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JOURNAL OF BANGLADESH COLLEGE OF PHYSICIANS AND SURGEONS

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CONTENTS

EDITORIAL

Differentiated Thyroid Carcinoma-A Better Prognostic Endocrine Malignancy

Thyroid disorders are prevalent all over the world. Its incidence in Bangladesh is yet to be established scientifically. However UNICEF and Institute of Food and Nutrition study reports suggest an incidence of 8.8% among the people with visible goitre. Northern part of the country and hilly areas of Chittagong may have incidence as high as 50% or more[1].

Thyroid nodule raises the concern of malignant diseases[2]. Incidence of malignancy though rare needs to be identified for proper management. Incidence of thyroid carcinomas namely follicular, papillary, anaplastic, medullary or lymphomas in Bangladesh is found to be 3.5% among nodular / multinodular diseases of thyroid gland.

Thyroid malignancies are mostly managed by surgeons, nuclear medicine specialists, medical oncologists and rarely by the radiation oncologists. With the advancement of knowledge, clinical experience and diagnostic techniques, the sensitivity and accuracy of diagnosis of thyroid diseases have reached near 100% with a few exceptions in presurgery diagnostic confirmation between carcinoma and adenoma. Ultrasonography guided FNAC might reduce some of the errors. Newer methods like measurement of catalytic submit of telomerase (human telomerase reveres transcriptase, hTERT) expression of fine needle aspirates from follicular carcinoma have shown sensitivity and accuracy of nearly 83% for the diagnosis of follicular carcinoma[2].

Since the establishment of 14 nuclear medicine centers in the country and development of trained neck surgeons, a new dimension is added to the management of thyroid cancers. A combination of surgery, radioiodine and thyroid hormone therapy offers a highly effective method of treatment of thyroid cancer. Under this circumstances rarely should a patient die of well differentiated thyroid cancer, if treated timely, adequately and rationally. Despite various controversies related to its management a consensus has been reached in many centers regarding approaches to thyroid malignancies and in most centers surgery followed by radioiodine ablation and suppression dose of thyroid hormone have been accepted for differentiated thyroid carcinoma (DTC). About 15-20% recurrences and metastasis have been reported in different series[3-4]. Anaplastic carcinoma, though rare, bears the worst prognosis[5].

Lymphomas respond well to chemotherapy, and or radiotherapy with or without surgery. Prognosis of medullary carcinoma depends on stage of the disease of which some are part of MEN IIa/IIb.

There is continuing disagreement on the most appropriate surgical procedure for differentiated thyroid carcinoma. The conservative approach advocates lobectomy with isthmusectomy. In most patients total thyroidectomy is kept reserved for specific indications like those with bilateral disease or judged to be in a high risk category. The more radical approach advocates routine total thyroidectomy. A staged total thyroidectomy often advocated depending on the pathological findings of initial lobectomy[6].

Ignorance, fear and poverty plays vital role for delayed presentation and advancement of the disease. Awareness and a consensus among the surgeons, nuclear medicine specialists and medical oncologists are essential for the proper management of differentiated thyroid carcinoma. A national protocol needs to be evolved for the purpose. The prognosis of DTC with surgery, radio iodine ablation and hormone replacement is excellent. Only 2 - 10% mortality has been reported in different studies[4].

Individual case requires planning for surgery ,and guideline for management[1]. Patients of thyroid

disorders should be appropriately investigated. Early detection and optimum management gives a better prospect of cure.

AA Ashraf Ali
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(J Bangladesh Coll Phys Surg 2003; 21 : 50-51)

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ORIGINAL ARTICLES

Low Birth Weight and Associated Maternal Factors

TR DAS, FCPS[a], S JAHAN, MS[b], SR BEGUM, FCPS[c]

Summary :

Low birth weight (LBW) is a common cause of neonatal and infant death and is found to be associated with morbidity and long-term developmental problems. A cross-section of 596 women with singleton pregnancy admitted to Bangabandhu Sheikh Mujib Medical University (BSMMU) hospital during January-December 2002 were included in this study. This study was carried out to determine the prevalence and also relationship of LBW babies with age, mid-arm circumference (MUAC) and body mass index (BMI) of mothers. The women were categorized into subgroups according to their age, parity, BMI, MUAC and gestational age. Birth weight of neonates was categorized according to WHO definition, and neonates with weight less than 2.5 kg were taken as LBW. The prevalence of LBW was found to be 29.75%. The study showed that maternal age, BMI, MUAC, gestational age and sex of neonates influenced the birth weight. However, no significant difference was found between groups of parity and birth weight. Maternal age between 20 and 29 years, MUAC less than 22 cm showed significant positive correlation with LBW; but BMI showed negative correlation with LBW.

(J Bangladesh Coll Phys Surg 2003; 21 : 52-56)

Introduction :

Low birth weight (LBW) is a common risk factor for infant mortality and a significant determinant of childhood morbidity[1]. The incidence of LBW in a given population reflects its socioeconomic development, and it can also be used as a good indicator of mothers' nutritional status. World Health Organization (WHO) in 1995[1] estimated that 142 million babies were born in the world in 1990, out of which 25 million were of LBW, and 19 million of these babies were born in the developing countries[2]. The cause of LBW are multifactorial and birth weight is determined by the interaction of both sociodemographic and biological factors[3].

Birth weight distribution' are being given increasing attention. In the first place, birth weight is to some extent a reflection of maternal health and as such is an indicator of the health status of a given population. Next, LBW is the most important determinant of the chances of the newborn to survive and undergo healthy growth and development[4].

Unfortunately, in many countries and especially in the developing ones, the birth weight is not centrally registered[3]. Therefore, it is not possible to determine to what extent the LBW babies are preterm and full-term but small-for-gestational age (SGA)[2].

Prospective analysis of birth weight for single livebirth in Bangabandhu Sheikh Mujib Medical University (BSMMU) during January-December 2002 was done to show the relationship between LBW and the age, MUAC and BMI of mothers. MUAC of mothers showed significant positive relationship, while BMI showed a negative relationship. Furthermore, in this study, the prevalence of LBW was found significantly higher among female babies than males.

Materials and method :

This prospective study was carried out among 596 LBW babies delivered in the Department of Obstetrics and Gynaecology, BSMMU hospital, Dhaka, during January-December 2002.

Data were collected using a predesigned questionnaire. At entry into this study, a detailed sociodemographic,

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past obstetrical, medical and reproductive histories were taken. Monthly income was assessed by the monthly income of the patient and her husband. The patients were asked about education and also that of husband.The detailed obstetrical history was taken about parity and interval between childbirth.

Maternal height was measured in centimeter in barefoot and with no head cover. Mid-upper arm circumference (MUAC) was measured on the right arm hanging loosely using a tape measure and recorded to the nearest 0.1 cm. Body mass index (BMI) was measured as weight in kilogram divided by height in centimeter.

Birth weight of babies were measured placing the nude baby on a standard weighing machine immediately after delivery. Crown-heel length and head circumference were recorded accordingly.

Assessment of the neonates was done by Apgar score at one and five minutes and also by identifying presence or absence of congenital abnormality, and sex of the babies were also noted.

Results were appropriately analyzed using computer-based software (SPSS for Windows). Minimum level of significance was assumed at $P < 0.05$.

Results :

Table-I shows the age distribution of mothers. Maximum number of mothers belonged to age group 20-24 years (40.27%), followed by 25-29 years (35.24 %), 30 years and above (23.49 %) and less than 20 years (1 %). The mean (± SD) age of the mothers was 25.25±4.45 years and range 18-40 years (Table-V). Overall, age of mothers (n=596) showed a negative but statistically non-significant relationship with weight of babies (r = -0.063, P=0.125) (Table-VI). However, in age group 20-24 years (n=240), the relationship was positive but statistically not significant (r = +0.081, P=0.212), and in age group 25-29 years (n=210), the relationship was negative but also statistically not significant (r = – 0.077, P = 0269).

Table-I

Agewise distribution of mothers of LBW babies (n =596)

Age group (years)	Number of patients	Percentage
<20	06	01.00
20-24	240	40.27
25-29	210	35.24
30+	140	23.49

Table-II shows the incidence of LBW babies according to education of mothers and socioeconomic condition of the family. The incidence was found highest among elementary and secondary school educated (class I-X) mothers (48.49%) and among families of low income (monthly income less than Taka 2500 per month) socioeconomic status (45.30%). The total study population was arbitrarily divided into three income groups.

