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JOURNAL OF BANGLADESH COLLEGE OF PHYSICIANS AND SURGEONS

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EDITORIAL

Enteric Fever

Enteric fever is a common febrile illness in Bangladesh. It is endemic here due to poor water supply, sewerage system, and food hygiene in most part of the country. Clinical presentation of enteric fever is widely variable; atypical presentations are not uncommon. Some of the severe manifestations like neuropsychiatric manifestations (delerium, coma), hypotension, subacute intestinal obstruction, intestinal perforation, jaundice, pneumonia, rectal bleeding, and seizure pose a diagnostic problem in endemic areas[1,2]. Similar clinical features may be present in a number of tropical infections like malaria, viral hepatitis, amoebic hepatitis, gall bladder disease, brucellosis, leptospirosis and chronic liver disease[3]. Isolation of the salmonella from specimens like blood, stool, urine and different body fluid at an appropriate time in the natural course of the disease is the standard confirmatiory test for salmonella infection[4]. In absence of such facilities in most places of developing countries, positive Widal test (e.g. antibody titre against *S. typhi* 'O'- antigen of 1 : 160) may be useful in the diagnosis if considered in association with clinical findings[5]. However, the Widal test may be negative even in bacteriologically confirmed cases particularly if treatment is started early before the appearance of antibody[6]. This would create a misleading and difficult situation in diagnosis. This further emphasizes the need of diagnostic confirmation before starting antimicrobials.

Antibiotic sensitivity has been found to have changed in the Indian subcontinent. 'Multiple Drug Resistant' (MDR) salmonella infections are reported from different countries including Bangladesh[7,8]. Even in the same country, sensitivity pattern is widely variable. For example, Ahsan et al reported the sensitivity to co-trimoxazole, amoxycillin and chloramphenicol to be 87.20%, 85.40% and 70.70% respectively in Khulna region[9]. Hasan et al, on the other hand, found a sensitivity pattern to the same antimicrobials at 56%, 59% and 57% respectively in bacterial isolates in Dhaka[10]. In this issue of the journal, Hasan et al documented the clinical presentation of typhoid fever caused by drug sensitive and drug resistant salmonella[11]. The authors did not find any significant difference in clinical presentation between the two groups. This also highlights the importance of laboratory confirmation before initiating the treatment. Saniel reported a high incidence of complications (20%) among the MDR salmonella infection in the Phillipines[12]. The author is of opinion that delay in administration of appropriate sensitive antimicrobials could lead to high incidence of complications. Bangladesh study however has not considered the previous use of sensitive antibiotic. It is now essential to identify multiple drug resistant enteric fever in different regions of the country to formulate an antibiotic policy on region basis. Hospitalized cases are a small portion of the problem prevalent in the community. The true spectrum and magnitude of the problem in the community may be entirely different. It may be that hospitalized cases are aggregations of resistant ones. So, community based study is urgently needed before making a firm conclusion on the incidence of drug resistant enteric fever in Bangladesh.

It is, therefore, essential to establish a simple and feasible method for early and rapid diagnosis of enteric fever. By using a 50 KD protein isolated from surface membrane of *S. typhi*, a rapid diagnostic test by Dot FIA antibody measurement has come up with promising results with 95% sensitivity and

96% predictive value[13]. Further diagnostic antigen detection tests are now under active investigation for quick diagnosis of enteric fever. All the 15 isolates of MDR *S. typhi* in Dhaka has been found to possess a single 110 MD plasmid[14]. It is also necessary to identify risk group of acquiring MDR *S. typhi* infections and developing complications.

At present, these are difficult tasks to perform on a mass scale. The alternative is improvement of sanitation, water supply and food hygiene. This can only be achieved by improving socio-economic condition and education of the community and particularly by creating health awareness. A programme for improvement of sanitation in slum areas from where majority cases are coming is expected to reduce the incidence of typhoid and other water-born diseases.

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(J Bangladesh Coll Phys Surg 1996; 14 : 45-46)

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Clinical Presentation of Typhoid Fever Caused by Drug Sensitive and Drug Resistant Salmonella

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Summary :

The incidence of typhoid fever caused by multiple drug resistant *Salmonella* is increasing in Bangladesh. There are also reports on changes in clinical features of typhoid fever in recent literatures. Ninety-four *Salmonella typhi* and 17 *S paratyphi A* were isolated from 405 suspected patients of typhoid fever at the Institure of Postgraduate Medicine and Research, Dhaka, 47% of whom were resistant to ampicillin, amoxycillin, chloramphenicol and co-trimoxazole. Most were young adults with age ranging between 16 and 35. Rose spot was detected in none and splenic enlargement was detected at a frequency much lower than earlier reports. Although general toxicity, vomiting, hepatomegaly and caecal gurgling were observed at higher frequencies in patients infected by multiresistant strains, they did not attain statistical significance. It was concluded that no difference in clinical features exists between patients of typhoid fever caused by drug sensitive and drug resistant *Salmonella*.

(J Bangladesh Coll Phys Surg 1996; 14 : 47-51)

Introduction :

Typhoid fever is prevalent in many developing countries including Bangladesh. Recent increase in multidrug resistant (MDR) *Salmonella typhi* has created concern among physicians and public health authority in Bangladesh[1,2,3]. Simultaneous resistance against ampicillin, co-trimoxazole and chloramphenicol has also been observed in France, Japan, Madagaskar, China, India and Pakistan[3-7].

There are recent reports on changes in clinical features of typhoid fever[8]. The so-called "classical" picture of typhoid fever before antibiotic era was an insidious febrile illness with fairly marked severity usually associated with gastrointestinal symptoms lasting about four weeks with temperature rising in step ladder fashion upto 104°C and fell by lysis rather than crisis. There was invariably enlarged spleen and rose spot with relative bradycardia[9].

But this classical picture has been open to falacies. In some cases the disease may be subclinical, afebrile or severe with high pyrexia at the start. Antibiotics can shorten the course, reduce the rate of complications but may increase the relapse rate. The clinical presentation may also be influenced by strain of bacteria, number of organisms ingested, general condition, immunological status, age and possibly genetic make-up of the patient[10]. There are also indications in the recent publications that the clinical features and course of the disease may also be influenced by antimicrobial susceptibility with higher rate of general toxicity, hepatosplenomegaly, abdominal tenderness and increased mortality among children infected by multiply resistant *S. typhi*[8,11].

In this report the comparative clinical features of typhoid fever caused by multiply resistant and drug sensitive typhoidal *Salmonella* is presented.

Materials and method :

The study was conducted at the departments of Microbiology , Medicine and Paediatrics of Institute of Postgraduate Medicine and Research (IPGM&R), Dhaka during March

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1992 and February 1993. A total of 405 patients suspected to have typhoid fever were studied of whom 82 were from the department of Paediatrics, 53 from the department of Medicine, 227 from private practice, and 43 came directly through personal communication. Practitioners from different parts of Dhaka city including those from above mentioned departments were informed about the study. They sent patients to the department of microbiology for blood culture and other tests free of cost. History, findings of physical examination and reports of laboratory investigations were recorded in a predesigned form. Investigations included a complete blood count, haemoglobin and ESR estimation, and urine and stool analysis. For isolation of *Salmonella*, blood and stool cultures were done. The patients who were on antibiotics but did not respond to treatment within seven days of onset of regimen were asked to discontinue the treatment and samples were collected 48 hours after discontinuation. Six and 3 ml of venous blood from adults and children respectively were aseptically collected and inoculated into 60 and 30 ml of trypticase soy broth for incubation at 37°C for 14 days. Sub-culture was done on MacConkey agar after over night incubation and then every day for two weeks. One loopful of aseptically collected fresh stool samples were inoculated in MacConkey and Salmonella-Shigella agar.

Organisms were identified by colony character, gram stain, motility, catalase and oxidase tests followed by inoculation into triple sugar iron (TSI) agar media[12]. Suggestive organisms were further subjected to other biochemical tests and final species idetnification was done by agglutination with specific antisera. Drug sensitivity was tested by disc diffusion method using Mueller-Hinton agar[13]. Ampicillin (10µg), amoxycillin (10 µg), ceftriaxone (30 µg), chloramphenicol (30 µg), ciprofloxacin (5 µg), co-trimoxazole (1.25/23.75 µg) and nalidixic acid (30 µg) discs were used. Patients were sent back to respective physicians and culture positive patients were asked to report again seven days, 15 days and one month after the onset of treatment. Patients with severe symptoms and signs were hospitalized after discussion with respective physician.

Results :

Salmonella was isolated from 111 out of 405 patients of which 94 (85%) were *Salmonella typhi* and remaining 17 (15%) were *Salmonella paratyphi A*. Only blood, only stool, and both blood and stool cultures were positive in 88, eight and 15 cases respectively. All (111) isolates were sensitive to ciprofloxacin, ceftriaxone and nalidixic acid; 52 (47%) strains were resistant to multiple drugs including ampicillin, amoxycillin, chloramphenicol and co-trimoxazole; and remaining 59 (53%) were sensitive to all four drugs. Table-I shows the age distribution of culture positive patients. The age ranged from 1.5 to 60 years. *Salmonella* were isolated from 33 of 103 (32%) children and 78 of 302 (26%) adults and the difference in the rate of isolation was not statistically significant ($p>0.05$). Similarly, *Salmonella* were isolated from 75 of 283 (26.5%) males and 36 of 122 (29.5%) females and the difference was not statistically significant ($p>0.05$).

Table - I

Rate of isolation of Salmonealla organisms in children and adults

Age group (years)	Number of patients	Culture positive	
		Number	Percentage
Paediatric Group			
0-1	09	00	00.00
2-5	38	14	36.80
6-15	56	19	33.93
Sub Total	103	33	32.03
Adult Group			
16-25	110	30	27.30
26-35	123	34	27.64
36-45	41	09	21.45
46-55	20	04	20.00
56-65	08	01	12.50
above 65	00	00	00.00
Sub Total	302	78	25.82
Grand Total	405	111	27.41

Total *Salmonella* positive patients = 111 (27.41%)

Frequency of various symptoms and signs among patients infected by drug sensitive and drug resistant *Salmonella* is shown in Table-II. All patients had fever with 90.99% having oral temperature above 102°F. More than 70% patients had chill, headache and anorexia. Frequency of general toxicity, fever with step-ladder pattern, rigor, sweating and vomiting ranged between 60 and 70% of cases. Forty to 60% patients developed diarrhoea, abdominal discomfort, malaise and coated tongue. Liver and spleen were palpable in 52.25% and 18.02% of patients respectively; and caecal gurgling was observed in 11 (9.91%) cases. No serious complication, such as intestinal perforation or haemorrhage was observed. However, arthritis, pneumonia and hepatic involvement occurred in one (0.90%), eight (7.21%) and one (0.90%) patients respectively. No statistically significant difference was observed in clinical features of typhoid fever caused by drug resistant and drug sensitive organisms.

Table-II

Clinical features of typhoid fever caused by antibiotic sensitive and multiple drug resistant Salmonella (n=111)

		Culture positive	
Symptoms/Signs	Total patients (n=111)	Drug sensistive (n=59)	Drug resistant (n=52)
Fever :			
≤102°F	10 (09.01)	06 (10.17)	04 (07.69)
>102°F	101 (90.99)	53 (89.83)	48 (92.31)
Onset :			
Sudden	43 (38.74)	22 (37.29)	21 (40.38)
Step-ladder	68 (61.26)	38 (64.41)	30 (57.69)
Chill	89 (80.18)	47 (79.66)	42 (80.77)
Rigor	72 (64.86)	36 (61.01)	36 (69.23)
Toxicity	67 (60.36)	31 (52.54)	36 (69.23)
Headache	78 (70.27)	46 (77.97)	32 (61.54)
Sweating	75 (67.57)	42 (71.19)	33 (63.46)
Anorexia	78 (70.27)	38 (64.41)	40 (76.92)
Vomiting	73 (65.77)	34 (57.62)	39 (75.00)
Diarrhoea	66 (59.46)	32 (54.24)	34 (65.38)
Abdominal discomfort	47 (42.34)	28 (47.46)	19 (36.54)
Malaise	50 (45.05)	29 (49.15)	21 (40.38)
Coated tongue	54 (48.65)	32 (54.24)	22 (42.31)
Palpable liver	58 (52.25)	28 (47.46)	30 (57.69)
Palpable spleen	20 (18.02)	12 (20.38)	08 (15.38)
Caecal gurgling	11 (09.91)	05 (08.47)	06 (11.54)
Complications :			
Arthritis	01 (00.90)	00 (00.00)	01 (01.09)
Pneumonia	08 (07.21)	04 (06.78)	04 (07.69)
Hepatic involvement	01 (00.90)	01 (01.69)	00 (00.00)

Figures in parenthesis indicate percentages

The difference of symptoms and signs caused by drug resistant and sensitive strains were not statistically significant ($p>0.05$) (Z-test)

Discussion :

Typhoid fever is endemic in many developing countries and there has been recent increase in the incidence of typhoid fever caused by multi-drug resistanat *Salmonella* strains in Bangladesh[1,2]. There are reports on changing clinical features of typhoid fever caused by drug resistant organisms causing difficulties in clinical diagnosis[8] . The results of present study indicate that the disease affected all ages and both sexes, however, the majority (58%) were young adults (16 to 35 years of age). This correlates with earlier observation of Gulati et al, 64% of patients in his study were between 14 and 39 years of age, and the observation of Huckstep who noted that 63% patients in Kenya were within 16 to 30 years of age [9,14].

