articles from symposium volumes: Hamilton LD. Immunogenic polynucleotides. In: Beers RF Jr (ed). Biological effects of polynucleotides: Proceedings of the symposium on molecular biology. New York, Heidelberg, Berlin: Springer Verlag 1971: 107-28.

9. Insert from commercial product: Zyvox (linezolid). Peapack NJ: Pharmacia & Upjohn 2000 (package insert).

10. Web site: Division of tuberculosis elimination. Surveillance reports: reported tuberculosis the United States, 2000. Atlanta: Centres for Disease Control and Prevention, 2001. (Accessed June 27, 2001, at http:/ www.cdc.gov /hchstp/tb/surv/surv2000.)

11. On-line only Journal: Scientist JQ. 2 October 1998, Posting date. History of virology. Am Virol J 1998; 30-150. *(Page numbers may not be available)* [Online.] http://cbxiou.pgr (last accessed October 10, 1998)

12. Online version of print journal: Scientist JQ. History of clinical microbiology. Clin Microbiol 1999; 100: 123-345. [Online]

13. Online version of print books: Scientist JQ. 4 October 1998, Posting date. Culturing methods, 750-800 In: Gavier (ed). Practical procedures for Laboratory, 5th ed. [Online.] DEF Publishing Co. Boston, Mass Http://cbxiou.pgr. (last accessed October 10, 1998).

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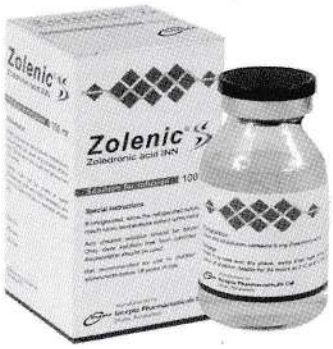

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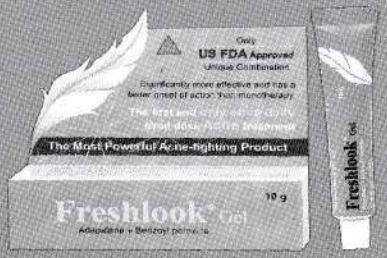

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Rhubarb extracts 5% & Salicylic acid 1%
Oral Solution

The most effective solution for mouth ulcer

- Heals quickly & relieves promptly from Aphthous / Mouth Ulcer
- Resumes normal oral physiological functions within short time
- Significantly reduces the frequency and severity of recurrence
- Also effective for the treatment of gingivitis, periodontitis & denture irritation

ZISKA PHARMA

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