Table-II

Distribution of mothers of LBW babies according to education and socioeconomic status (n =596)

Parameters	Number of patients	Percentage Education
Education		
Illiterate	164	27.52
Class I-X	289	48.49
Above class X	143	23.99
Socioeconomic status		
Low (Income < 2500 Taka/month)	270	45.30
Middle (Income 2500-6000 Taka/month)	204	34.23
Upper (Income > 6000 Taka/month)	122	20.47

Table-III shows the distribution of mothers according to MUAC. The prevalence of LBW babies was highest in mothers with MUAC less than 22 cm (80.5 %). The mean (± SD) MUAC of the mothers was 20.92 ± 1.01 cm and the range 20-25 cm, (Table-V), Overall, MUAC of mothers showed a positive and statistically highly significant relationship with weight of the babies (r = +0.636, P=0.000) (Table-VI). In mothers with MUAC less than 22 cm (n=480) also, the relationship is positive and highly significant (r = +0.676, P=0.000).

Table-III

MUAC of the mothers of LBW babies (n=596)

MUAC (cm)	Number of patients	Percentage
<22	480	80.54
22-<23	72	12.08
23-<24	38	06.38
24-<25	02	00.33
25-<26	04	00.67

Table-IV shows the distribution of LBW babies according to body mass index (BMI) of the mothers. Maximum number of LBW babies (85.57%) belonged to mothers with BMI 22 or less. The mean (± SD) BMI was 20.11+1.75 and the range 17.20-27.95 (Table-V). BMI of mothers showed a negative and statistically highly significant relationship with weight of the babies (r = -0.190, P=0.000) (Table-VI). However, in mothers with BMI 22 or less, the relationship is positive but statistically not significant (r = +0.059, P=0.181).

Table-IV

Distribution of LBW babies according to BMI of their mothers (n=596)

BMI	Number of patients	Percentage
≤ 22	510	85.57
>22	86	14.43

Table-V

Age, MUAC and BMI of mothers of LBW babies (n=596)

Parameters	Range	Mean ±SD
Age (years)	18.00-40.00	25.25±4.45
MUAC (cm)	20.00-25.00	20.92±1.01
BMI	17.20-27.95	20.11±1.75

Table-VI

Relationship of age, MUAC and BMI of mothers with birth weight of babies (n=596)

Parameters	r value	P value	
Age	-0.063	0.125	NS
MUAC	+0.636	0.000	S
BMI	-0.190	0.000	S

NS =Not significant

S = Significant at P < 0.001

Table-VII

Relationship of age, MUAC and BMI of mothers with birth weight of babies (n=596)

Parameters	r value	P value	
Age	-0.063	0.125	NS
MUAC	+0.636	0.000	S
BMI	-0.190	0.000	S

NS =Not significant

S = Significant at P < 0.001

Table-VII shows a comparison of LBW babies according to their sex. The mean (±SD) birth weight of male babies was 2.12±0.37 kg and female babies was 2.06±0.31 kg. Statistically the difference is significant (P < 0.05).

Table-VIII

Sexwise comparison of birth weight of LBW neonates

Sex	Number	Weight (kg) (Mean ±SD)	P value	
Male	228	2.12±0.37	0.016	0.016S
Female	368	2.06 ± 0.31		

Significant at P < 0.05

Discussion :

The low birth weight infants have a higher risk of mortality as they are likely to die during their infancy[1,5], especially during neonatal period[5]. Thus, birth weight has long been the subject of clinical and epidemiological investigations, and a target for public health interventions[2]. Since birth weight is also regarded as an important parameter to understand the process of

human variation[5,6], its anthropometric importance cannot be ignored.

During January-December 2002, out of 2003 deliveries in BSMMU, 596 were LBW babies, therefore, the incidence was 29.75%. Recent studies on pregnancy outcome have shown a progressive decline in perinatal and infant mortality in the risk categories[2,5]. The decline associated factors include improved perinatal services to both mother and baby[3,4], improved care, or prevention of specific diseases, increased availability of means for spacing or prevention of pregnancies[7-9].

The birth weight of an infant, simple as it is to measure, is highly significant in two important respect[6,8,9]. First, it is strongly conditioned by the health and nutritional status of the mothers. Secondly, LBW, universally and in all population groups, is the single most important determinant of the chances of the newborn to survive and to experience healthy growth and development[10,11].

In this study, most of the LBW babies were born to mothers in the age groups 20-24 and 25-29 years (40.27% and 35.24%, respectively). However, relationship between mothers' age and birth weight of babies showed no statistically significant relationship, From this point of view, it should be considered that mothers aged less than 15 years and above 43 years contribute significant percentage of LBW babies[3], however, in this study, the minimum and maximum age of the-mothers were 18 and 40 years, respectively.

MUAC of mothers showed a strong positive correlation with weight of babies ($r = +0.676$, $P<0.001$). Mothers with MUAC less than 22 cm had higher number of LBW babies (80.54%).

BMI of mothers was minimum 17.20 and maximum 27.95 (mean ± SD 20.11+1.75). LBW babies were born more to mothers with BMI 22 or less (85.57 %) than BMI above 22 (14.43 %). BMI of mothers showed a strong negative correlation with birth weight of babies ($r = -0.190$, $P<0.001$). This needs more focus on other contributing factors like medical disorders, hypertension, diabetes mellitus, chronic renal disease, constitutional and racial factors [12,13]. Further large scale studies should be considered to determine other risk factors for LBW babies.

Female babies tend to show higher prevalence of LBW than male babies[2] which has also been reflected in this study.

This study shows that low socioeconomic condition is a determinant for LBW babies (45.30%), and in a study carried out, in Nepal, the incidence was 88.9%[14]. However, the incidence is highest in elementary to secondary school level (class I-X) educated mothers (48.49%) in this study while it is more among illiterate mothers (72.2%) in Nepal[14].

From the above delineation[2,3], it is obvious that among the factors considered to influence birth weight, correlation with MUAC and BMI are highly significant ($P<0.001$). The result of this study suggest that for reducing the number of LBWs babies, the strategy needs to focus on nutritional education to mothers in order to increase the birth weight of the neonates. There is an urgent need to carry out further such studies among mothers with medical disorders, and constitutional factors should also be considered.

Conclusion

In conclusion, this study underscores the importance of relationship of age, MUAC and BMI of mothers with LBW babies. Highest number of LBW babies were born to mothers in the age group 20-29 years. Mothers with MUAC less than 22 and BMI 22 or less occupied a significant proportion of deliveries of LBW babies. Female babies showed a higher prevalence of LBW than males.

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Exomphalos Major: Conservative Treatment

MU ALAM, FCPS[a]

Summary :

Between September, 1996 to September, 2000, thirty seven (n=37) cases of Omphaloceles were admitted in Pediatric Surgical Unit of Sir Salimullah Medical College, Mitford Hospital, Dhaka. There were twelve (32.50%) patients with exomphalos minor. These cases were treated by minor surgical procedures. Twenty five (67.50%) cases were exomphalos major, from which fourteen (37.8%) were selected for conservative treatment. Surgical treatment was not included in this series. Four (28.6%) cases died during conservative approach. Death was due to delayed hospital attendance, infection, rupture of sac and other associated congenital anomalies. Nine (65.3%) patients attended hospital at the age of 2 to 3 days of life. Five (35.7%) patients attended the hospital at the age of few hours to one day of life. Care of the sac and control of infection was the main aim to avoid rupture of the sac. Result was good. But six to eight weeks period were required for full recovery. Average hospital stay was thirty five days.

(J Bangladesh Coll Phys Surg 2003; 21 : 57-62)

Introduction :

Omphalocele is one of the commonest abdominal defects seen in neonates. The survival rate of this defect has gradually improved with the advances in investigations and treatment modalities. There is no statistical data of our country. In India 1 in 6000 to 10000 live birth babies have this type of anomalies.

Earliest description of exomphalos was given by Ambroise Pare in 1634, the famous 17th century French millitary surgeon. Subsequent reports of sucessful treatment came from Hey in 1803, Hamilton in 1806 and Visik in 1873. In 1899, Ahifeld first described the escharotic treatment of intact omphalocele with alcohol dressings. Olhauses in 1887, described the mobilization of abdominal skin flaps to cover the unopened sac of intact omphalocele. In 1953, Moore and Stokes established the present classification criteria. In 1957,Grob described the use of 2 % aquous solution of mercurochrome as a topical escharotic agent. Izant in 1966, recommended manual stretching of abdominal wall to enlarge abdominal cavity[1]. In 1948, Robert Gross of Boston, while recognizing that primary closure was advisable in small defects of umbilicus, described staged skin closure of large omphalocele[2]. Schuster in 1967, revolutionized the surgical treatment of abdominal wall defects with the use of knitted teflon sheets in closure[3]. Subsequently, in 1969, Allen and Wrenn described the use of a single layer silastic sheeting, sutured to the fascial edges, which was gradually reduced by manual compression to afford a delayed primary closure of abdominal wall[4].