Coated tongue was noted in 49% of patients compared to 95% noted by Huckstep and Hoffman[9,10]. Only 18% of patients had splenic enlargement compared to 35% of patients in Huckstep and 38% in Gulati's observation[9,14]. Rose spot was detected in none of our patients. Gulati and Bhutta also had the same experience [11,14]. But Stuart and Pullen found rose spot in 45% whites and 15% negroes during pre-antibiotoic era[15].

This study did not find any severe complication like intestinal haemorrhage or perforation. Huckstep reported a 15% intestinal haemorrhage and 3% perforation. Gulati et al found 61% circulation failure, 35% encephalopathy and 13% mortality, where as Butta et al observed toxicity in 42%, disseminated intravascular coagulation in 5% and mortality in 2 % cases. Mishra et al found life threatening complications in 28% of patients[16].

No statistically significant difference in clinical features between cases of typhoid caused by drug sensitive and drug resistant *Salmonella* was observed although the rate of toxicity, vomiting, hepatomegaly and caecal gurgling were noticed at relatively higher frequencies in patients infected by multi-drug resistant strains.

It is, therfore, concluded that the incidence of typhoid fever caused by multi-drug resistant *Salmonella* has increased over the years in Bangladesh and that young adults are the major sufferers. Coated tongue and hepatomegaly is present in about half of the patients, splenic enlargement in 20%, chill, headache and anorexia in about 70% of cases and rose spot in none of the patients. The authors failed to observe any significant difference in any of the clinical features of typhoid fever caused by drug sensitive and drug resistant strain of *Salmonella typhi* and *Salmonella paratyphi A*.

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Comparison of Clinical Trends, Indications and Risks of Elective Abdominal and Vaginal Hysterectomy

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Summary :

This comparative study was done in patients undergoing abdominal and vaginal hysterectomy. The analysis of the age, parity, indication and complication between the two groups were compared. During January 1990 to June 1993, 104 cases of abdominal hysterectomy and 68 cases of vaginal hysterectomy were done (ratio 3 : 2). Only 17.30% cases undergoing abdominal hysterectomy and 58.82% cases of vaginal hysterectomy were in age group of 50 years and above. In nulliparous women abdominal hysterectomy was done in 9.61% cases while vaginal hysterectomy was not done in any nulliparous patient. Seventy percent of the patients undergoing vaginal hysterectomy had more than five children and on the other hand, 61% of the patients undergoing abdominal hysterectomy had five or less children. Post-operative hospital stay was significantly lower in vaginal hysterectomy group. The principal reasons of hysterectomy were uterovaginal prolapse, fibroid uterus, dysfunctional uterine bleeding. adnexal mass and pelvic inflammatory disease in that order. Urinary tract infection was the single most important cause of morbidity with a proportionately higher incidence in patients of vaginal hysterectomy. Febrile conditions and rehospitalization was significantly less in vaginal hysterectomy group.

(J Bangladesh Coll Phys Surg 1996; 14 : 52-59)

Introduction :

Hysterectomy is a common operative procedure for various gynaecological indications. Various modalities of treatment is coming up for the different indications. Modification in the technique of hysterectomy has led to laparoscopic hysterectomy. There is no comparative data regarding the outcome of hysterectomy and the various methods of medical treatment for any particular indication and also there is no reliable information about the outcome of the alternative methods of treatment. In properly selected cases hysterectomy has already been proved as a life saving procedure and is unique in improving the quality of life of women and is therefore still the choice of treatment. The study was done to see the clinical trend and evaluate the indications and the spectrum of complications encountered in patients here in our country.

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Materials and method :

All patients undergoing hysterectomy both abdominal and vaginal, in Shaheed Suhrawardy Hospital, Dhaka during January 1990 to June 1993 were included in the study. Vaginal hysterectomy was not done in any case where there was no pelvic relaxation. For all indications where there was no pelvic relaxation and also in cases where there was pelvic relaxation but the size of the uterus was more than that of ten weeks pregnancy, abdominal hysterectomy was done. A total of 172 cases were included in the study. The patients were selected from the patients attending the gynaecology outdoor of the hospital. When the provisional diagnosis suggested the need for hysterectomy, patients were advised hospitalisation and the preoperative evaluation and surgery were done accordingly.

Results :

During January 1990 to June 1993, 530 patients were admitted in the hospital for

operative treatment, out of which in 172 (32.45%) cases hysterectomy was done.

Table - I shows the type of hysterectomy done. It shows that in 60.47% cases abdominal hysterectomy and in 39.53% cases vaginal hysterectomy was done. Among abdominal hysterectomy cases only 2.91% had sub-total hysterectomy with bilateral salpingo-oophorectomy. In almost equal number of cases total abdominal hysterectomy with bilateral salpingo-oophorectomy and total abdominal hysterectomy with unilateral salpingo-oophorectomy was done. Out of 68 cases of vaginal hysterectomy, only two cases had unilateral salpingo-oophorectomy. Pelvic floor repair was done in all the cases.

Table-II shows the relationship of age with the type of operation. Only 18 (17.31%) cases undergoing abdominal hysterectomy were of age 50 years or above, where as 40 cases of the other group were in the same age range. Maximum number of patients (42.30%) needing abdominal hysterectomy were in 30 to 39 years age group. Only ten (9.61%) and one (1.47%) cases undergoing abdominal and vaginal hysterectomy respectively were below 30 years of age.

Table - I

Types of hysterecstomy done

	Name of operation	Number (%)
Abdominal hysterectomy (n-104)	Total abdominal hysterectomy	54 (51.92)
	Sub-total abdominal hysterectomy	03 (02.89)
	Total abdominal hysterectomy with unilateral salpingo - oophorectomy	21 (20.19)
	Total abdominal hysterectomy with bilateral salpingo-oophorectomy	22 (21.15)
	Radical abdominal hysterectomy	03 (02.89)
	Total abdominal hysterectomy with bilateral salpingo-oophorectomy and removal of cuff of vagina	01 (00.96)
Vaginal hysterectomy (n-68)	Vaginal hysterectomy with pelvic floor repair	66 (97.06)
	Vaginal hysterectomy with pelvic floor repair and unilateral salpingo-oophorectomy	02 (02.94)

Table - II

Agewise distribution of the patients undergoing hysterectomy

Type of hysterectomy	< 30 years Number (%)	30-39 years Number (%)	40-49 years Number (%)	50 years and above Number (%)
Abdominal hysterectomy	10 (09.62)	44 (42.30)	32 (30.76)	18 (17.31)
Vaginal hysterectomy	01 (01.47)	10 (14 .71)	17 (25.00)	40 (58.82)

Table-III Shows the relationship of hysterectomy with parity. Only 9.61% abdominal hysterectomy was done in nullipara patients whereas there was not a single nullipara women in vaginal hysterectomy group. More than 60% of the patients undergoing abdominal hysterectomy had a parity of five or less whereas 70.60% of the patient undergoing vaginal hysterectomy had a parity of more than five.

Table-III

Parity and hysterectomy

Type of hysterectomy	Nil Number (%)	1-2 Number (%)	3-5 Number (%)	> 5 Number (%)
Abdominal hysterectomy	10 (09.62)	18 (17.31)	36 (34.62)	40 (38.46)
Vaginal hysterectomy	–	07 (10.29)	13 (19.18)	48 (70.59)

Table-IV shows the evaluation of the nulliparous patients undergoing abdominal hysterectomy. Out of the ten nulliparous patients eight were married with a reasonably long period of infertility. Fibroid was a common feature in them. Maximum number of patients were in the age group of 30 to 35 years. One of the patients was of less than 30 years with a period of infertility of ten years with secondary ammenorrhoea for five years. On laparotomy, uterus was found to be enlarged to 28 weeks pregnancy size and both ovaries looked unhealthy and omentum, gut, and parietal peritoneum on the bladder and pelvic wall showed multiple nodular structures like malignant deposits which was later diagnosed as leiomyoma of uterus with chronic granulomatous lesion.

In unmarried patients, hysterectomy was done in one for papillary cyst adenocarcinoma and in another for cryptomenorrhoea with acute abdomen. In latter, on opening the abdomen, about 500 ml of pus was drained from the peritoneal cavity and cryptomenorrhoea was due to non-canalization of the vagina.

Table-V shows the duration of post-operative hospital stay of the patients, Total average post-operative stay for the abdominal hysterectomy group was 18 days and in vaginal hysterectomy group it was 13 days.

Table-VI shows the indications of hysterectomy. The indications of hysterectomy were mostly pelvic relaxation, fibroid uterus, dysfunctional uterine bleeding, adnexal mass and pelvic inflammatory disease.

Table-VII shows the post-operative complications of the patients undergoing hysterectomy. Urinary tract infection was the most common complication which showed a 22.11% prevalence in abdominal hysterectomy group. Febrile morbidity was seen in 16.34% abdominal hysterectomy and 7.35% vaginal hysterectomy patients. Febrile morbidity was considered when the temperature was above 100°F for two occasions and urine and high vaginal swab cultures were negative. Post-operative haemorrhage requiring transfusion was almost same in both the groups. Rehospitalization was needed in 4.80% abdominal hysterectomy and 1.47% vaginal hysterectomy patients. Major surgical procedure was needed in one in abdomianl group due to peroperative rectal injury occurring while separating overian tumour adherent to gut and uterus, and sub-total hysterectomy with bilateral salpingo-oophorectomy and temporary colostomy had to be done. In vaginal hysterectomy group, laparotomy was done in one patient at twelfth post-operative day for abdominal distension. On exploration, acute appendicitis and inflammation of gut was found and there was clotted blood behind the bladder base.

Table-IV

Hysterectomy in nulliparous women

Age in years (No. of patients)	Period of infertility	Indication	Name of operation	Histopathology
< 30 (3)	10 years (n-1)	Fibroid uterus with secondary ammenorrhoea	Total abdominal hysterectomy with bilateral salpingo-oophorectomy	– Leiomyama – Non-neoplastic cyst of ovary – Granulamatous lesion of lymph-node and omentum
	Unmarried (n-1)	Malignant ovarian tumour	Total abdominal hysterectomy with bilateral salpingo-oophorectomy	– Papillary cyst adeno-carcinoma
	Unmarried (n-1)	Cryptomenorrh-oea with acute abdomen	Total abdominal hysterectomy with bilateral salpingo-oophorectomy and appendicectomy	– Hypoplasia of uterus with oophoritis, salpin-gitis and acute appendicitis
	10 years (n-1)	Fibroid uterus with ovarian tumour	Total abdominal hysterectomy with bilateral salpingo-oophorectomy	– Mucinous cyst abdonocarcinoma
			Total abdominal hysterectomy with unilateral salpingo-oophorectomy	– Dermoid
30-50 (6)	10-12 years (n-2)	Ovarian tumour	Total abdominal hysterectomy with bilateral salpingo-oophorectomy and temporary colostomy	– Dermoid
	20 years (n-3)	Fibroid uterus	Total abdominal hysterectomy with unilateral salpingo-oophorectomy	– Leiomyoma
> 50 (1)	20 years	Fibroid uterus	Total abdominal hysterectomy with unilateral salpingo-oophorectomy	– Leiomyoma with adenomyosis

Table - V

Post-operative hospital stay

Type of operation	Range (average)
Abdominal hysterectomy	6-49 days (18)
Vaginal hysterectomy	6-36 days (13)

Table-VI

Indication for hysterectomy

Name of operation	Indication		Number (%)
Abdominal hysterectomy (n-104)	Fibroid	Fibroid uterus	42 (40.38)
		Myomatous polyp	02 (01.92)
	Dysfunctional uterine bleeding		21 (20.19)
	Pelvic inflammatory disease		11 (10.57)
	Ovarian tumour	Benign ovarian tumour	08 (07.69)
		Malignant ovarian tumour	03 (02.88)
	Post-menopausal bleeding		03 (02.88)
	Carcinoma cervix		04 (03.84)
	Mucous polyp		02 (01.92)
	Choriocarcinoma		01 (00.96)
	Chronic invertion of uterus		01 (00.96)
	Chronic cervicitis		02 (02.92)
	Ectopic pregnancy		01 (00.96)
	Endometriosis		01 (00.96)
	Cryptomenorrhoea with acute abdomen		01 (00.96)
	Missing IUCD		01 (00. 96)
Vaginal hysterectomy (n-68)	Pelvic relaxation		64 (94.11)
	Pelvic relaxation with dysfunctional uterine bleeding		01 (01.47)
	Pelvic relaxation with post-menopausal bleeding		02 (01.47)
	Pelvic relaxation with ovarian tumour		01 (01.47)

Table-VII

Complications of hysterectomy

Complication	Abdominal hysterectomy Number (%)	Vaginal hysterectomy Number (%)
Urinary tract infection	23 (22.11)	23 (33.82)
Febrile morbidity	17 (16.34)	05 (07.35)
Post-operative haemorrhage requiring transfusion	04 (03.84)	03 (04.41)
Wound infection	12 (11.53)	–
Vaginal wound infection	02 (01.92)	11 (16.17)
Wound dehisence	02 (01.92)	–
Unintended major surgical procedure	01 (00.96)	01(01.47)
Rehospitalization	05 (04.80)	01 (01.47)
Vault haematoma	–	02 (02.44)
Vault granuloma	02 (01.92)	01 (01.47)
Incisional hernia	01 (00.96)	–
Metastatic deposits	01 (00.96)	–

Discussion :

Hysterectomy shared 32.45% of the gynaecological surgery during the study period. In 60.47% cases abdominal hysterectomy was done for reasons which required urgent intervention. In 39.53% cases vaginal hysterectomy was done when the indication was pelvic relaxation and only when the operation was asked for by the patient. In an epidemiological study on a cohort of hysterectomy patients Vessey et al reported total abdominal hysterectomy in 86.5% cases, vaginal hysterectomy in 12 %, sub-total hysterectomy in 0.7%, and radical hysterectomy in 1% cases[1], whereas in our series, in 56.97% cases total abdominal hysterectomy, in 39.53% cases vaginal hysterectomy, in 1.74% cases sub-total hysterectomy and in 1.74% cases radical hysterectomy was done which clearly shows the lack of maternity care in our community. Loft et al[2] have shown that only 5.9% of hysterectomy was done by vaginal route in Danish people, whereas in United States, where vaginal approach is more prevalent, about 25% of hysterectomy is vaginal hysterectomy and prolapse of uterus is not the only indication of vaginal hysterectomy[3]. In another study[4] only 33% hysterectomies were done vaginally. In our series, vaginal hysterectomy was done only for uterovaginal prolapse, still the incidence of vaginal hysterectomy is much higher.

Relationship of hysterectomy with age showed that maximum indication of abdominal hysterectomy was in the age group of 30 to 39 years whereas patients requiring vaginal hysterectomy were mainly above 50 years of age when the aggravation due to the post-menopausal atrophy was prominent and associated diseases made one high risk for anaesthesia. Michael[5] has shown abdominal hysterectomy to be more common in younger age and vaginal hysterectomy has greater incidence in the fifth, sixth and seventh decade. Vessey et al[1] did not find any significant age variation among patients for vaginal hysterectomy. In their study, maximum

number of patients undergoing abdominal hysterectomy were in the age group of 40 to 44 years.

Diseased uterus in usually removed by abdominal hysterectomy. In 10 (9.61%) cases the uterus was removed abdominally in nulliparous women whereas there was not a single case of vaginal hysterectomy in nulliparous women. Similar result was shown by Vessey et al[1]. Amirikia and Evans[4] in 1979 has shown that 14% hysterectomy was done in nulliparous women.

Total hospital stay was almost equal in both the groups but there was significant difference in the average post-operative stay of the patients in the vaginal hysterectomy group i. e. 13 days in comparison to 18 days in abdominal hysterectomy group. Although vaginal hysterectomy was more common in patients aged above 50 years and when medical complications were more probable, still the post-operative recovery seemed to be reasonably better in the vaginal hysterectomy group. The reasonable safety and feasibility of vaginal hysterectomy has been shown by Reiner[6] and Stonall et al[7] in their work regarding early post-operative discharge and outpatient vaginal hysterectomy.

Vessey et al[1] has clearly shown fibroid as the main reason for hysterectomy, next was menstrual problem and then uterovaginal prolapse whereas in this study uterovaginal prolapse (39.53%) was the main indication and next to it was fibroid and dysfunctional uterine bleeding. Amirikia and Evans found leiomyoma and adenomyosis to be the leading causes for hysterectomy and only in 10.50% patients indication of hysterectomy was uterine prolapse[4].

Urinary tract infection was the main complication with 22.11% and 33.82% incidence in the abdominal and vaginal hysterectomy respectively. Leventhal and Lazarus[5] also showed a higher incidence of urinary tract infection in their study. They also reported a 23% incidence of urinary tact infection in abdominal and 48% in vaginal hysterectomy patients. White et al[8] also showed urinary tract infection to be more common in vaginal hysterectomy. In their series, 44% of the abdominal hysterectomy and 65% of the vaginal hysterectomy patients had urinary tract infecction. Unintended surgical procedure was needed in two case of abdominal and in one case of vaginal hysterectomy. In one of the cases per-operative diagnosis of rectal injury required temporary colostomy and in another readmission one and half years after hysterectomy for repair of incisional hernia was needed. In one case of vaginal hysterectomy, at twelfth day, abdomen had to be opened due to acute appendicitis and retroperitoneal blood clot was also found. Reoperation was needed in1.16% and rehospitalization in 4.07% cases. White et at[8] reported 5% reoperation and 3% rehospitalization. Although mortalities have been reported to be absent even in several thousands, morbidity continues to be a problem. Twenty five percent patients undergoing vaginal hysterectomy and 50% undergoing abdominal hysterectomy had complications in almost all the recorded series.

Although different methods of treatment is coming up e. g. hormonal manipulation for benign indications, radiotherapy and chemotherapy for malignancies, but still the requirement and importance of hysterectomy can not be denied. By virtue of its ability to prolong life and relieve suffereings, hysterectomy remains to be more popular than any other method of treatment. The technique of hysterectomy is being modified and the non-clamp hysterectomy has been thought to have less complication by being less traumatic. Better technique and consequent less mortality and morbidity must be the aim of the surgery. As it is done so frequently and as there are so many indications, gynaecologist must always be careful in selecting the cases and also the surgical method.

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Study of the Knowledge, Attitude and Behaviour of Clinical Students of Sir Salimullah Medical College Regarding Hepatitis B Virus Infection and Efficacy of Hepatitis B Vaccination

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Summary :

A survey was carried out among clinical students of Sir Salimullah Medical College about their knowledge, attitude and behavior regarding Hepatitis B virus infection and efficacy of Hepatitis B vaccination. Seventy nine percent of third year, 85.05% fourth year and 98.26% fifth year students understand the consequences of hepatitis B virus infection. Only 10% third year and 5.61% fourth year students consider chronic liver disease as a major health problem and 46%, 71.03% and 86.08% students of respective years consider hepatitis B infection to be the commonest cause of cirrhosis in our country. Two third of the students of each year identified parenteral drug abusers, professional blood donors, and patients with chronic liver disease as most likely carrier of HBsAg. Seventy eight percent third year, 70.09% fourth year and 91.30% fifth year studensts always take special precautions while examining jaundiced patients and alert their colleagues in this respect. More than half of the students consider injection and blood transfusion as the two major sources of spread of hepatitis B virus, and they give importance to HBsAg testing in jaundiced patients and in education of their family members. Six percent third year, 1.87% fourth year and 2.61% fifth year students are unaware of the availability of Hepatitis B vaccine in Bangladesh and more than two third students of each year have not been vaccinated. High cost and non-availability of vaccine are the causes of not being vaccinated. Fifty three percent, 42.99% and 17.39% students of three respective years think hepatitis B vaccine confer life long immunity. Forty one percent, 5.61% and 1.73% vaccinated students of respective years have verified HBsAb titre and 50% of them have gained the desired level.

(J Bangladesh Coll Phys Surg 1996; 14 : 60-63)

Introduction :

Hepatitis B virus infection, a preventable cause of morbidity and mortality, is a major health problem in Bangladesh[1]. A substantial proportion of hospital patients are of acute and chronic liver disease[2,3]. Doctors and medical students are well defined groups with increased risk of hepatitis B infection through contact with patients and by needle prick[4]. Autoinoculation is more likely to occur in medical personnel owing to inexperience[4]. Due to up-to-date knowledge regarding hepatitis B virus, the prevalence of hepatitis B and its cnsequences are low in developed countries. This study was carried out to evaluate the knowledge, attitude and behavior of clinical students of Sir Salimullah Medical College regarding hepatitis B virus infection and efficacy of hepatitis B vaccination.

Materials and method :

A survey was carried out in December 1993 among the third year, fourth year and fifth year students of Sir Salimullah Medical College about their knowledge, attitude and behavior regarding hepatitis B virus infection and efficacy of Hepatitis B vaccination. One hundred, 107 and 115 third, fourth and fifth year students respectively participated in this survey. Students were chosen randomly and a structured questionnaire was used for collecting information. All the students were interviewed in one sitting and in isolation. The data were presented in tables and statistical analysis were done.

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Results :

This study shows that almost all the students of each year know the name of hepatitis B virus. Only two(2%) third year students do not know the name of hepatitis B virus. Seventy nine (79%) third year, 91 (85.05%) fourth year and 113 (98.26%) fifth year students understand the consequences of hepatitis B infection. Ten (10%) third year students consider chronic liver disease (CLD) as a major health concern, 40 (40%) level it as intermediate and 50 (50%) as minor health problem. Six (5.61%) fourth year students consider CLD as major health problem, 34 (31.78%) as intermediate grade, and 66 (61.68%) as minor health concern. Fifty one (44.35%) fifth year students identify CLD as intermediate grade health problem and 64 (55.65%) as minor grade (Fig : 1).

Forty six (46%) third year, 76 (71.03%) fourth year and 99 (86.09%) fifth year students consider hepatitis B infection as the commonest cause of cirrhosis in our country and none of the students of any year think drugs, chemical and aflatoxins as important aetiological factors for cirrhosis (Fig : 2). Ninety two (92%) third year, 85 (60.45%) fourth year and 81(70.40%) fifth year students consider parenteral drug abusers, professional blood donors and patients with CLD as carrier of HBsAg.

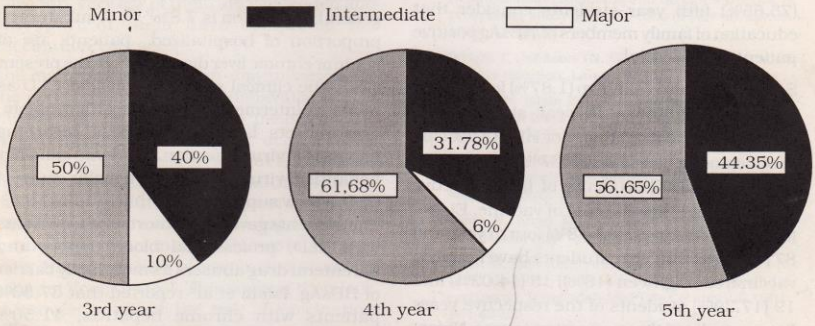

Fig-1 : *Views of the students about the gravity of problems associated with chronic liver disease*

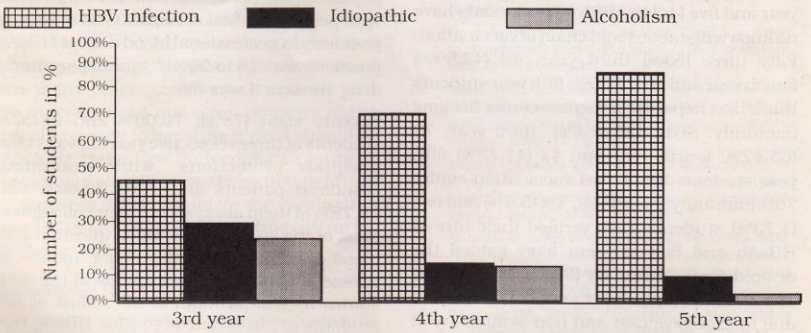

Fig-2 : *The most important cause of cirrhosis as considered by the students*

Seventy eight (78%), 75 (70.09%), and 105 (91.30%) students of three respective years take special precautions while examining jaundiced patients and 70 (70%), 75 (70.09%), and 86 (74.78%) of them always alert their colleagues about jaundiced patients.

Seventy four (74%) third year, 63 (58.87%) fourth year and 72 (62.59%) fifth year students think that injections and blood transfusion are the two important sources of spread of hepatitis B infection.

The cost of HBsAg test is unknown to 32 (32%), 12 (11.12%) and 23 (20%) students of three respective years. Seventy five (75%) third year, 78 (72.08) fourth year and 87 (75.65%) fifth year students consider that education of family members of HBsAg positive patients is essential.

Sixty (60%) third year, two (1.87%) fourth year and three (2.60%) fifth year students are unaware of the availability of HBsAg vaccine in our country. Thirty seven (37%), 13 (12.15%) and 12 (10.33%) students of the respective years do not know the cost of vaccine. Eighty (80%) third year, 82 (83.18%) fourth year and 87 (75.65%) fifth year students have not been vaccinated. Eighteen (18%), 15 (14.02%) and 19 (17.39%) students of the respective years have completed the vaccination course. Ninety three (93%) third year, 83 (77.57%) fourth year and five (4.34%) fifth year students have no knowledge about cold chain of vaccination. Fifty three (53%) third year, 46 (42.99%) fourth year and 20 (17.39%) fifth year students think that hepatitis B vaccine confer life long immunity. Sixty four (64%) third year, 70 (65.42%) fourth year and 47 (41.73%) fifth year students think that vaccination confer 70% immunity. Four (4%), six (5.6%) and two (1.73%) students have verified their titre of HBsAb and half of them have gained the desired level. Thirty six (36%), 21 (19.63%) and 10 (8.69%) students were not vaccinated due to excessive cost and non-availability of vaccine.