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Method and Materials :

It is a retrospective analysis of omphalocele admitted in Sir Salimullah Medical College, Mitford Hospital. 37 cases of omphaloceles were admitted between September, 1996 to September, 2000 in Pediatric surgical department. Other anterior abdominal wall defects like gastroschisis, prun belly syndrome, umbilical hernia were not included. Out of the 37 cases 14 cases were selected for conservative treatment with following criterias. a) gaint omphalocele with intact sac without associated anomalies. b) gaint omphalocele with intact sac but with severe life threatening cardiac anomalies whose surgical correction is more urgent. c) associated other abdominal wall defect which interfere with repair of omphalocele e.g. Prune belly syndrome d) neonates with severe associated anomalies in whom surgical interference may not be consistent with survival.

Size of the sac was determined by Moore's, 1997 classification. According to Moore's classification, sac can be:

Type I (Minor) - Umbilical defect less than 2.5 cm.

Type II (Intermediate) - Umbilical defect between 2.5 - 5 cm.

Type III (Major) - Umbilical defect more that 5 cm.

Neonates were thoroughly examined to find out any other congenital anomalies.

Conservative management such as, nasogastric suction was started as early as possible after receiving the patient. Intravenous fluid and parenteral antibiotic were given (Fig. 1 & 2). Intravenous Ceftriaxone 50-75

mg per kg body weight was given very slowly over 2-4 minutes in single dose for 5-7 days in all cases. Sac was examined carefully to evaluate the covering, size, contents and the presence of infection.

Care of the sac is the most important part of the conservative treatment of the exomphalos major. Swab was sent for culture and sensitivity. Regarding the care of the sac, every day's keen monitoring is a major factor to prevent the rupture of the sac and as well as to save the life of the baby. No endeavour was taken to reduce the sac. We followed the principle; "It is difficult to pour four kg sugar in a two kg bag". Sacs were cleaned everyday with povidone – Iodine solution (Fig.-3) after then applied a thick layer of topical antimicrobial agents e.g. povidone – Iodine cream and covered with sterile dressing over it. In 2 cases sac was introduced into a disposable colostomy bag to avoid contamination (Fig. –4). Everyday the dressings were changed to see the infection, the size of the sac and solid escher formation. The size of the sac was gradually decreased and after 6 week could be completely introduced in the abdominal cavity (Fig.-5 & 6).

Results:

In Sir Salimullah Medical College, Mitford Hospital, 37 (n=37) cases of omphalocele were admitted between September 1996 to September 2000 in Pediatric Surgery Unit.

Table-I

Total Number of Patients admitted (n=37)

No. of patients	E. Major	E. Minor
37	25	12
	67.50%	32.50%

Out of 37 cases 25 (67.50%) cases were exomphalos major and rest 12 (32.50%) were exomphalos minor.

Table-II

Conservative treatment offered (n=14)

No. of cases	Conservative treatment offered	Percentage
37	14	37.8

Total number of patients of Exomphalos admitted during this period was 37. Conservative treatment was performed in 14 cases (37.8%).

Table-III

Places of referral (n=14)

Places of referral	No. of patients
District hospitals	2 (14.3%)
Upazilla Health complexes	4 (28.6%)
Maternity clinics & peripheral Medical Colleges	6 (42.8%)
Directly from homes	2 (14.3%)

12 (85.7%) cases were referred from different hospitals and rest 2 (14.3%) directly attended the hospital.

Table-IV

Sex distribution (n=14)

Total no. of patients	Male	Female
14	8 (57.2%)	6 (42.8%)

In this study, males are affected more than the female. Out of 14, 8 (57.2%) were males and 6 (42.8%) were females. The ratio is 4 :3.

Table-V

Age of reporting at hospital (n=14)

Age of the pts.	No. of pts.	Percentage
Few hrs. to 1 day	5	35.7
2 days	5	35.7
3 days	4	28.6

At the age of few hours to 1 day, 5 (35.7%), 2 days 5 (35.7%) and at 3 days 4 (28.6%) patients reported to the hospital.

Table-VI

Associated Congenital anomalies (n=3)

No. of cases	Congenital anomalies
1	Omphalocele with high variety of anorectal malformation
1	Omphalocele with cleft lip
1	Omphalocele with club feet

Out of 14 cases of omphalocele, in 3 cases associated anomalies were present. One case had the anorectal malformation and others had the cleft lip and club feet.

Table-VII

Number of death (n=4)

Total no. of E. major for Conservative treatment	Number of death	Percentage
14	4	28.6

Out of 14 exomphalos major patients, 4 (28.6%) patients died during treatment.

Table-VIII

Cause of death (n=4)

No. of patients	Diagnosis	Cause of death
1	Omphalocele major with anorectal malformation	Rupture of sac due to infection and abdominal distension
2	Omphalocele major and prematurity and low birth weight	Severe infection of chest and sac
1	Omphalocele major	Unknown

In three (75%) patients cause of death was due to infection of sac and chest. In another patients we couldbn't able to diagnose the cause of death. Post mortem couldn't be possible due to refusal of legal guardian.

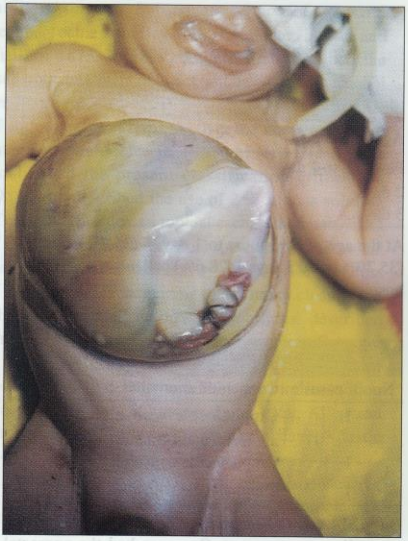

Fig-1 : *Exomphalos major with sac*

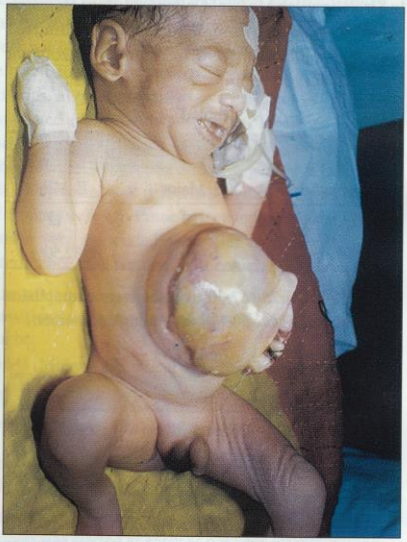

Fig-2 : *Nasogastric suction and IV fluid started in the Same patient.*

Fig-3 : *Sac is cleaning with Povidone- Iodine*

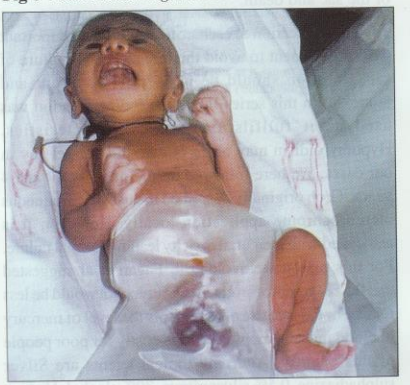

Fig-4 : *Sac is kept in a colostomy bag*

Fig-5 : *Contents are gradually introduced into the abdominal cavity (after 3 weeks)*

Fig-6 : *Contents are totally introduced into the abdominal cavity (after 6 weeks).*

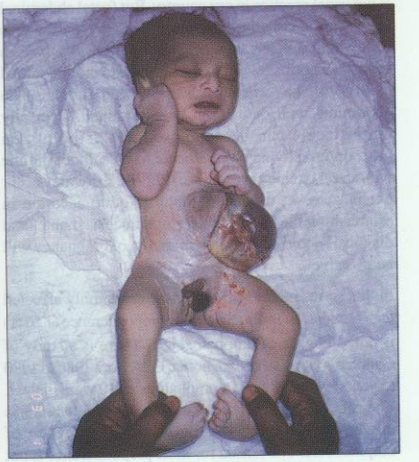

Fig-7 : *Exomphalos major with club feet.*

Fig-8 : *Intrauterine Ultrasonograph showing clear outline of sac of Exophalos major 13th week of pregnancy*

Discussion :

Omphalocele is not a rare congenital anomaly in our country. In India the incidence is 1 in 6000 to 10000 live born babies but combined incidence of omphalocele and gastroschisis is approximately 1 : 2000 live births[5]. Reports from Liverpool and British Columbia suggest the incidence of omphalocele and gastroschisis combined to be approximately 1 in 4000 live births[6]. National survey is needed to find out the incidence of the disease in our population.

Antenatal diagnosis of anterior abdominal wall defect is not usual practice in our country. But foetal abdominal cavity can be visualized on ultrasonography by 10 weeks following mother's last menstrual period. By thirteen weeks,the normal return of the intestine to the abdominal cavity will have occurred and the diagnosis of an abdominal wall defect can be entertained. Typically omphalocele can be diagnosed at this point. On ultrasonography an omphalocele has a smooth outline with an echogenic covering sac (Fig - 8). Error may occur but in general, ultrasonography is quite accurate in establishing the existence of omphalocele. If antenatal diagnosis could be made, termination of pregnancy will be possible.