Fifteen (15%) third year, 15 (14.02%) fourth year and six (5.21%) fifth year students have suffered from accidental needle prick in life.

Discussion :

Hepatitis B virus infection is a world wide major health problem due to its high rate of associated morbidity and mortality and the development of varied complications[5,6,7]. Epidemiological studies show that the risk of hepatocellular carcinoma (HCC) is increased to 10 to 30 fold in patients chronically infected with HBV[8]. The gravity of the situation associated with hepatitis B virus infection is strongly emphasized by some authors in our country[1]. HBsAg carrier rate among our general population is 7.8%[9,10]. A substantial proportion of hospitalized patients are of acute or chronic liver diseases[2,3]. In the present study the clinical students consider CLD as minor or intermediate grade health problem. This reflects lack of awareness regarding hepatitis B virus infection. Students consider hepatitis B virus infection as a major cause of CLD, a view supported by other studies[9,11-15]. The students gave equal imortance to patients with CLD, professional blood donors and parenteral drug abusers as most likely carrier of HBsAg. Islam et al[9] reported that 37.50% patients with chronic hepatitis, 41.50% patients with cirrhosis, 44.40% patient with hepatocellular carcinoma and 60.10% patients with post-tsransfusion hepatitis were HBsAg positive[9]. In professional blood donors HBsAg positivity was 18 to 20%[16] and in parenteral drug abusers it was 8%[17].

Seventy eight (78%), 70.09% and 91.30% students of three respective years always take adequate protections while examining jaundiced patients and 70%, 70.09% and 74.78% of them always alert their colleagues. Most of the students identified injection and blood transfusion as the major modes of spread of HBV. This corresponds to the data shown by Quamruddin et al[10]. Most of the students are in favour of routine HBsAg test for jaundiced patients and adequate education

of their family members. Twenty percent, 11.21%, and 32% students of the respective years do not know the cost of HBsAg test.

Students, doctors and other medical personnels are highly susceptible to hepatitis B virus infection through contact with patients and by needle prick injuries[18]. So it is highly appropriate to educate the medical students regarding hepatitis B virus and they should also be immunized. In U.K[4], there is a selective immunization policy for the relatively high risk groups for which the prevalence of hepatitis B is relatively low. In this study it is observed that 6%, 1.87% and 2.60% students of three years are unaware of the availability of hepatitis B vaccine in our country. Despite the knowledge about the danger of hepatitis B infection, very few of them are vaccinated and only part of them have completed the vaccination course.

The major reasons for non-mmunisation are the excessive cost and the nonavailability of vaccine. Of those who have measured the HBsAb titre, only 50% have achieved the desired titre. Studies carried out abroad also showed a relatively high failure rate of vaccination and limited life span of immunity. This reflects the need of measuring the titre of antibody after vaccination. But we found that more than two third of vaccinated students have not done the test. This suggest their lack of knowledge about the risk of vaccination failure.

This short survey reveals a disappointing picture of our medical students. The poverty of knowledge and failure of being vaccinated might result in significant occupational hazard over many years. The medical students who are inexperienced and often unaware of the risk of exposure to hepatitis B virus should be educated and a new protocol for hepatitis B vaccination should be made, so that in future all students would complete the vaccination course and would receive a routine call up for antibody titre measurement.

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Pattern of Eye Diseases in Rural Areas of Kishoreganj District

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Summary :

In a cross-sectional study, 2,663 people were examined from 13 randomly selected villages of 13 thanas of Kishoreganj district in the year 1993 to see the morbidity pattern at community level for ocular diseases. It was observed that 1,038 people were suffering from different types of diseases including 284 with ophthalmic conditions. Accordingly, more than one third of population in the community were found sick and the prevalence of eye diseases was10.66% among the surveyed population. Of the eye diseases, 54 were cataract, 20 corneal opacities, 51 dacryocystitis, seven squint, seven glaucoma, 31 night blindness and 135 other conditions. Forty were found bilaterally blind and 29 were due to cataract (72.50%). It was also observed that a good number of treatable cases were ignorant of modern treatment facilities for which they remained unnoticed and never been recorded by health care personnel.

(J Bangladesh Coll Phys Surg 1996; 14 : 64-68)

Introduction :

Bangladesh is a densely populated country where more than 80% people are living in rural areas. Everyday, a large number of patients are attending outpatient departments of different hospitals. In the past, the services were limited for a few common diseases only[1]. But now, speciality services are extending from Medical College Hospitals to Thana Health Complexes[2,3]. However, ophthalmic service is still in a rudimentary stage of development. Even no substantial data is available regarding the prevalence of blindness in the country. According to International Agency for the Prevention of Blindness (IAPB) report the prevalence of blindness in Bangladesh is 2%[4,5]. Unfortunately, very little work has been done in this aspect. Available data are ambiguous as no comprehensive community survey has been accomplished till to-date. It is also observed that in thana health complexes as well as in district hospitals information about ophthalmic patients are not properly recorded for which compilation of patients data by Bangladesh Bureau of Statistics remained incomplete. So there is a need to have a comprehensive study in this regard.

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Materials and method :

This study was done in Kishoreganj district which is about 100 Km North-East of Dhaka city, over the period of May '93 to August '93. This district consists of 13 thanas and got a population of 2,194,560. One village from each thana was randomly selected (Fig-1).

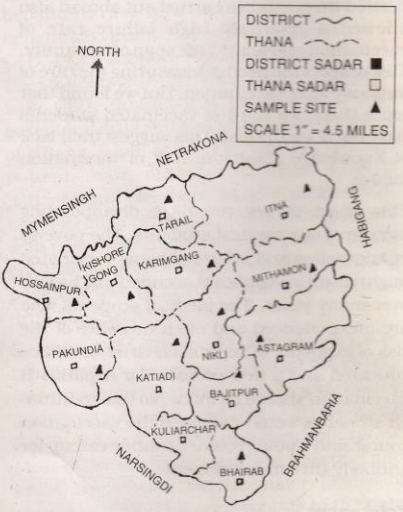

Fig-1 : *Map of Kishoreganj district showing sample sites*

From each village a sample of about 200 people were examined. The starting point was a household which had been randomly selected. All the family members of a household were included in the study and the same process continued till the target was reached. Limitation to the sample size of 200 could not be maintained as all the members of the last household were also included. A total of 2,663 people were examined.

Two doctors from Kishoreganj Sadar Hospital volunteered to help in this painstaking work. To meet all the family members the investigating team had to stay in the villages overnight as the villagers were mostly farmers and therefore it was difficult to get them at daytime. Equipments used were an anaeroid sphygmomanometer, a thermometer, a stethoscope, a measuring tape, a torchlight, a tonometer, an ophthalmoscope and vision charts. A printed protocol was filled up for each household mentioning the name of the head of the family, his educational status, yearly income, occupation, size of the family and other demographic information. All the members of a family were cross-examined and then diseased individuals were isolated for detail history taking and clinical assessment. Clinical diagnosis was made and noted in the data sheet. Ophthalmic patients were classified into seven groups on the basis of diagnostic possibility at community level. Besides six common known diseases, there was a category called ' others'. The data thus obtained were processed manually and analysed. A mini electronic calculator was used for these purposes.

Results :

Of the 2,663 people examined 1,038 were found affected by different diseases ranging from skin lesions to hypertensive stroke. Among the total patients 284 (27.36%) were suffering from different eye diseases. Highest number of patients were found in Hossainpur and lowest in Astagram, whereas highest number of eye patients were found in Tarail and lowest in Astagram (Table - I).

Table - I

Distribution of total patients and cases of eye diseases

	Sample size	Total patients	Eye patients
Astagram	211	71	13
Bajitpur	206	75	21
Bhairab	207	91	30
Itna	208	84	26
Hossainpur	202	96	18
Karimganj	202	77	19
Kishoreganj	201	90	24
Kuliarchar	204	64	17
Mithamon	202	78	17
Nikli	200	69	23
Pakundia	206	86	25
Tarail	200	86	31
Total	2,663	1,038	284

Eye diseases :

Fig-2 shows the distribution of eye diseases. Among the total eye patients, 54 had cataract (19.01%), 20 (07.04%) conrneal opacities, 51 (17.95%) dacryocystitis, seven (2.46%) glaucoma, seven (2.46%) squint, 31 (10.91%) night blindness and 135 others. Cases of

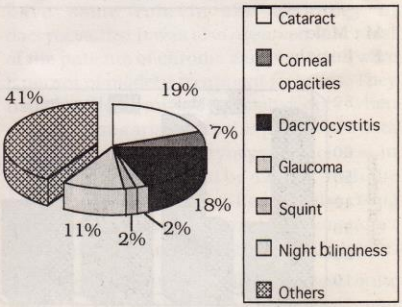

Fig-2 : *Distribution of different types of eye diseases*

epiphera which showed regurgitation on pressure over the lacrimal sac were taken as cases of dacryocystitis. Cases having blindness at night and Bitot's spot were included in night blindness category.

Total number of male patients was 158 and female 126. Among them, nine male and 12 female patients were suffering from more than one disease and, therefore, they were included twice or more. Cases of cataract and dacryocystitis were found in all the sample areas and the highest number were found in Pakundia and Nikli respectively. Cases of night blindness were found in all except Astagram, and highest number in Katiadi. Cases of corneal opacities were found in 11 thanas and highest number of corneal opacities and squint cases were found in Bhairab.

Table - II shows the distribution of eye diseases on the basis of age and sex. It was observed that highest number (124) of patients belonged to age group of 41 to 60 years which is near to half of the total. In the paediatric age group, night blindness was the major condition. In the age group of 19 to 40 years, the main disease was dacryocystitis and above 60 it was the cataract. Females were predominantly affected between 19 and 60 years of age and in the extremes of age males predominated (Fig-3).

Table - II

Distribution of eye diseases according to age ard sex

Age (years)	Cataract		Corneal opacities		Dacryo-cystitis		Glaucoma		Squint		Night blindness		Others	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0-18	–	–	03	01	03	02	–	–	–	01	19	04	12	06
19-40	–	01	02	02	02	10	–	–	–	01	01	02	13	26
41-60	11	15	05	04	03	18	01	03	02	01	04	–	35	22
>60	17	10	02	01	09	04	01	02	02	–	–	01	14	07
Total	28	26	12	08	17	34	02	05	04	03	24	07	74	61

M : Male
F : Female

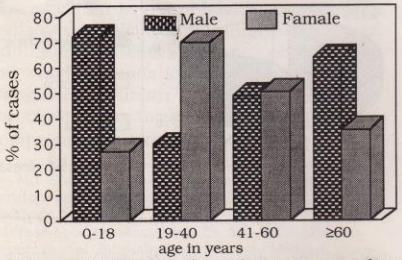

Fig-3 : *Distribution of eye diseases according to sex in relation to age*

Prevalence of blindness :

Of the 284 (Table-III) ophthalmic patients, 40 cases were of bilateral blindness and the leading cause was cataract (72.50%). Other causes of blindness as detected were glaucoma (10.00%), corneal opacities (07.50%) and miscellaneous causes (10.00%). The prevalenee of night blindness was comparatively much higher (1.16%) not withstanding the number of irreversible cases.

Table - III

Prevalence and estimated cases of blindness in Kishoreganj district and Bangladesh

Diseases	Number of blinds detected	Estimated number of cases in Kishoreganj	Estimated number of cases in Bangladesh	Prevalence (in100)
Cataract	29	23,898	1,306,788	01.08
Corneal opacities	03	2,472	135,188	00,11
Glaucoma	04	3,296	180,248	00.15
Miscellaneous	04	3,296	180,248	00.15
Total	40	32,962	1,802,472	01.49

Population of Kishoreganj : 2,194,560

Population of Bangladesh : 120 million

Discussion :

This study reveals that in a rural community, more than one third population was affected with different diseases indicating an alarming situation in the context of public health problem. The number of ophthalmic patients was also significantly high. Comparative country data are very scanty. It may however be useful to compare the burden of blindness with those of other regional countries.

Of the eye patients, 54 had cataract among which 51 were senile type, showing a prevalence of 1.91%. Of the bilateral blindness, the prevalence of cataract was 72.5% which is similar to that of Nepal (72.1%)[6]. Though the increased birth rate tends to dilute the cataract prevalence, raised life expectency with addition of new cases to the existing ones increases the cataract backlog. In Kishoreganj district, there is no institutional eye care facility at government hospitals. Only the eye department of a non-government medical college hospital is giving institutional service to a limited number of population on payment. To overcome the estimated cataract blindness in the district, the existing facilities are very inadequate as the daily need for cataract surgery is more than 85, which is difficult to achieve. For monocular blindness, in addition to cataract surgery, facilities for keratoplasty should be available where eye bank is also a prerequisite.

Similar situation is also true for other ocular diseases requiring surgical treatment like dacryocystitis and pterygium. In this study the prevalence of dacryocystitis was quite high (1.91%). Though the distribution of male and female is uneven among different age groups, females were found mostly affected (66.6%). Most of them were poor and illiterate living in slum-like environment and used to take bath in open dirty water which might have some role in the aetiology of dacryocystitis. It was also observed that most of the patients of chronic dacryocystitis were ignorant of modern treatment facilities. They usually attend an eye specialist only when complications arise. With this prevalence data the estimated dacryocystitis cases in Kishorganj alone should be 42,028. With the addition of new cases, this figure is also rising even more than that of cataracts as the cataract cases get treatment through eye camp service.

The prevalence of night blindness was quite high. It is known that the main cause of night blindness is vitamin A deficiency. The same is applicable to this study also. Among the patients belonging to paediatric age group,

about half (23 of 51) were suffering from this disorder and most of them were males. The situation is similar to the findings of Helen Keller International (HKI)[7]. Night blindness is not uncommon in elderly age group[6]. This survey showed that eight out of 31 were affected with the same. Among them one had associated psychiatric problem and one had glaucoma. The remaining cases were probably due to vitamin A deficiency which needs further evaluation.

It may be concluded from the study that a large number of eye patients in rural Bangladesh remain undetected, among them a significant number of people are suffering from blinding diseases. They need basic eye care facilities which is not impossible even with our resource constraints. As the speciality services are extending from urban to rural areas, eye care facilities needs proper attention from health care planning and supervisory bodies . At the same time epidemiological information on blindness in the country is also a necessity.

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Metastatic Bony Cancer – A 25 Months Study

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Summary :

One hundred and forty nine new cancer patients presenting with metastatic bony lesions attended the department of Radiotherapy, Dhaka Medical College Hospital between first January'90 and 31st March ' 94. The number of male patients was 102 and female 47. Metastatic bony tumours occured at advanced age, peak age of occurrence being between 50 and 59 years (36.27%) in male and between 40 and 49 years (31.92%) in female. Lung (46.08%) was the most common primary site, followed by unknown primary (33.33%) and prostate (11.77%) in male but in female unknown primary site (38.30%) was the commonest, followed by breast (31.91%) and thyroid (12.77%),

The common bones involved by metastatic lesions from lung cancer were ribs (32.00%), vertebrae (24%), multiple bones (14.00%) and humerus (10.00%); from unknown primary site, vertebrae (40.39%), multiple bones (15.39%) and skull bones (11.54%)); in prostatic cancer, vertebrae (50.00%) and hip bones (25.00%); in breast cancer, vertebrae (60.00%) and multiple bones (26.66%).

In unknown primary sites, metastatic bony cancers showed adenocarcinoma (46.88%) as the most common histopathology, next was undifferentiated carcinoma (31.25%) and then squamous cell carcinoma (9.37%). In histopathological variation in lung primary, squamous cell carcinoma (45.45%) was the commonest, next was undifferentiated carcinoma (21.21%) followed by adenocarcinoma; in breast, prostate and kidney lesions the histopathology was adenocarcinoma ; and in thyroid cancer causing secondary bony lesions, follicular carcinoma comprised of 75% and papillary 25%. In metastatic bony cancer, uncommon primaries found were carcinoma stomach, choriocarcinoma, acute myeloblastic leukaemia and chronic myeloid leukaemia.

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Introduction :

Metastatic cancer is the most common neoplasm that involves the skeletal system[1]. Overall, approximately 20% of patients with solid tumours would develop symptomatic skeletal metastasis, the actual incidence of skeletal metastasis as determined by autopsy series may be close to 70%[2,3]. Osseous lesions, whether primary or metastatic, create problems for the patients in four ways. First, they commonly cause pain; second, their ability to destroy or weaken the bone structure can lead to fracture under normal load and to secondary loss of function; third, these tumours may interfere with such sorrounding structures as spinal cord, peripheral nerves, muscular ligament. This interference may occur through direct invasion of lumber or brachial plexus, by indirect pressure on spinal cord or by mechanical collapse and secondary loss of function. A fourth effect of bone metastasis is related to medullary cavity involvement. There may be such extensive replacement of bone and bone marrow by the tumour that the normal haemopoeitic system is crowded out leading to leuco-erythroblastic changes. All patients with bone metastasis have a limited bone marrow reserve.

The time interval from the initial diagnosis of primary tumour to the first evidence of bone involvment can vary greatly. Metastatic lesion of bone may be the first evidence of tumour or latent period may be greater than 10 years[4]. At presentation, secondary deposits may be multiple which aids their recognition, or may be single[5]. Individual deposits may come to attention because of pain and swelling or a pathological fracture. If the patient is known to have a primary tumour, secondary deposits

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in bone do not usually present a diagnostic problem. Difficulties can occur when a secondary deposit is the first indication that a particular patient has a malignancy.

Effective palliation of osseous metastatic disease improves the quality of life. Metastatic skeletal cancer is best treated by multimodality approach that involves the combined expertise of medical, surgical and radiation oncologists.

Most patients do not require surgery; radiation therapy and medical management generally suffice. Megavoltage irradiation alongwith radio-isotope for specific tumour types is permitting a significant number of patients to be treated successfully[6].

Materials and method :

New cancer patients who had metastatic bony lesion and attended the department of Radiotherapy, Dhaka Medical College Hospital from first January, '90 to 31st March, '94 were included in this study.

The patients were already diagnosed and then referred to this department for antimitotic treatment, specially for radiotherapy. The patients were documented by their name, age, sex, address and registration number with a short history in a prescribed form. Each patient had to undergo a thorough clinical examination. The involved bone or bones were identified with corresponding radiological examination and in some cases with skeletal scintigraphy, and all reports were documented. Then an utmost effort had been made to find out the primary site by clinical examination and relevent available investigations. The histopathological examination reports, which had already been done by taking biopsy either from primary site or from metastatic bony lesions, were carefully noted. All the information collected in the prescribed form for each patient were compiled at the end of the study.

Results :

Out of 149 metastatic bony cancer patients, 102 were males and 47 females. Patients were comparatively old in both sexes. Distribution of patients according to age, sex, histopathology, clinical presentation, primary sites and bones involved are given in tables below.

Table - I

Distribution of patients according to age

Age (years)	Male Number (%)	Female Number (%)	Total Number (%)
0-19	01 (00.98)	-	01 (00.67)
20-29	02 (01.96)	-	02 (01.34)
30-39	03 (02.94)	07 (14.89)	10 (06.72)
40-49	12 (11.76)	15 (31.92)	27 (18.12)
50-59	37 (36.27)	09 (19.15)	46 (30.87)
60-69	30 (29.42)	14 (29.78)	44 (29.53)
70-79	17 (16.67)	01 (02.13)	18 (12.08)
80 and above	-	01 (02.13)	01 (00.67)
Total	102 (100)	47 (100)	149 (100)

The oldest patient was a 100 year old lady and the youngest was a12 year old boy.

Table - II

Primary sites in metastatic bony cancer

Primary site	Male Number (%)	Female Number (%)
Lung	47 (46.08)	03 (06.38)
Unknown	34 (33.33)	18 (38.30)
Prostate	12 (11.77)	-
Thyroid	02 (01.96)	06 (12.77)
Kidney	05 (04.90)	01 (02.13)
Breast	-	15 (31.91)
Soft tissue	02 (01.96)	-
Stomach	-	01 (02.13)
AML	-	01 (02.13)
CML	-	01 (02.13)
Placenta	-	01 (02.13)
Total	102 (100)	47 (100)

AML - Acute myeloblastic leukaemia
CML - Chronic myeloid leukaemia

Table - III

Histopathological findings in metastatic bony tumours of different primary sites

Histopathology	Lung	Unknown	Thyroid	Breast	Prostate	Kidney
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Squamous cell carcinoma	15 (30.00)	03 (05.77)	–	–	–	–
Adenocarcinoma	03 (06.00)	15 (28.85)	–	15 (100.00)	12 (100.00)	06 (100.00)
Undifferenfiated carcinoma	07 (14.00)	10 (19.23)	–	–	–	–
Large cell carcinoma	02 (04.00)	–	–	–	–	–
Small cell carcinoma	02 (04.00)	–	–	–	–	–
Atypical cell	03 (06.00)	–	–	–	–	–
Malignant cell	01 (02.00)	02 (03.85)	–	–	–	–
Sarcoma	–	02 (03.85)	–	–	–	–
Follicular carcinoma	–	–	06 (75.00)	–	–	–
Papillary carcinoma	–	–	02 (25.00)	–	–	–
No pathology but malignant clinically	17 (34.00)	20 (38.45)	–	–	–	–
	50 (100.00)	52 (100.00)	08 (100.00)	15 (100.00)	12 (100.00)	06 (100.00)

The remaining six cases were of fibrosarcoma (1), rhabdomyosarcoma (1), AML (1), C M L (1), adenocarcinoma of stomach (1), and choriocarcinoma of placenta (1).

Table - IV

Bones involved in metastatic lesions from different primary sites

Bone	Lung	Unknown	Breast	Prostate	Thyroid	Kidney	Miscel.	Total
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Ribs	16 (32.00)	–	–	–	–	–	–	16 (10.74)
Vertebra	12 (24.00)	21 (40.39)	09 (60.00)	06 (50.00)	02 (25.00)	02 (33.33)	04 (66.66)	56 (37.58)
Scapula	01(62.00)	01 (01.19)	–	–	–	–	–	02 (01.34)
Humerus	05 (10.00)	04 (07.70)	01 (06.67)	01 (08.33)	–	01 (16.67)	–	12 (08.05)
Hip bone	04 (08.00)	06 (11.54)	01 (06.67)	03 (25.00)	02 (25.00)	02 (33.33)	01 (16.67)	19 (12.75)
Skull	01 (02.00)	06 (11.54)	–	–	02 (25.00)	–	–	09 (06.04)
Femur	02 (04.00)	02 93.84)	–	–	–	–	01 (16.67)	05 (03.36)
Metatarsal	01 (02.00)	–	–	–	–	–	–	01 (00.67)
Tibia	01 (02.00)	01 (1.92)	–	–	–	–	–	02 (01.34)
Sternum	–	01 (1.92)	–	–	–	–	–	01 (00.67)
Multiple bones	07 (14.00)	08 (15.39)	04 (26.66)	02 (16.67)	02 (25.00)	01 (16.67)	–	24 (16.12)
Sacrum	–	01 (1.92)	–	–	–	–	–	01 (00.67)
Radius	–	01 (01.92)	–	–	–	–	–	01 (00.67)
	50 (100.00)	52 (100.00)	15 (100.00)	12 (100.00)	08 (100.00)	06 (100.00)	06 (100.00)	149 (100.00)

Miscelleneous includes two soft tissue sarcomas and one each of AML, CML, stomach cancer and choriocarcinoma.

Table - V

Clinical presentation

Symptoms/signs	Number of patients	(%)
Localised pain	109	(73.15)
Paraplegia	14	(09.39)
Severe backache	12	(08.06)
Pain with retention of urine	05	(03.35)
Pathological fracture	05	(03.35)
Weakness in lower limbs	02	(01.36)
Weakness in lower limbs with backache	02	(01.36)

Discussion :

Metastatic cancer involving bones are common particularly in older age people[5] and their incidence increases wih age[7]. The present study showed that the patients with metastatic bony cancer were mostly at advanced age, peak between 50 and 59 years.

In previous studies, sites of primary tumours associated with bony metastasis were found to be breast (73.1%), lung (32.5%), kidney (24%), rectum, (13%), pancreas (13%), stomach (10.5%), colon (9.3%) and ovary (9%)[3]. Approximately 80% of bone metastasis originate from primary sites in the lung, breast, prostate, kidney and gastrointestinal tract[6]. The sites of primary tumour as shown in this study in order of frequency in male were lung (46.08%), unknown primary (33.33%), prostate (11.77%), kidney (4.90%), and in female unknown primary (38.30%), breast (31.91%), thyroid (12.77%) and lung (06.38%). Metastatic diseases have been found in up to 80% of the patients with prostatic cancer[9], 20% to 40 % of lung cancer[10], 50% to 80% of breast cancer[11], 12% of thyroid cancer[12] and 25% Kidney cancer[13]

Most secondary deposits are metastatic carcinomas but osseous metastasis from malignant melanomas, sarcoma, carcinoid tumour, germ cell tumour and even gliomas are also seen occassionally[14,15,16]. According to Schim et al, in adult, the primary sites of metastatic bony cancer were prostate adenocarcinoma (54%), breast adenocarcinoma (27%), gastric adenocarcinoma (19%) and lung (all types) (18%)[17].

In unknown primary sites in this study, varieties of histopathology were found, mostly adenocarcinoma (46.88%), undifferentiated carcinoma (31.25%) and squamous cell carcinoma (9.37%). The common bony metastasis from lung primary were squamous cell carcinoma (45.45%), undifferentiated carcinoma (21.21%) adenocarcinoma (9.09%), small cell carcinoma (6.06%) and large cell carcinoma (6.06%). Follicular carcinoma constituted 75% all metastatic cancer with thyroid primary. Adenocarcinoma was the only histopathology found in all prostatic, breast, kidney and stomach cancer. The incidence of bony involvement varies according to the site of primary tumour and type of histology. Eighty five percent patients of carcinoma prostate, 80% of the patients of lung cancer and 30% of renal cancer were found to have bone metasis[18]. Bony metastasis were also found in this study in acute myeloblastic leukaemia, chronic myeloid leukaemia, sarcoma and choriocarcinoma of placenta.