In this series males (4:3) are more commonly affected than females. In India slight male preponderance (1.51:1) is noted in case of omphalocele[7]. There is a study of Children's Hospital of Oklahoma, USA from 1986 to 1990 (5 years) where out of 14 omphaloceles 10 were males[8]. The role of maternal age, parity and social habits has not be investigated on the relative incidence of omphalocele. The reason for male preponderance is not known.

In this series 14 cases were selected with set criterias such as 1) cases reported the hospital within 72 hours of age, 2)Sac was intact, 3) there was no infection,4) large sac 5)presence or absence of other congenital anomalies. But conservative treatment has definitive relation with infection and intactness of sac. In cases where there was no infection prognosis was good. Cause of infections was multifactorial but time of reported at hospital had definite relationship to prognosis. If the neonates were brought to the hospital more than 48 hours after birth, the mortality rate was more due to infection of the covering sac which lead to the rupture of the sac and death.

Topical application of escharotic agents is an important part of treatment to avoid the infection and rupture of sac. Solution should be antiseptic, astrigent and nontoxic. In this series Povidone Iodine solution was used as it fullfils the above characteristics. Hypothyroidism may occur but we did not get any in our cases. We here followed up the patients for last 4 years. Grob originally described the use of 2% aqueous mercurochrome application locally. However, it is associated with mercurial toxicity leading to renal failure. For this reason we avoided it. Fagan et al suggested that 0.5 % mercurochrome in 65 % alcohol would be less toxic. For the safe use of this agents the level of mercury in blood must be monitored. It is costly for poor people of this country. Alternate topical agents are Silver sulphadiazine, 0.5% silver nitrate, 70% alcohol. Various type of the biological dressings have also been used to cover the viscera[9].

Delayed external compressive reduction of an omphalocele (DECRO) is an alternate method of treatment for moderate and large omphalocele especially containing liver. We have not performed this treatment. Brown et al[10] in 6 patients have recently evaluated this technique with large or moderate size of omphalocele with good results.

Clausner[11] and Yazbeck[7] have reported a high mortality of 60 % and 80 % respectively in their series, being indicative of adverse prognostic factors associated with these patients namely severe congenital anomalies, prematurity and large defect. In this series the mortality rate is only 28.6%. It can be reduced if antenatal diagnosis could be made and delivery could be performed in specialized hospital so that the baby can be transferred quickly to paediatric surgery department.

Conclusion :

In conclusion, the conservative treatment can be done in selective cases of exomphalos major. But selection of cases and close observation of the sac are the important factors. Mortality can be reduced if antenatal diagnosis could be made and delivary could be perform in specialized hospital and treatment started from the very beginning of birth.

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Single Loading Dose of Magnesium Sulphate For Control of Convulsion in Eclampsia

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Summary:

A prospective randomized controlled study was done on 100 eclamptic patients over the period from September 1999 to June 2000 in Sir Salimullah Medical College and Mitford Hospital to evaluate whether only the loading dose of magnesium sulphate ($MagSO_4$) is sufficient for controlling convulsion in eclampsia. The patients were randomly distributed into two groups. The study group (group-A) received only a loading dose and the control group (group-B) received a loading and also a maintenance dose of $MagSO_4$. Convulsion was controlled within one hour in 92% and 94% of patients in group-A and group-B respectively. The difference in this time requirement was not statistically significant (P>0.50). Recurrence of convulsion was 8% in group-A and 6% in group-B. This difference was also not significant. Five patients each in either group (12.50% and 13.15% respectively) required more than 24 hours to regain consciousness after treatment. No significant difference was observed in maternal complication and foetal outcome between two groups, and maternal death was 2% and 4% in two groups respectively.

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Introduction:

Eclampsia in pregnancy is a serious and relatively frequent complication bearing a high maternal death and perinatal mortality in this country. It contributes about 10 percent of maternal death worldwide[1]. In developed countries, incidence has been reduced to 0.2-0.5 percent with fatality of two percent[2]. This may be due to better socioeconomic condition and efficient antenatal care. In developing countries, however, the incidence of eclampsia varies from one in 1700 to one in 1000 deliveries[3]. This higher incidence is because of ignorance, poor socioeconomic conditions, lack of antental care, social taboos and substandard healthcare provisions.

In Bangladesh, eclampsia contributes about 16 percent of total maternal mortality, and about 4500 women die of the condition every year[4]. As eclampsia is primarily a convulsive state, much of the recent debate has focused on control of convulsion[5]. In United Kingdom, most commonly used drug was diazepam followed by phenytoin, chlormethiazole and $MagSO_4$ as anticonvulsant, but in United States, $MagSO_4$ is most widely used [6]. Eclampsia Trial Collaborative Group also proved that $MagSO_4$ reduces the risk of further convulsion, and also maternal and neonatal morbidity [7].

In this study, one group of eclamptic patients were treated by only loading dose of $MagSO_4$ in both intravenous (IV) and itramuscular (IM) routes, and another group was given loading and maintenance dose by only IV route. The purpose of this study was to look for an ideal regimen and to see whether only a loading dose of $MagSO_4$ was sufficient to control the eclamptic convulsion, and also to compare the outcome of those two types of treatment.

Materials and method :

This prospective study was done between September 1999 to June 2000 at Sir Salimullah Medical College and Mitford Hospital, Dhaka. One hundred consecutive eclamptic patients which included those having gestational age of more than 28 weeks and all post-partum eclamptic cases. Patients with gestational age less than 28 weeks, eclamptia with intrauterine death of foetus, and those with complications like pulmonary oedema, cerebrovascular diseases, DIC, heart failure etc were excluded from the study. Necessary investigations such as complete blood count, estimation of total urinary protein, blood urea, serum creatinine, uric acid,

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FDP, fibrinogen and serum electrolyte level was done. Patients were divided into two groups, group-A and group-B. Group-A (n=50) was assigned to receive only 10 gm of $MagSO_4$ as loading dose, 4 gm (8ml) of which was diluted with 12 ml of distilled water and then given IV slowly over 10-15 minutes and it was followed by 3 gm deep IM in each buttock. Group-B (n=50) received a total of 28-40 gm of $MagSO_4$ as a loading and maintenance doses in IV route: 4 gm (in 100 ml) over 20 minutes followed by maintenance dose of 1-2 gm (25-50ml) hourly at a rate of 6-12 drops/ minute for subsequent 24 hours. Both the above-mentioned schedules were given to patients provided their respiratory rate was more than 16/minute, urine output was more than 30 ml/hour and if knee jerk was present. All patients were monitored hourly by recording pulse, BP, respiratory rate, level of consciousness, ankle jerk, auscultation of lungs and urine output. Continuous catheterization was done and intravenous fluid was given very cautiously. Injection hydralazine 20 mg in 200 ml of 5% dextrose in aqua was given as continuous IV drip when indicated for controlling blood pressure.

If recurrence of convulsion occurred, 2 gm $MagSO_4$ was given IV over 3-5 minutes and then 2.5 gm IM in alternate buttock in every 3-4 hours for next 24 hours. Complications such as renal failure, cardiac arrest were treated accordingly. Obstetric management was done according to indications.

Results :

A total of 100 women were enrolled in this study and the patient profile was almost same in both groups. Data was analyzed using SPSS programme. Because of the nature of the analysis, only *chi-square* (X^2) test was done to decide upon the significance of the findings. A 'P' value of <0.05 was considered as significant. After treating the study and the control groups by two above-mentioned regimens, no significant difference was found in the treatment outcome and development of complications. Results are shown in different tables.

Average age of group-A was 23.06 years and group-B 22.20 years. Table-I shows that there was no significant difference in age, parity, and gestational age of the patients. No difference was found in diastolic blood pressure, presence of oedema and albuminuria between the two groups. Time interval between starting of treatment and delivery, and foetal and maternal outcome of both groups also did not show any significant difference.

Convulsion in most of the patients in both the groups (92% and 94% respectively) could be controlled within one hour, and another 6% and 4% within five hours and rest needed more than five hours (Table – II). There was no significant difference in the time requirement for control of convulsion between the two groups. Recurrence of convulsion after treatment occurred in 8% and 6% of patients in group-A and group-B respectively (Tab-III).

On admission, nine patients in group-A and 10 in group-B were fully conscious and rests were unconscious. Among the unconscious patients 12.50% and 21.05% regained consciousness within four hours, 75% and 65.78% within 24 hours and rest required more than 24 hours (Table-IV). One patient in group-A and two in group-B never regained consciousness and died due to complications. Difference in time requirement for regaining consciousness between two treatment groups was also not found statistically significant (P>0.50).