In children, neuroblastoma is the commonest skeletal metastasis[19]. Some childhood tumours have particular propensity to metastasise to bone. Bone metastasizing renal tumour of children is also known as clear cell sarcoma[20]. About 30% of stage IV childhood rhabdomyosarcoma have bone metastasis at diagnosis[21]. In the present study, only one male paediatric patient of 12 years of age suffering from rhabdomyosarcoma in retroperitoneal region showed bony lesion in vertebrae. Childhood intracranial tumours causing extracranial metastasis mostly metastasize to bone and bone marrow[15].

The vertebral bones are most often affected by metastatic cancer[1]. In order of frequency in bony metastasis in the skeletal system are vertebrae (69%), pelvis (41%). hip bone (25%) and skull (14%)[22]. Upper extremity is much less commonly involved, only approximately 10% to 15% of bony metastasis[8]. In the present study, vertebral bones (37.58%) were the most common site of bony lesion, next was hip bone (12.75%), Multiple bones were involved simultaneously in 16.12% of cases. Multiple bony lesions are the hallmark of metastatic disease[1]. Skeletal metastasis are relatively rare below knee[5]. Out of 149 cases in this study, only three cases had lesion below knee and none had it in joints. Metastatic deposits are described very rarely in joints[23].

Th pattern of involvement is similar for most carcinomas although some tumours show a predilection for specific sites[1]. Prostatic adenocarcinoma frequently metastasize to lumber vertebra; bone metastasis from the carcinoma of rectum occur predominantly in lumber vertebra and pelvis[24]. Skeletal metastasis from follicular carcinoma of thyroid have a predilection for shoulder girdle, sternum, skull and iliac bones[25]. In the present study, out of 12 prostatic cancers, six patients (50%) had lesions in vertebrae and three (25%) in pelvic bone.

The hallmark of skeletal metastasis irrespective of histogenesis is localised pain[1]. Many metastatic lesions are not painful and are detected by radiography and bone scintigraphy. In the present study, the most common presentation was localised pain. Out of only 16 cases without pain, 14 presented with paraplegia and two with lower limb weakness. Five patients (3,35%) had pathological fracture, humerus fracture in three cases and femur fracture in two cases. Pathological fracture requires surgical intervention in approximately 9% of cases of bony metastatic disease[27]. Most of the fractures occur in femur and humerus or both[1]. Four types of tumours acount for nearly 80% of fractures–breast 53%, kidney 11%, lung 8% and thyroid 5%[28].

The common primary sites in metastatic bony cancers in this study were lung, breast, prostate, thyroid and kidney. Unknown primary sites also constituted a considerable number of bony cancers. Thorough clinical and investigational procedure should be undertaken to find out the bony lesion soon after the diagnosis of the above mentioned cancers is made. This would be necessary to take preventive measures against further complication in early stage of bony cancer and also to make plans of combined modalities of treatment in advanced cases to improve the quality of life.

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REVIEW ARTICLE (J Bangladesh Coll Phys Surg 1996; 14 : 75-81)

Viral Hepatitis : An Update

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Introduction :

Viral hepatitis occurs throughout the world. It is commonly caused by at least six different hepatotropic viruses. These are hepatitis A virus (HAV), hepatitis B virus (HBV), hepatitis C virus (HCV), hepatitis D virus (HDV), hepatitis E virus (HEV) and hepatitis G virus (HGV). The HAV, HCV, HDV, HEV and HGV are RNA viruses and HBV is a DNA virus. The HAV and HEV are enterically transmitted whereas the main route of infection of HBV, HCV, HDV and HGV is parenteral.

Hepatitis A :

The hepatitis A virus (HAV) is a nonenveloped single stranded RNA virus discovered by Feinstone and his coworkers in 1973[1]. HAV is transmitted through faecal-oral route. The primary replication of the virus takes place in the small intestine where the virus penetrates into the liver through the portal vein[2]. The incubation period is about 30 days (14-40 days)[3]. Begining from the late incubation period the stool remains infectious upto eight days and serum upto three days after the onset of jaundice. The HAV is not cytopathic to hepatocytes and the damage to liver cells is due to the T-cell mediated host immune response[4]. HAV infection in children under the age of five years is asymptomatic in more than 90% cases whereas it is symptomatic in about 70-80% of adults[5,6]. The recovery occurs usually within two to three weeks in most of the cases but the course may be delayed. On the other hand, relapse may occur in about 20% cases. Fulminant hepatic failure may occur in 0.04 to 0.4% of patients and particularly in the elderly[7,8]. However, the hepatitis A does not progress to chronic form[9]. The serological marker for the diagnosis of hepatitis A is IgM anti-HAV.

The therapy for hepatitis A is supportive. The antiviral drugs were found to have little role[10]. Hepatitis A may largely be prevented by improvement of sanitation, supply of safe drinking water and hygienic handling of food. Passive immunization can be achieved by immunoglobulins which protects for a period of three months. However, effective recombinant hepatitis A vaccine is available for active immunization. The seroconversion and effectivity of this vaccine is found to be close of 100%[11].

Hepatitis B :

The hepatitis B virus (HBV) is a partially double stranded DNA virus identified after the discovery of Australia antigen (HBsAg) in 1965 by Blumberg[12]. The whole virus is known as Dane particle. The virus consists of outer surface coat containing HBsAg and inner core containing HBcAg, HBeAg, DNA and DNA polymerase. Depending on the antigenic determinants of the surface antigen there are four phenotypes of HBV. These are *adw, adr, ayw* and *ayr*. Protection from infection is determined mainly by the antibodies to the determinant which is common for all the subtypes of the virus[13].

The variants of HBV due to mutations have been recognized [14-17]. In the precore mutant there is a translational stopcodon at nucleotide 1896 of precore region resulting in the loss of expression of HBeAg. On the other hand, the escape mutant which is also known as s-variant is due to aminoacid changes at positions 133, 141 or 145 of the s-gene

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resulting in the loss of the *a* determinant of HBsAg. Therefore, s-variant is not detected by conventional HBsAg tests that are only directed aganist the common *a* determinant. It has important practical clinical significance for vaccinoprophylaxis as hepatitis B vaccine does not give protection against this s-variant.

HBV is mainly transmitted parenterally through contact with contaminated blood or body fluids by transfusions of blood and blood products, use of non-sterile syringes and other medical instruments, and by sexual intercourse. It is transmitted perinatally from infected mother to newborn. The child becomes infected through contact with contaminated maternal body fluids during birth. The perinatal transmission of HBV varies directly with the serological status of the mother. The rate of transmission is about 70 to 90% in children born to HBeAg positive mothers[18]. When the mother is only HBsAg positive the rate of transmission is 22 to 67%[19]. Acute HBV infection in the third trimester of pregnancy can infect the offspring whereas maternal infections occurring in the first and second trimesters usually resolve without sequelae in the infant[20]. The incubation period ranges from 30 to 180 days. HBV is not cytopathic to hepatocytes and the HBV induced liver disease is due to the cytotoxic T-lymphocyte mediated lysis of infected hepatocytes[21,22]. Acute HBV infection is clinically silent in about 75% cases and results in jaundice in approximately 25% of patients. In about 90% cases the acute infection recovers completely. However, the disease may be complicated by fulminant hepatic failure in about 1% cases. The acute illness may progress to a chronic carrier state or chronic hepatitis that may lead to cirrhosis and/or hepatocellular carcinoma. The chronicity is heralded by the persistence of elevated transaminases and HBsAg for more than six months. About 10% of adults and 90% of neonatal HBV infections result in chronic HBV carrier state[23,24]. The natural history of perinatally acquired HBV infection consists of three phases[25]. In the first phase of immune tolerance with active viral replication, the patients are usually asymptomatic and have mild liver diseases despite high HBV replication. The second phase of immune clearance with seroconversion is characterized by decline in the HBV replication and spontaneous HBeAg to anti-HBe seroconversion due to immune response. The patients show the biochemical and histological evidence of active hepatitis. In the third phase of non-replication, HBV replication is no longer detected and the liver disease is in inactive stage. In contrast, the natural history of childhood or adult acquired chronic HBV infection consists of two phases only[26,27]. The initial phase of immune clearance with viral replication is followed by a phase of non-replicative infection and inactive liver disease. The development of chronicity is related to several factors like loss of cellular immunity defects in the alpha interferon, interleukin-2 formation and the virus heterogeneity[28-30]. The development of hepatocellular carcinoma is related to the potential role of HBV x gene[31]. The serodiagnosis of HBV infection depends on the detection and rational interpretation of several HBV markers. The markers are HBsAg, anti-HBs, HBeAg, anti-HBe, IgM anti-HBc, total anti - HBc and HBV DNA. The acute HBV infection is indicated by the presence of HBsAg and IgM anti-HBc. The recovery or immunity is marked by the presence of anti-HBc, anti-HBe and anti-HBs. The viral replication is indicated indirectly by the presence of HBeAg and directly by detecting HBV DNA. The diagnosis of chronic hepatitis is confirmed by the presence of necroinflammatory changes in the liver histology.

The therapy for acute hepatitis B is supportive. Several antiviral and immunomodulatory agents like Ara-AMP, Acyclovir, Ribavirin, Foscarnet, Zidovudine, Lamivudine and Interferon have been tried for the treatment of chronic hepatitis B. However, at present, alpha interferon is the most-extensively studied and the most promising single therapeutic agent

for chronic hepatitis B. The response rate of chronic hepatitis B to alpha interferon therapy is 30 to 45% in Caucasian and 20 to 35% in Asian population[32]. The most important reason for the poor response in Asian patients is probably immune tolerance to HBV induced by perinatal infection[33]. Approximately 20% of patients who respond to treatment with clearance of HBeAg will also clear HBsAg within a year of treatment and upto 65% may clear HBsAg after six years of follow up[34]. Lamivudine is a nucleoside analogue having potent inhibitory effect on HBV replication. It is a new promising drug for chronic hepatitis B. It can be given orally and it is well tolerated. It is found to be effective in reducing HBV DNA in 70 to 100% cases of chronic hepatitis B[35]. The preventive measures for HBV includes routine screening of blood donors for HBsAg, use of disposable sterile syringes and hypodermic needles, and immunoprophylaxis against HBV. Both plasma derived and recombinant hepatitis B vaccines are available which are highly effective. Hepatitis B immunoglobulin (HBIG) is available for post-exposure immunoprophylaxis and neonates born to HBV carrier mothers. HBIG is administered in addition to active immunization with vaccine.

Hepatitis C :

The hepatitis C virus (HCV) is a single positive stranded RNA virus first isolated in 1989. The HCV genome consists 5′ and 3′ non-coding regions that flank a single long open reading frame (ORF). The ORF encodes three structural proteins at the amino-terminal end and six nonstructural (NS) proteins at the carboxy-terminal end[36,37]. The structural proteins are nucleocapsid or core (C) protein and two glycoproteins, envelope 1 (E1) and envelope 2 (E2). The nonstructural proteins are NS2, NS3, NS4a, NS4b, NS5a and NS5b. The 5′ terminal end is highly conserved region of the HCV genome and there is wide sequence variation among HCV isolates particularly in the 3′ terminal regions[38]. The envelope components (E1, E2) of the genome are hypervariable[39,40]. There are nine major genotypes and at least 30 subtupes of HCV identified to date based on analysis of complete or partial genomic sequences[41-48].

HCV is transmitted through parenteral route, however, the role of inapparent parenteral or permucosal mode of transmission such as sexual activity, household contact and perinatal exposure is yet to be well documented. It is an important cause of post-transfusion hepatitis. The incubation period of HCV varies from 15 to 150 days. Hepatitis C virus infection results in anicteric hepatitis in 75% cases. Fulminant hepatic failure is rare in acute hepatitis C[49]. Chronicity is the hallmark feature of HCV infection irrespective of how the disease was initially contracted. More than 50% cases of acute hepatitis C develop chronic hepatitis. About 20% of these patients progress to cirrhosis and some of them eventually may develop hepatocellular carcinoma[50-56]. Most patients with chronic hepatitis C are either asymptomatic or have mild symptoms. As the disease runs an insidiously progressive course the patients with chronic HCV infection warrants long term follow-up. The diagnosis of HCV infection practically depends upon the detection of antibodies to HCV (anti-HCV). However, the confirmation of viraemia is done by the detection of HCV RNA by PCR. Following HCV infection anti-HCV is detected typically a few weeks after the peak serum aminotransferase elevation. The average period for the detection of anti-HCV is 12 weeks, however, it may take as long as six months[57]. The first generation anti-HCV test (ELISA) had included the c100-3 epitope from the nonstructural NS4 region and it has limited sensitivity. The second generation ELISA tests include the putative core c22-3. and c33c from the NS3 region along with the c100-3 epitope. The third generation test includes an antigen from the NS5 region, and the c22c and c100-3 antigenic components are synthetic peptides. The second and third generation tests have

significantly improved sensitivity in detecting HCV infection.