Three patients in each group developed complications in spite of immediate treatment. In group-A, one patient developed pulmonary oedema, one cardiac arrest during anaesthesia for caesarean section and postpartum haemorrhage occurred in one patient, which might not have any relationship with $MagSO_4$ therapy. In group-B, one patient developed pulmonary oedema, one aspiration pneumonia and another one acute renal failure (Table-V). One patient in group-A and two in group-B among those who developed complications later died (Table-VI).

Therefore, the findings thus obtained from this study did not find any difference in treatment outcome, specifically in controlling the convulsion in eclampsia, between two treatment regimens.

Discussion:

The present study was done to compare the treatment outcome, specifically the control of convulsion in eclamptic patients after the loading dose of $MagSO_4$ with that after loading and maintenance dose of same therapeutic agent. The findings revealed that there was no significant difference in treatment outcome between the patient groups receiving two different doses schedules. Many randomized trials were done worldwide to find out effective anticonvulsant drugs in eclampsia and in most circumstances $MagSO_4$ was compared with other anticonvulsant drugs[5,8,9]. $MagSO_4$ is a very effective drug for immediate control of convulsion and prevention of recurrence of convulsion in eclamptic patients. It is also used as a prophylaxis in impending eclampsia and in severe pre-eclamptic patients for prevention of convulsion[6-11].

Table-I

Profile the patients assigned to two comparing treatment groups and the type of eclampsia they had

Parameters		Group-A(n=50)	Group-B(n=50)	Significance
Average age (years)		23.06	22.20	NS
PrimiParity	2-5	3416	3713	NS
Gestational age (weeks)		35.72	35.71	NS
Type of eclampsia:				
AntepartumPost-partook		41(82%)09 (18%)	42 (84%)08 (16%)	NSNSP>0.50

Table-II

Time required to control the convulsion due to eclampsia

Time (hours)	Group-A (n=50)	Group-B (n=50)	Significance
£ 1	46(92%)	47(94%)	NS
£ 5	03 (6%)	02 (4%)	NS
>5	01 (2%)	01 (2%)	NS

$X^2 = 0.2108$, df = 2, P> 0.50 (Not Significant).

Table-III

Recurrence of convulsion after treatment in two treatment groups

Group-A (n=50)	Group –B (n=50)	Significance
04(8%)	03(6%)	NS

$X^2 = 0.1536$, df =1.0, P> 0.50 (Not Significant)

Table-IV

Time required to gain consciousness in unconscious patients in two groups after treatment

	Group –A (n=40)	Group-B (n=38)	Significance
< 4 hours	05 (12.50%)	08 (21.05%)	NS
4-24 hours	30 (75.00%)	25 (65.79%)	NS
> 24 hours	05 (12.50%)	05(13.16%)	NS

$X^2 = 0.5780$, $P > 0.50$ (Not Significant)

Table-V

Maternal complication during treatment

Complication	Group –A (n=50)	Group – B (n=50)	Significance
Pulmonary oedema	01	01	NS
Aspiration pneumonia	00	01	NS
Renal failure	00	01	NS
Cardiac arrest	01	00	NS
Post-partum haemorrhage	01	00	NS

Table-VI

Maternal mortality during treatment

Cause of death	Group –A (n=50)	Group –B (n-50)	Significance
Pulmonary oedema	00	01	NS
Renal failure	00	01	NS
Cardiac arrest	01	00	NS

The patient profile as such did not have any effect on the outcome of this study, as has been seen in other studies[8,10,11]. Randomization indeed did not show any significant difference in any of the parameters in patient profile.

The recurrence of convulsion occurred in 8% and 6% in two groups having equal number of subjects. These results are consistent with other studies [8-11]. Mean serum magnesium level is significantly lower in women weighing more than 70 kg than the level observed in those with body weight of more than 70 kg[12]. After loading dose, the drug is distributed throughout the body, especially in skeletal tissue, only a small amount being left in the extracellular fluid (ECF). So, the patient having lower body volume, will have higher serum drug concentration [13-15]. Bangladeshi women usually have lower body mass, and mean body weight of pregnant women is 53 kg[16]. Maintenance of optimum magnesium level in the ECF may be the reason of lesser recurrence of convulsion during $MagSO_4$ therapy. Total dose of $MagSO_4$ used in this study for both the groups was almost half of the dose regimen introduced by Zuspan[17] and also Pritchard[18]. Pritchard et al showed repeated recurrent convulsion in two women having pre-pregnancy weight of 130 kg and 180 kg[19]. Consciousness regained significantly in both groups, only 12.50% in group-A and 13.15% in group-B required more than 24 hours. This finding is almost similar to another previous study[8]. On an average, less than one hour was required to control convulsion in more than 90% patients in both the groups. This finding is also similar to other previous studies[8-11].

Maternal complication occurred in 6% patients of both groups. Pulmonary oedema, which is the commonest complication in eclamptic patients[8], developed in two patients, one in each group. Maternal death was 2% and 4% of patients in study and control groups respectively. This finding is also similar to those of other studies[6,8,11]. In group-A, one patient died due to cardiac arrest during recovery from anaesthesia. Adequate care should be taken during giving anaesthesia to the patients who are on $MagSO_4$ as the therapeutic agent may potentiate the action of some anaesthetic medications. In group-B, causes of death were pulmonary oedema and renal failure. Patient who died from pulmonary oedema in postoperative period was admitted with high blood pressure (190/120 mm of Hg). Therefore, parenteral fluid should be given very cautiously to minimize this complication. Dialysis was done for the patient who had renal failure. The later patient had history of several episodes of convulsion before admission into the hospital but did not have oliguria.

Eclampsia is a multi-organ disorder and mortality depends on the severity of organ damage. None of the patients developed any serious side effect or toxicity of the drug in this study. Therefore, none of both doses schedule probably had any effect on mortality. Number of perinatal death had no significant difference between two treatment groups (P=0.4237) and the finding well correlates with those of other studies [20-22]. However, there are reports in which much lower perinatal death rates have been found[6], may be due to improved neonatal care and better ICU facilities. Findings of this study, as revealed in above discussion, clearly suggest that only loading dose of $MagSO_4$ should be sufficient to control convulsion in majority of patients of eclampsia, at least it is equally effective as that of maintenance dose therapy. If so, it would definitely be cost-effective because it would save cost of an extra 18-30 gm of $MagSO_4$, and additional manpower and other related costs.

Although the effectiveness of $MagSO_4$ as an anticonvulsant is well established, still its use is confined only to some tertiary care centres and in most of the places previous standard regimen is followed. Only loading dose has some advantages like it would not require frequent monitoring and therefore may be used in primary health care centres at least prior to referral to a tertiary care hospital. This rapid and simple intervention may also significantly reduce the maternal morbidity and mortality.

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Gender and Age Related Brain Atrophy

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Summary :

Age related brain atrophy among male and female population was compared by computerized tomographic (CT) quantitative measurement on 219 non-smoker population between 40 and 70 years of age. Subjects having hypertension, diabetes mellitus and those with history of chronic alcohol abuse and long-term steroid treatment were excluded from the study. There was no evidence of any neurological manifestation in the subjects neither was there any focal pathology in brain CTs. Brain atrophy Index (BAI), which is a quantitative marker of brain atrophy, was calculated from brain CT of each subject. No significant difference in BAT was found between males and females.

(J Bangladesh Coll Phys Surg 2003; 21 : 69-72)

Introduction :

Sex has positive relation to various organ development and aging changes. It is related to difference of hormonal distribution and life style of the two sexes. It is commonly believed that female brain undergo atrophic changes more than the male brain in relation to age. Central nervous system is nourished by the carotid and vertibral artery systems. 1f these feeding systems are jeopardized by atherosclerotic process, the brain tissue will suffer from chronic under nutrition. Ultimately there will be brain atrophy. There are many factors causing gradual reduction of brain blood supply. Atherosclerosis is the commonest among these. Again the atherosclerotic process is enhanced by smoking, hyperlipidaemia, diabetes mellitus and similar other causes.

Aging change in the central nervous system constitutes a major public health problem globally. For this reason WHO declared in 1981 that there is an urgent need to study the risk factors in brain aging for the prevention of mental deterioration[1]. It has been proved by many pathological studies that the weight of brain and the number of neurons decrease during normal aging. By the turn of the last century i.e. after the invention of computed tomography (CT) it has been made possible to observe a living human brain non-invasively. Huclman in 1975 defined non-specific brain volume reduction observed in normal aged people by CT as brain atrophy[2]. Brain atrophy has been affected by various factors eg, hypertension[3], steroid treatment[4,5], chronic alcoholism[6,7] and smoking. In Bangladesh no investigation has been done to look into sex difference in brain atrophy, which has stimulated to conduct this study on Bangladeshi people.