The treatment of acute hepatitis C is supportive. The alpha interferon therapy should be considered for patients with well compensated chronic hepatitis C with persistently raised serum transaminases. The response to alpha interferon therapy is 35 to 50% with a relapse rate of 20 to 25%[58]. The oral nucleoside analogue ribavirin has been found to induce marked improvement in the serum aminotransferases of patients with chronic hepatitis C. However, the combination therapy of ribavirin and interferon for chronic hepatitis C is under trial[59]. The HCV infection can largely be prevented by routine screening of blood donors for anti-HCV and use of disposable sterile syringes and hypodermic needles. The HCV vaccine is not yet available.

Hepatitis D :

Hepatitis D virus (HDV), also known as Delta agent, is a smll defective RNA virus discovered by Rizzetto and his colleagues in Italy in 1977. HDV is the smallest animal virus known. This single stranded RNA virus remains within the shell of HBsAg. It can not replicate on its own and it is infective only in the presence of HBV. The maturation and completion of the coat of HDV requires replication of HBV or at least expression of the genome coding for HBsAg. Therefore, HDV can induce hepatitis in HBsAg positive hosts only.

It is transmitted mainly through parenteral route. Intravenous drug abusers are highly susceptible for HDV infection. The incubation period of HDV ranges from 30 to 180 days. HDV infection may occur simultaneously with HBV (co-infection) or it may infect a chronic HBV carrier (superinfection). In co-infection, the hepatitis is of moderate form and the clinical picture is similar to that caused by HBV alone but there is increased risk of developing fulminant hepatitis. In co-infection there is biphasic rise of aminotransferase. In superinfection, usually severe form of hepatitis develops which may be complicatied by fulminant form. HDV superinfection should be suspected in a clinically stable HBV carrier who develops sudden flare-up hepatitis. The co-infection is diagnosed by detecting serum IgM anti-HDV in the presence of high titre IgM anti-HBc. In superinfection, serum IgM anti-HDV is detected in the absence of IgM anti-HBc. However, IgM anti-HBc may be detected in low titres.

Considering its aggressive and progressive downhill course, alpha interferon therapy should be attempted in all patients with chronic hepatitis D[60]. The measures for the prevention of HBV provides prophylaxis of both HBV and HDV.

Hepatitis E :

Hepatitis E virus (HEV) is a nonenveloped single stranded RNA virus. The HEV genome contains three open reading frames (ORFs). The putative nonstructural genes are located at the 5′ end and the structural genes at the 3′ end of the genome[61]. The hepatitis E is transmitted enterically through faecally contaminated drinking water. The incubation period is two to nine weeks. HEV causes both sporadic and epidemic acute hepatitis. Hepatitis E mainly occurs in young adults. About 20% patients develop cholestatic hepatitis. It may be complicated by fulminant and subacute hepatic failure[62]. Hepatitis E in pregnacy, particularly in the third trimester, carries poor prognosis with a mortality of about 20%[63]. However, hepatitis E does not progress to chronic liver disease. The acute hepatitis E is diagnosed by detecting serum 1gM anti-HEV.

The therapy for hepatitis E is supportive. The preventive measures include improvement of sanitary and hygienic conditions, particularly water supply and sewerage. The vaccine is not yet available.

Hepatitis G :

Hepatitis G virus (HGV) is a newly identified

RNA virus. It is associated with non-ABCDE acute or chronic hepatitis and can be transmitted by transfusion of blood and blood products[64]. Besides, it may be transmitted by parenteral route and close contact. The clinical and biochemical features are nearly like that of HCV hepatitis. The behavioural pattern of this newly discovered virus is in the process of study at several centres.

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Coexistence of Mucinous Cystadenoma and Brenner Tumour of the Ovary – A Rare Case Report

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Summary :

A fifty five years old married female was admitted into the obstetrics and gynaecology department of Sher-e-Bangla Medical College Hospital, Barisal with a history of lump in lower abdomen of four years duration. Systemic examination revealed a mass in the lower abdomen distinctly separated from uterus. At laparotomy, a solid and partly cystic tumour was seen in the left ovary and another cystic tumour in the right. On histological examination specimens revealed Brenner tumour on the left side and mucinous cystadenoma on the right. Post-operative period was uneventful. The patient was discharged on twelfth post-operative day.

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Introduction :

Brenner tumour was first described by Fritz Brenner in 1907[1]. Meyer in 1932 described the pathological and histogenetic charactcristics of Brenner tumour[2]. He believed that Brenner tumours were originated from the granulosa cells of the ovarian stroma. Arey's study by serial section and reconstitution leaves little doubt that Brenner tumour arises from the metaplasia of the ovarian surface epithelium with subsequent downward cord like growth[3]. Brenner tumours are occasionally encountered in mucinous cystadenoma. This fact suggests that the tumour share a common origin with other epithelial tumours. Coexistence of Brenner tumour with mucinous cystadenoma are uncommon and account for only 2% of all ovarian neoplasms[4]. Previous reports suggested that the association of Brenner tumour with mucinous cystadenoma were extremely rare (1 in 1200 to 1500 cases of ovarian neoplasms)[5]. Brenner tumours are usually benign but as in the other epithelial tumours, a spectrum of intermediate grade is seen between the classic benign tumours and those that are frequently malignant[6]. Here a rare co-existence of Brenner tumour with mucinous cystadenoma of the ovary which was diagnosed clinically as a malignant ovarian tumour is reported.

Case report :

A fifty five years old married female was admitted into the obstetrics and gynaecology department of Sher-e-Bangla Medical College Hospital, Barisal on 23 rd April, 1995 with the complaints of a mass in the lower abdomen. The patient came of an average socio-economic background and her general condition was good. Abdominal examination revealed an ill defined solid mass located in the left lower abdomen and the right lower abdomen contained a cystic mass. Both were separate from uterus.

Haematological investigations showed the following : haemoglobin-10.3mg/dl, total leukocyte count-8.5X10^9/L, and ESR-25 mm after first hour (Westergren method).

Ultrasonography and X-ray of the abdomen showed a solid mass in the left lower abdomen and a cystic mass in the right.

Laparotomy was done on 29th April, 1995. With all aseptic precaution abdomen was opened under spinal anaesthesia by lower midline incision. A partly solid and partly cystic left sided ovarian tumour was seen and

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right ovary contained a cystic mass. These tumours were adherent to pelvic peritoneum but separated from uterus. Both were removed by total abdominal hysterectomy with bilateral salpingo-oophorectomy. Uterus with its adnexae, other pelvic organs and abdominal structures were normal in appearance. Resected tumour masses were sent for histopathological examination.

Morphological findings :

Gross appearance : Specimen consisted of a ovarian tumour resected from the left ovary was firm in consistancy and measuring about 10x8x6 cm. The cut surface showed white homogenous appearance. Two blocks were made for paraffin embedding. Specimen consisted of ovarian cyst from ritht ovary was measuring about 6x4x2 cm. On section, the lumina of the cyst was filled with mucinous material. Two blocks were made for paraffin embedding.

Microscopic appearance : Haematoxylene and eosin stained slides from left ovary revealed a benign tumour composed of dense fibrous stroma punctuated by nest of transitional epithelial cell (Fig : 1). Stained preparation of right ovarian mass showed a cyst wall lined with tall columnar epithelium with apical mucinous vacuolation of the nucleus (Fig : 2).

Fig-1 : *Brenner tumour, left ovary (H and E X 375)*

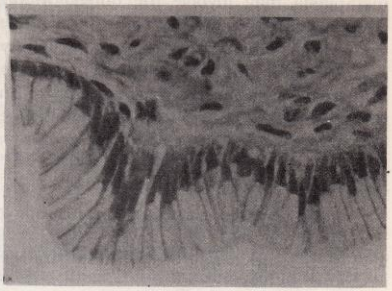

Fig-2 : *Mucinous cystadenoma, right ovary (H and E X 300)*

Discussion :

Brenner tumour usually occurs at an average age of about fifty years[7]. Different workers have also reported that age incidence may vary from fifty to sixty years[8]. Age of this patient was fifty five years which agrees with the findings of Woodruff et al[9]. Most of the reported cases presented with history of abnormal uterine bleeding. This had led to the suggestion that at least some of the Brenner tumours are capable of hormone production[10]. The patient reported here presented with no history of abnormal uterine bleeding. This seems to be an atypical presentation of patients with Brenner tumour. The laparotomy findings in this case showed a solid with partly cystic tumour affecting the left ovary histologically diagnosed as Brenner tumour, and the right ovary contained a cystic mass diagnosed as mucinous cystadenoma. This findings agree with the finding of Freda and Montimurro[11].

The co-existence of Brenner and mucinous tumours was reported before although there is uncertainity as to their sequenec of origin. Can one assume that there is mucinous transition in a Brenner tumour or should the epithelioid changes be construed as

repersenting metaplasia in a preexisting mucinous tumour, just as squamous metaplasia may involve the tall columnar endocervical epithelium? Woodruff et al made a strong argument for the latter possibility and stressed that any epithelial alteration might be expected to progress from undifferentiated reserve to an epithelioid type of cell[9].

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Forestier's Disease – A Connective Tissue Disease Association of Diabetes Mellitus

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Summary :

A 68 years old diabetic man presented with severe neck stiffness and back pain. With clinical and imaging skeletal survey he was diagnosed as a case of ankylosing hyperostosis of the spine, also known as Forestier's disease. It is an uncommon connective tissue disease and yet uncommon but genuine association of noninsuline dependent diabetes mellitus (NIDDM).

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Introduction :

Ankylosing hyperostosis of spine (Forestier's disease) occurs in 2 to 4% of normal population aged over 40 years; the prevalence is 13% in diabetic patients. It rises to 21% in age group 60 to 69 years in NIDDM suggesting the association is genuine. The condition is also named as senile ankylosing spondylitis as it was originally thought to affect the spine only. The current nomenclatiur is diffuse idiopathic skeletal hyperostosis (DISH). It clearly indicates that the condition is a generalized one, in which extensive ossification is found at many sites. It is usually seen in elderly men (M: F = 3 : 1). In the spine, dense ossification is found in cervical and specially in lower thoracic regions. Bone is laid down often in continuity anteriorly and in thoracic region on the right side as the left sided aortic pulsation presumably prevents it's deposition. The cortical plaque may indent the oesophagus and rarely the posterior ligamentous ossification may encroach on to the theca and produce cord compression. This florid exuberance is grosser than that seen in degenerative diseases. In DISH, it is superimposed on a background of normal vertebrae and discs, and osteoarthrosis shows underlying bone and disc changes. In contrast to ankylosing spondylitis the sacroiliac joints show neither erosion nor ankylosis. Florid neo-ossification is also seen at extraspinal sites, around iliac crests, ischia, acetabulum, and at ligament and tendon insertions to bones. Florid calcaneal spur formation is sometimes seen and fusion between paired long bones may occasionally occur. Studies have shown an increased incidence of HLA-B27 in patients with DISH[2].

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Case report :

The patient, MMI, a 68 years old diabetic (NIDDM) man was admitted in BIRDEM hospital on 14. 9. 1995 with severe stiff neck and neck and back pain. He had difficulty in coughing, spitting and swallowing of both solid and liquid foods. He was unwilling to talk, he had headache but no complain of vomiting or photophobia, and he was afebrile. The man was brought from a peripheral hospital with an in-situ feeding tube. They had a clinical diagnosis of cerebrovascular disease (CVD) with possible subarachnoid hemorrhage. At home, the man had a dizzy spell and head trauma. He had been diabetic for 10 years and was under diet regimen. He was non-smoker and normotensive. He was conscious and well oriented. Cranial nerves were intact. Fundus, motor and sensory functions, and reflexes were normal. He had stiff neck, the head did not touch the bed, it was 9" (a span) up from the bed. He had no other sign of meningeal irritation. Sacro-iliac

(SI), hip and other limb joints were normal; spinal movements were restricted, maximum at cervical region. His urinary bladder was distended, and gastrointestinal, cardio-vascular and respiratory systems were normal.

Investigations :

Total and differential counts of WBC and ESR were normal. Fasrting blood glucose was 5 mmol/L

Imaging skeletal survey :

X-sray skull was normal. X-ray cervical spines showed gross osteophytic lipping with bridging with preservation of vertebral bodies and disc spaces. Calcification of ligamentum nuche was seen.

X- ray thoracic spines also showed osteophytic lipping with bridging, lipping both anteriorly and laterally, much more conspicuous on the right side of the spine. Lumbosacral spines revealed gross osteophytic lipping with bridging both anteriorly and laterally. SI Joints were normal. Ileolumber calcification and calcification at the insertion of psoas major at lesser trochanter was noted. No organic lesion or motility disorder was seen on Ba-swallow of oesopagus. CT scan at C3 and C4 level showed dense column of new bone formation enclosing a central hypodense area anterior to vertebral column with a discontinuity opposite to C3/4 disc level. Vertical fracture was noted on lateral aspect of bony column opposite to upper border of C4 vertebra. Hypopharynx was distorted and displaced towards right with almost obliteration of left piriform fossa. Another dense column was noted along the posterior longitudinal ligament causing indentation of dural sac. However, the foramina between C2/3, C3/4 and C4/5 did not show any significant bony encroachment. CT scan of brain was normal.