In this study, it has been tried to see the effect of sex on brain atrophy quantitatively in the course of aging. Brain atrophy index (BAI), quantitative marker of brain atrophy[8,9] was used for the evaluation of atrophy of the brain of Bangladeshi people by CT.

Materials and Methods:

A total of 219 subjects aged from 40 -70 years were studied by brain CT scan. There were 110 males and 109 age matched females. They were non-smoker, normotensive, non-diabetic and non-alcoholic. Subjects on long-term steroid were also excluded from the study. All subjects had visited the outpatient clinic complaining of various symptoms such as headache, vertigo or fainting but there were no clinically visible neurological manifestation or focal abnormalities in CT scan. There were no significant differences in symptoms between male and female sexes (Table -I).

Clinical evaluation of each subject including a detailed history, alcohol consumption and smoking history, physical examination were performed. Electro-cardiograph, chest X--ray, blood and urine sugar, serum total cholesterol, triglyceride, HDL and LDL cholesterol were also estimated

Patients with any previous history of cerebrovascular disease, head trauma, brain tumour or mental impairment were excluded.

A total of 10 brain CT of each 10 mm thickness was taken from each subject at 20 mm above the orbit-mental line for men and 18 mm for women by use of a CT scanner. Images were processed on a 256x256 matrix with a pixel size of 1.0x1.0x10 mm^3 and filtered with Gaussian Smoothing. Brain atrophy was measured by following the methods of Ito et al[9] and Yamaura et al[10]. The mean

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CT number of each tissue (bone, cerebrospinal fluid and brain) was measured at about 1000, 4 and 32 Hounsfield units (HU) respectively. According to the basic experiments, the border between any two materials is expressed by the average CT of the two. Thus, the bordering CT number of ventricles and brain should be [18 = (32+4)/2]. The Pixels within the region of interest set along the skull for each CT image were divided into three groups according to their CT number: bone, over 500 HU; brain, 18 to 499 HU : and cerebrospinal fluid (CSF), under 18 HU. The total number of each pixel was summed up for every section excluding the lowest figure which was blurred by artifacts from the skull-base.

BAI, which was the percentage of the CSF volume to the cranial cavity volume, was calculated in order to standardize the different size of craniums among the subjects as follows:

$$BAI(\%) = \frac{\text{CSF space volume}}{\text{Cranial cavity volume}} \times 100$$

After measuring the BAI of both males and females, Student's T-test will be done to see the significance of role of sex on BAI.

Results :

The subjects were divided into age categories with class interval of 10 years between 40 and 70 years and dichotomized according to gender in each group. Table-I shows the symptoms of study subjects but there was no significant difference in symptoms present between males and females. Table-II shows the BAI of males and females but there was no significant difference in brain atrophy index (BAI) between them.

Table - I

Distribution of Symptoms of Subjects.

	Age (years)					
	40-49		50-59		60-70	
	M	F	M	F	M	F
Headache	10	11	19	19	13	10
Vertigo	05	04	13	12	08	08
Fainting	05	06	09	09	06	07
Neuralgia	03	02	05	05	05	06
Neck ache	01	01	03	03	05	06
Total	24	24	49	48	37	37
Chi-square (Male versus female)	NS	NS	NS			

NS-Not-Significant.

Table - II

Brain atrophy index of males and females.

	Age Years		
	40-49	50-59	60-70
Male			
Number	25	40	45
Age	44±2.8	56.7±2.2	66.2±3.0
BAI	2.15±0.74	2.48±1.01	3.22±1.20
Female			
Number	25	40	44
Age	44.6±1.2	54.28±2.7	65.9±2.9
BAI	2.02±0.83	2.52±0.98	3.32±1.18
Significance	p = NS	p = NS	p = NS

Values are means ±SD, 'p' are determined by, the values of males and females by Student's t-test, NS - not significant.

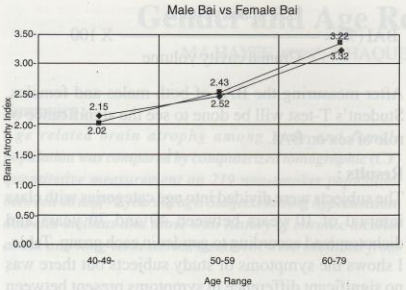

Fig –I : *Comparison of Brain atrophy index (BAI) in males and females.*

Discussion :

Various studies on brain atrophy using brain CT have been reported. Computed tomography is composed of a set of pixels with each CT number and counting the number of pixels with appropriate CT numbers in a region of interest is the most exact morphometry of CT images. This principle of CT morphometry was adopted not only in brain atrophy[11,12,13] but also in the studies of other organs such as skull[14] muscle[15] and fat mass[16].

Everyone has one's own normal size of brain in proportion to one's skull size. Even volume of an atrophic brain in a large skull may become equal to the volume of a normal brain in a small skull. Thus in BAI the percentage of CSF space volume to the cranial cavity volume is taken as an indicator of brain atrophy.

It is said that brain atrophy is more advanced in female than male[3]. It is thought that this difference is due to hormonal variation of the two sexes. But the study of Kubota et al[17] showed that there were no significant difference in BAI of non-smoking men and women. Our finding correlates with the above finding.

Brain atrophy is suggested to represent the non-specific brain weight reduction which involves the loss of neurons in the course of aging.The quantitative measurements of brain atrophy demonstrated that brain atrophy began around the fifth decade of life and finding of this study is similar to the above findings[10,18,19].

In the present study it was tried to find out the effect of sex on aging but the result of the study clearly showed that sex has no effect on brain atrophy. That is, there is no significant difference in BAI in males and females of age from 40 to 70 years (Fig -I). This study thus disproved the common belief that female brains undergo more atrophic changes.

Acknowledgement :

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REVIEW ARTICLE

Nuclear Medicine in the Management of Well Differentiated Thyroid Cancer : A Selected Review

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(J Bangladesh Coll Phys Surg 2003; 21 : 73-84)

Introduction :

Nuclear medicine has been providing functional data about the thyroid gland for more than 67 years through radionuclide uptake and scan. Valuable information on thyroid diseases is provided by radionuclide techniques. When a palpable thyroid nodule fails to concentrate radiotracer, it is termed a cold nodule (Fig. 1) and raises the possibility of thyroid malignancy. However, for precise differentiation of benign and malignant cold nodules it is important to deliberate on the clinical history and physical examination in addition to thyroid scan, ultrasound and fine needle aspiration cytology (FNAC). In the current algorithm for diagnosis of thyroid cancer, FNAC especially under ultrasound guidance is the first choice of procedure and is considered to be the best method to distinguish between benign and malignant thyroid diseases[1,2,3,4]. The major problem of this procedure is the impossibility of differentiation between follicular adenoma and follicular carcinoma because capsular or venous tumour invasion cannot be detected[5]. When FNAC results are suspicious or unavailable, frozen section is the next best option[6].

Incidence of differentiated thyroid carcinoma :

Differentiated thyroid carcinoma (DTC) is a rare cancer with an age adjusted incidence rate of 0.9 to 5.2 per 100,000 cases per year worldwide[7]. According to Surveillance Epidemiology and End Results (SEER) program of the National Cancer Institute the incidence of DTC in women is twice that in men and peaks early for papillary than for follicular carcinoma[8]. Recent reports from USA shows that since 1973 there has been nearly 50% annual rise of thyroid cancer[9]. In Bangladesh, no baseline data is available on the incidence of thyroid carcinoma. A random joint venture study of the Institute of Post-graduate Medicine and Research and the Institute of Nuclear Medicine (INM) in Dhaka revealed that out of 1,858 patients referred to INM for various thyroid disorders, there were only 2.6 % cases of thyroid cancers[10].

Fig.-1 : *Tc99m Scan of thyroid gland showing a cold nodule in upper pole of right lobe. (Arrow)*

Pathology of thyroid cancer :

There are several subtypes of malignant thyroid tumours ranging from differentiated indolent micropapillary

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carcinoma, which has no effect on life expectancy, to anaplastic tumours, which are invariably fatal even with aggressive treatment[11]. The differentiated group of thyroid cancer (DTC) largely includes the follicular and papillary variety. These cancers arise from the follicular epithelium and retain to a variable degree of their ability to concentrate iodine. Papillary thyroid cancer (PTC) includes lesions that are pure papillary and also those with mixed papillary and follicular elements and constitutes 50% to 80% of all thyroid cancers[12,13]. Though usually unifocal, multicentricity is seen to occur in 20% to 25% of patients[13]. Lesions less than 1.5 cm in greatest dimension are not usually detected on routine palpation and infrequently metastasize to cervical lymph nodes[14]. The clinically detectable type may have intrathyroidal and extrathyroidal extension depending upon the size and morphological features of the primary lesion[15-18].

Follicular carcinoma (FTC) represents 10% to 20% of all thyroid cancers. FTC may be of two types : encapsulated and minimally invasive, or non-encapsulated and invasive.

As opposed to papillary cancer, follicular cancer is usually unifocal, tends to occur at an older age than does papillary cancer (mean age, 55 years versus 45 years) and is usually larger in size (lesions less than 2 cm is rare)[13].

Recent strong evidence for a genetic basis of DTC has been reported by several authors[19-24]. Though approximately 5% is dominantly inherited[23], there are several arguments that genetic factors may also be concerned in the development of sporadic differentiated thyroid cancer[24]. The inherited variety is found to be more aggressive than its sporadic counterpart[23]. It presents at an earlier age, often exhibits more multifocality and have more relapses during follow up[25].

Prognosis of differentiated thyroid cancer :

Differentiated thyroid carcinomas are well known to have an excellent prognosis after definitive primary treatment with total or near total thyroidectomy and radioiodine ablation, and subsequent suppression of endogenous TSH with thyroid hormones [thyroid hormone suppression therapy (THST)][26]. The long term survival is however cause specific[27,28,3,9] and depends on a combination of factors such as age, sex, cell type, histological tumour pattern and clinicopathological classification. The different circumstances in each case will indicate how, on average, DTC will proceed. In general, the presence of two or more adverse factors in a given patient leads to a greater cumulative mortality. Age at the time of diagnosis shows an influence on subsequent survival with especially high recurrence rate (40%) during the first two decades of life and after the age of 60 years[29]. Gender is also related to prognosis with twice the risk of mortality seen in men compared to women[8,29]. In addition, initial regional invasion, local recurrence and distant metastases are factors that adversely influence survival[14,10,11,32,33,34]. Distant metastases more frequently occurs to the lungs and bones, and is known to be associated with worse prognosis. Metastasis in other parts such as local recurrences in the thyroid area, mediastinal, cerebral, hepatic, cutaneus, retro-orbital, pleural and renal sites is also known to occur. A multivariate analysis by Bernier et al shows reduced survival in patients who have metastases to organs other than the bones during a 5-year and 10-year follow up[35]. In the papillary subgroup however, lymph node metastasis by itself does not carry any meaningful prognostic information[36] and the likelihood of cure with locoregional disease in this group is better than FTC[37].

Other important predictive factors indicative of excessive mortality depends upon the morphological features of the tumour such as nuclear atypia, tumour necrosis and vascular invasion[36]. Early diagnosis and appropriate selection of initial therapy have important prognostic implications. Staging system using TNM classification may correctly stratify mortality rates but it has been recently criticized to be less than perfect as a guide to selecting therapy[9]. Knowledgeable and systematic approach to management of DTC is very important. According to Mazzaferri, early and aggressive treatment of DTC is likely to render about 90% of patients permanently free of the disease[38].

Management of differentiated thyroid cancer :

Thyroid cancer is a disease that requires specialist care and coordinated efforts of an endocrinologist, nuclear medicine physician, thyroid surgeon and endocrine pathologist. When treated properly, the differentiated group of thyroid malignancy is generally compatible with normal life expectancy[9]. However, there is much disagreement regarding its management and in an attempt to reach a consensus, several guidelines have

been proposed by key investigators in the field. The fundamental treatment procedure in most cases however consists of surgery followed by radioiodine therapy.

Surgery :

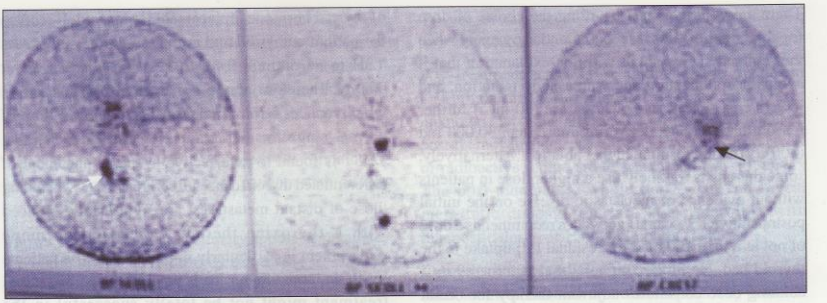
Surgery as the initial therapy in the management of DTC is universally accepted, but the question of lobectomy versus total thyroidectomy remains an issue for debate. The main disagreement centres on the extent of surgery that is optimal for tumours 1 cm to 4 cm in diameter (T_2) without metastasis[9]. In general, papillary carcinomas smaller than 1 cm and minimally invasive, follicular carcinomas smaller than 4 cm which are unifocal, without vascular invasion and present in patients with no known risk factors or history of radiation are termed low risk. Most would then advocate simple lobectomy in these patients with the argument that it has little effect on the prognosis of the patient. The prognostic scoring system developed from tumour staging relates to the differing effects of age and histological tumour grading on cancer recurrence and mortality, and are used by advocates of simple lobectomy to justify the extent of surgery. However, comparative studies between lobectomy and total thyroidectomy for DTC have shown that the 20 year rates of local recurrence and nodal metastasis after unilateral lobectomy were 14% and 19%, significantly higher (p=.0001) than 2% and 6% rates seen after bilateral thyroid lobe resection[39]. Moreover, there is also the risk of recurrence of the disease in the opposite lobe after lobectomy, reported to be 5% to 10% with subsequent high incidence of pulmonary metastases[40-42]. These observations appear to be good reasons for total thyroidectomy as the preferable initial surgical approach to patients with low-risk carcinoma even though disagreement continues about the initial surgery and the indications for total thyroidectomy for patients at moderate or low risk of cancer mortality (T_2, N_0). For high risk DTC, the National Comprehensive Cancer Network (NCCN) guidelines recommend total thyroidectomy and, if lymph nodes are involved, bilateral central compartment dissection or lateral modified radical neck dissection as the primary treatment[43].

Radioiodine ablation :

Ablation is used to denote removal of thyroid tissue remnants after total thyroidectomy. As elaborated by Hurley et al, the aims of ablation is to prepare the patients for more definitive treatment by : 1) elevating TSH levels sufficiently to expose neoplastic tissues to thyrotropin so as to facilitate radioiodine uptake into metastasis for localisation and therapy; 2) removing normal tissue so as to eliminate extraneous thyroglobulin sources; and thereby 3) decreasing the rate of recurrence of cancer[44]. There are however controversies about ablation when the risk of recurrence in the patient is low. Thus the question whether to ablate or not to ablate is a matter of lively debate. Opponents of ablation elect to treat low risk patients with THST after surgery and question the rationale for radioiodine ablation when there is no obvious residual disease. Proponents argue that the decreased recurrence rate and improved survival after I^{131} ablation treatment is justified enough for the destruction of residual normal follicular cells[45,46,47,48,49,27,9]. Nonetheless, if ablation is to be considered it is essential first to assess the size of the residual thyroid tissue (Fig. 2). A small remnant (smaller than 2 gm) facilitates postoperative I^{131} ablation[50]. In a retrospective study of 492 patients with DTC followed up for five years the effectiveness of radioablation was found to be directly proportional to the amount of residual thyroid tissue in the neck[51]. Moreover when the remnant size is large, ablating it with I^{131} may cause

Fig.-2 : *Remnant in thyroid bed after total thyroidectomy (white arrow)*

complications like radiation thyroiditis with serious pain, swelling, and sometimes even thyrotoxicosis[52]. It is therefore recommended that large remnants should undergo a repeat neck surgery to remove the bulk of thyroid tissue[9]. Whole body scan with tracer doses of I^{131} is a routine procedure in many centres to detect metastases before administration of the ablation dose (Fig. 3) In many instances, this has been reported to produce a stunning effect when the therapeutic dose is

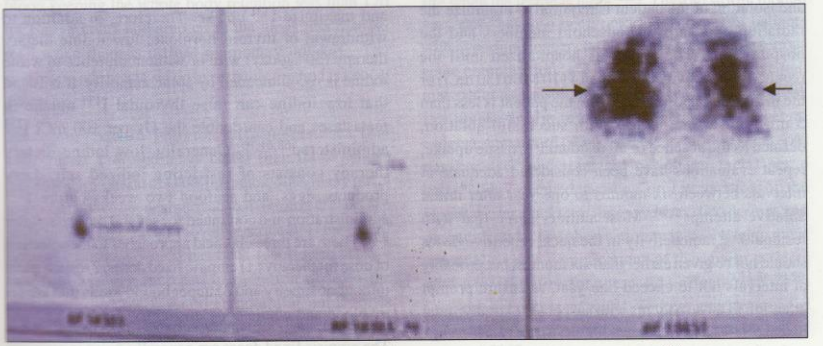


(A) (B) (C)

Fig.-3 : *Whole body scan with I-131 showing spot views of the neck (A) chest (B) and upper abdomen (C). Significant thyroid tissue remnant is noted in the thyroid bed (white arrow), Normal stomach activity is noted (black arrow).*

given. The assumption is that a higher diagnostic dose reduces trapping of tracer by normal thyroid remnants and the tumour. It thus changes the tumour kinetics of radioiodine subsequently given for therapy, thereby reducing its efficacy. Therefore, the higher the dose for diagnostic information, the greater the potential reduction in therapeutic effect[53]. In the Institute of Nuclear Medicine, Dhaka, a routine post-operative baseline thyroglobulin (Tg) estimation followed by ultrasound and Tc 99m pertechnetate scan are done to determine the amount and function of the residual thyroid tissue. A post-treatment whole body scan, done later after administering I^{131} for ablation, documents uptake in the remnant and metastases, if there is any (Fig. 4).