Treatment :

The patient was treated conservatively with NSAID for pain. Feeding tube was continued for two weeks. Catheter was kept in urinary bladder as he had retention for three days, after that he had no voiding problem. A cervical collar was put on by the orthopaedic surgeon with which he was discharged after three weeks of hospital stay. In the later part of his stay he could drink and swallow with some difficulty but he had no difficulty in spitting, coughing and talking. He was cautioned at discharge about the posterior spinal ligament calcification and possible cord compression.

Discussion :

Varieties of diseases of joints and periarticular tissues can occur in diabetes mellitus. In the spine, main skeletal abnormality in diabetes, particularly in insuline dependent diabetes mellitus(IDDM), is diabetic osteopaenia. It is generally aggreed that bone density is significantly reduced below age adjusted control values, over 50% of IDDM patients showing a reduction of more than 10%[3]. The situation in NIDDM is less clear, possibly because of other variables such as age, race, obesity, menopausal status and duration of disease before diagnosis. Available data do not allow the time course of these changes to be defined. Dee Leeuw et al[4] has described, with their ^{125}photon absorption study, a subgroup of NIDDM patients who showed an increase in bone density. This curious and unexpected finding is not explainable by obesity but could be related to hyper-insulinaemia, which has been associated with insulin like growth factor-I (IGF-I) and it's increased level, and as such could exert an anabolic effect on bone[5]. Forestier's disease is often asymptomatic or may cause back pain and stiffness. In this case, stiffness of neck was marked. He had severe pain in neck area which caused him difficulty in coughing, spitting, talking and swallowing. His severe pain in neck was probably due to fracture in the column of bone in cervical area and neck stiffness was due to exuberant osteophytes and

ligament clacifications (Figs : 1 and 2). Involvement of hypopharynx and piriform fossa could be the cause of dysphagia (Fig : 1). Imaging of spines showed exuberant osteophytes. sclerosis along vertebral cortices with preservation of outline of vertebral bodies (squaring in ankylosing spondylitis), normal discs and joint spaces (in contrast to degenerative diseases), predilection for right side of thoracic spine (Figs : 1 and 2), relative sparing of posterior spinal ligaments (Fig : 3), all these are characteristics of ankylosing hyperosrosis[6]. His age, sparing of SI joints (Fig : 4) and curved beaklike osteophytes (rather than vertical syndesmophytes) between vertebral bodies exclude the diagnosis of ankylosing spondylitis. We did not ask for HLA-B27. His brief period of urine retention was probably due to dural compression or spinal irritation at some level by the calcified posterior longitudinal ligament which though rare was present in this case (Fig : 1).

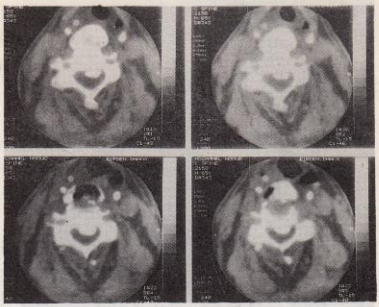

Fig.-1 : *CT-scan at C3-C4 level : dense column of new bone enclosing a central hypodense zone anterior to vertebral column and a fracture on it; another dense column of bone along the posterior longitudinal ligament.*

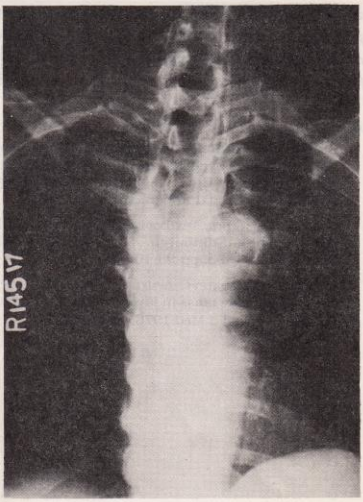

Fig -2 : (a) *X-ray cervical spines with gross osteophytes with bridging with preservation of vertebral bodies and disc spaces.*

(b) : *X-ray thoracic spines shows osteophytic lipping and bridging wihch is more conspicuous on the right side.*

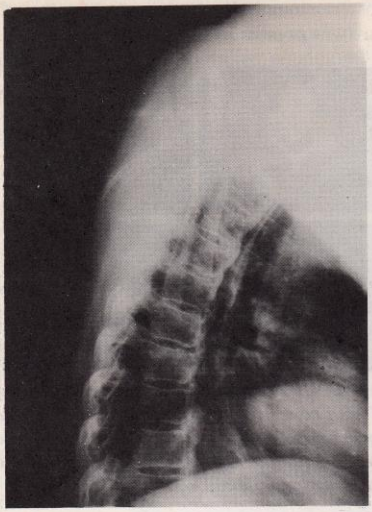

Fig-3 : *Osteophytic lipping with bridging anteriorly and laterally with relative preservation posteriorly and also preservation of vertebral bodies and disc spaces in DISH.*

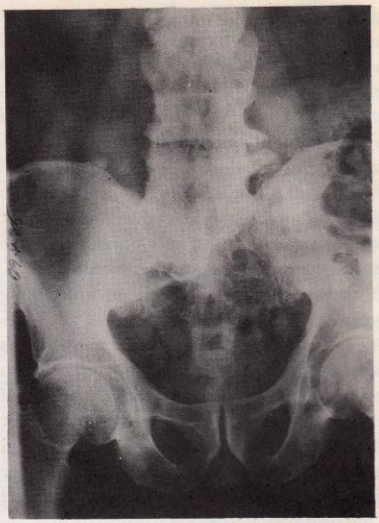

Fig-4 : *Preservation of SI and hip joints in DISH.*

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COLLEGE NEWS

(J Bangladesh Coll Phys Surg 1996; 14 : 89-91)

Continuing Medical Education :

25-1-96 — Dr. Shameem Ahmed
Health Scientist
ICDDR,B, Mohakhali, Dhaka,
Delivered lecture on "Successful breast feeding-Practical aspects".

10-4-96 — Prof. M. Alauddin
Professor of Otolaryngology
Dhaka Medical College, Dhaka,
Delivered lecture on "Chronic suppurative otitis media".

25-4-96 — Prof. Mobin Khan
Professor of Hepatology
Institute of Postgraduate Medicine & Research, Dhaka,
Delivered lecture on "Viral Hepatitis".

Examination News :

Results of FCPS Part-I, FCPS Part-II and MCPS Examinations held in January, 1996 are given below:

624 candidates appeared in FCPS Part-I Examination held in January, 1996, of which 61 candidates came out successful. Subjectwise results are as follows:

Subject	Number appeared in theory examination	Number qualified for viva-voce	Number passed
Medicine	155	43	14
Surgery	149	37	14
Paediatrics	85	18	9
Obst. & Gynae	110	28	11
Ophthalmology	41	9	5
Anaesthesiology	17	2	2
ENT Diseases	23	3	1
Psychiatry	9	1	1
Radiology	10	3	2
Radiotherapy	2	1	0
Physical Medicine	2	1	1
Dermtology & Venereology	5	1	1
Haematology	11	1	1
Microbiology	1	0	0
Histopathology	4	0	0
Total	624	149	61

102 candidates appeared in FCPS Part-II Examination in different subjects. List of candidates who satisfied the board of examiners is as follows :

Roll No.	Name	Graduated from	Speciality
1.	Dr. Md. Mahabubul Islam Majumder	Chittagong Medical College	Medicine
3.	Dr. A. K. Zinnur Ahmed	Sylhet MAG Osmani Medical College	Medicine
6.	Dr. Md. Abul Bashar	Dhaka Medical College	Medicine
9.	Dr. A. K. M. Nazmul Islam	Sylhet MAG Osmani Medical College	Medicine
11.	Dr. Md. Mizanur Rahman	Dhaka Medical College	Medicine
20.	Dr. Golam Moinuddin Khadem	Mymensingh Medical College	Medicine
22.	Dr. Asit Bhushan Das	Sher-e-Bangla Medical College	Medicine
25.	Dr. F. A. Mofakharul Islam	Mymensingh Medical College	Medicine
28.	Dr. M. A. Kashem	Mymensingh Medical College	Surgery
29.	Dr. Md. Nasir Uddin	Rajshahi Medical College	Surgery
35.	Dr. Md. Mesbah-Ur-Rahman	Dhaka Medical College	Surgery
43.	Dr. A. K. M. Shahadat Hossain	IPGM&R	Surgery
44.	Dr. Md. Shahidul Islam	Sylhet MAG Osmani Medical College	Surgery
45.	Dr. A. B. M. Bayezid Hossain	Rajshahi Medical College	Surgery
52.	Dr. Sardar Md. Mostanzid	Rajshahi Medical College	Surgery
54.	Dr. Md. Ruhul Amin	Mymensingh Medical College	Surgery
58.	Dr. Anisa Jahan	Dhaka Medical College	Paediatrics
67.	Dr. Ahmed Murtaza Chowdhury	Dhaka Medical College	Paediatrics
71.	Dr. Parimal Kanti Nath	Chittagong Medical College	Paediatrics
74.	Dr. Nurun Nahar Khanam	Rajshahi Medical College	Obst. & Gynae
77.	Dr. Rokshana Ivy	Chittagong Medical College	Obst. & Gynae
79.	Dr. Md. Musharaf Hossain	Mymensingh Medical College	Ophthalmology
80	Dr. Md. Jakaria Hossain	Rajshahi Medical College	Ophthalmology
81.	Dr. Md. Sayedul Hoque	Sylhet MAG Osmani Medical College	Ophthalmology
83.	Dr. Shameem Anwarul Hoque	Sylhet MAG Osmani Medical College	ENTD
85.	Dr. Samaresh Chandra Kundu	Dhaka Medical College	ENTD
86.	Dr. Mostafa Mahfuzul Anwar	IPGM&R	ENTD
89.	Dr. Moinul Hossain	Sir Salimullah Medical College	Anaesthesiology
91.	Dr. Abul Basher Mohammed Muksudul Alam	Chittagong Medical College	Anaesthesiology
93.	Dr. Md. Mahbub Noor	Mymensingh Medical College	Anaesthesiology
95.	Dr. Syed Shafiul Alam	Rangpur Medical College	Anaesthesiology
96.	Dr. Sayed Awsaf Ali	Sylhet MAG Osmani Medical College	Radiology
97.	Dr. Yeaqub Ali	Sher-e-Bangla Medical College	Radiotherapy
98.	Dr. Md. Abdur Rashid	Mymensingh Medical College	Physical Medicine
99.	Dr. Susane Giti	Rajshahi Medical College	Haematology
100.	Dr. Anupam Barua	Sylhet MAG Osmani Medical College	Haematology
101.	Dr. S. M. Mahmudul Hassan	Mymensingh Medical College	Biochemistry

153 candidates appeared in MCPS Examinations in different subjects. List of candidates who satisfied the board of examiners is as follows :

Roll No.	Name	Speciality
6.	Dr. Dewan Abdur Rashid	Medicine
25.	Dr. Mahmoodul Haque	Paediatrics
33.	Dr. Kabirul Alam	Paediatrics
52.	Dr. Rokeya Khan	Obst. & Gynae
78.	Dr. Nirupama Barua	Obst. & Gynae
79.	Dr. Nikunja Behari Golder	Obst. & Gynae
94.	Dr. Nilufar Akhter Banu	Obst. & Gyane
100.	Dr. Md. Tawhiduzzaman	Ophthalmology
101.	Dr. Md. Sirajul Islam Mollah	Ophthalmology
102.	Dr. Rezina Quddus	Ophthalmology
103.	Dr. S. A. Md. Osman Shaheed Kutubi	Ophthalmology
107.	Dr. Mehtab Al-Wadud Khan	Anaesthesiology
110.	Dr. Md. Abdul Karim	Anaesthesiology
111.	Dr. Md. Mahbubul Islam	Anaesthesiology
122.	Dr. Md. Kajim Uddin	Clinical Pathology
125.	Dr. Md. Mosharof Hossain	Clinical Pathology
126.	Dr. Arup Kanti Dewanjee	Clinical Pathology
127.	Dr. Md. Nizam Uddin	Clinical Pathology
131.	Dr. Mohammed Abdul Mazed	Clinical Pathology
134.	Dr. Syed Zahir Uddin Ahmed	Clinical Pathology
139.	Dr. Md. Shafi Ullah	Dental Surgery
142.	Dr. Syed Zoherul Alam	Radiology
143.	Dr. Md. Taharul Alam	Radiology
144.	Dr. Abu Ahmed Adiluzzaman	Forensic Medicine
145	Dr. Mohammed Nazimul Islam	Forensic Medicine
146.	Dr. Kazi Mohammad Abu Shama	Forensic Medicine
150.	Dr. Md. Abdul Quader Mian	Family Medicine