In preparation for I^{131} ablation, thyroid hormones are withheld after surgery to evoke a TSH rise of more than 30 mIU/L in order to maximize I^{131} uptake. The appropriate dose required to ablate a remnant may be calculated by measuring the weight of the gland and effective half-life of I^{131} or alternatively, a fixed dose ranging from low 30 mCi to high 100 mCi can be used.



(A) (B) (C)

Fig.-4 : *Abdominal post therapy scan five days after 200mCi dose for recurrent metastatic papillary carcinoma in the neck (A) & B. Spot view of the chest (C) demonstrates right and left lung metastasis (arrows) not seen on the pretherapy scan,*

There are controversies regarding the choice of dose for ablation. Low dose is recommended by many when the remnant size is small with the explanation that it avoids hospitalization and whole body radiation, and lowers cost. Advocates of low dose (30 mCi) further reason that amounts delivering more than 30,000 rad (300 Gy) do not result in higher ablation. Alternatively, some therapists routinely use a higher dose in patients without evidence of metastastic disease on the initial postoperative I^{131} scan. Beierwaltes recommends a dose of not less than 100 mCi for residual I^{131} uptake in the thyroid bed. He further suggests that 100 to 149 mCi ablating dose constitutes adjuvant therapy for occult metastases not detected by I^{131} scanning doses (1-5 mCi) and particularly in cases where the pretreatment uptake of I^{131} is low (<4%)[47]. Comparison of the efficacy of low dose (23-30 mCi), intermediate (> 50 mCi) and high activities (≥ 100 mCi) of I^{131} made by several groups was reviewed by Comtois et al who shows a cumulative success rate of 70% to 83% with a low activity and 60% to 100% with intermediate or high activities of radioiodine[54]. Failure rates among the low-dose cases is attributed to the different perception of the definition of ablation and variation in the extent of surgery[9]. It is seen that after near total thyroidectomy, both high and low activities were most likely to completely ablate the remnant[55].

When doses higher than 30 mCi is used, hospitalization and isolation of the patient is required to minimize the radiation exposure of household members and the hospital staff. The patient is hospitalized until the retained radioactivity is less than 1110 MBq (30 mCi) or the measured exposure rate from the patient is less than 5 mR/hour at one meter. With successful ablation, defined as the absence of all residual I^{131} tissue uptake, repeat evaluations have been considered adequate at intervals between six months to one year after initial ablative attempt[33,44]. Most authors agree that with residual I^{131} radioactivity in the neck, repetitive doses should not be given earlier than six months, but probably at intervals not to exceed one year, to ensure prompt attention to those patients with suspected extrathyroidal disease[33]

Thyroid hormone suppression therapy (THST) :
Thyroid hormone in the form of L-thyroxine is begun 24 hours following the ablation dose of I^{131}. The purpose of thyroid hormone replacement is two fold. It renders the patient euthyroid and at the same time suppresses TSH to an optimal level to keep the disease under control. Therefore, an appropriate thyroxine dose is that which reduces serum TSH to just below lower limit of normal range for the assay being used[56]. Generally, THST is found to be effective in the management of differentiated thyroid cancer. Recurrence rates, including those of distant metastases, are significantly reduced with L-thyroxine therapy[29]. Thyroid hormone replacement is particularly important in those patients in whom large tumour loads would suggest that initial treatment might not be totally successful in the destruction of all thyroid cancer metastases[13]. Serial Tg estimations showing rising Tg levels under adequate T_4 suppression would generally indicate recurrence and/ or progression of DTC[57].

Radio-iodine therapy :
After total thyroidectomy and ablation of thyroid remnants, the therapeutic efforts with radioiodine (I^{131}) directed towards metastatic disease is referred to as radio-iodine therapy. Radioactive iodine is an important therapeutic option for the treatment of metastatic thyroid carcinoma. However, the radiation dose delivered depends upon the ability of the target cells to concentrate radioiodine. This is true both for ablation as well as for therapy. It is therefore critical to expose the metastatic cells to elevated TSH so as to facilitate and maximize I^{131} uptake. Therefore, in addition to withdrawal of thyroid hormone, low iodine dietary therapy (50 mg/day) with or without diuretics to waste iodine is recommended by some authority. It is found that low iodine can raise thyroidal I^{131} uptake in metastases and can double the Gy per 100 mCi I^{131} administered[68,61,70]. Generally, low iodine dietary therapy consists of restricting iodized salt, dairy products, eggs, and seafood two weeks before I^{131} administration and continued for several days thereafter [9,71]. There are three classical approaches to the selection of dose for therapy : 1) empiric fixed doses, 2) quantitative tumour dosimetry and 3) upper bound limits that are set by blood and whole body dosimetry[72].

The empiric fixed doses are generally given in amounts that will not cause severe radiation sickness or produce serious damage to critical organs. This is the simplest and most widely used method. In general, lymph node

metastases too small to excise are treated with about 100 to 175 mCi; cancer growing through thyroid capsule are treated with about 150 to 200 mCi and patients with metastases to distant organs including the lungs are usually treated with 200 mCi[56,72]. With this amount of dose the whole body radiation is kept to less than 80 mCi at 48 hours, which is the accepted cut-off point for radiation to avoid lung injury in patients with diffuse lung metastases[73,74,75].

The quantitative tumour dosimetry approach calculates the optimum effective dose by estimating I^{131} uptake and retention within the tumour. The advantage of this method is that it avoids ineffective and/or excessive radiation to the patient. Since tumours that concentrate less than 3,500 rads (35 Gy) are unlikely to respond to I^{131} therapy[50-72], this method allows for consideration of alternate modes of therapy (surgery, external radiation and/or medical therapy) for those patients with tumours having inadequate radioiodine concentration.

Main disadvantage of the tumour dosimetry method is the difficulty in estimation of size of metastases and/or size of remnant to make the necessary calculations for precise dose requirement.

Benua et al pioneered the third method, which utilizes blood and whole body I^{131} dosimetry to calculate and administer the largest safe dose of radioiodine[74]. In common, estimation is made to deliver 200 cGy to the blood keeping the whole body retention less than 120 mCi at 48 hours and amount in the lungs less than 80 mCi when there is diffuse pulmonary uptake[75]. The maximum administered dose with this method is kept at 300 mCi.

Since survival in patients with metastases that concentrate radioiodine is better than those whose metastatic lesions do not take up radioiodine, many novel techniques have been employed to maximize I^{131} uptake and therapy. One such innovative strategy is the use of lithium carbonate which has been reported to show a two-fold average increase in radiation dose to the metastatic tumour[76]. Another potential adjuvant is retinoic acid. Initial studies using this agent has shown positive results[77]. The in-vitro demonstration by Van Herle et al[78] of improved radioiodine trapping and TSH binding by follicular cells in the presence of differentiating agent 13-cis-retinoic acid has prompted the use of this agent for redifferentiation of those tumours which will not concentrate radioiodine.

Post-treatment scans are recommended to document I^{131} uptake in the tumour and to detect previously unknown foci of metastases. It is critical that immediate post-therapy imaging be performed when retained levels of radioactive iodine are less than but near 30 mCi[13]. The post-therapeutic whole body scan can reveal metastatic deposits that are not discernible with diagnostic doses of I^{131} whole body scan.

Complications of radioiodine treatment :

Radioiodine treatment may be accompanied by potential immediate or delayed complications. Acute radiation sickness is an immediate effect which is seldom seen at dosage of less than 200 mCi, but when it occurs it may be seen as early as 12 hours. The usual symptoms reported by a large number of patients are nausea, vomiting, headache and fatigue[79]. These effects are usually transient and can be easily averted by pre-medication and assurance. Sialedenitis is another common problem that can be minimized by ensuring increased salivary flow by sucking on hard candies or lozenges. Acute bone marrow effects have been observed which is reflected by transient anaemia, leukaemia and thrombo-cytopaenia[74,79,80]. Other acute complications include radiation thyroiditis[74,79,81,82], tongue symptoms[83], pain and swelling at the metastatic site when the lesion is large[72,84]. Thyroid storm, though very rare, has also been reported to occur in patients with hyperfunctiong metastasis[85]. By far the more serious acute complications are oedema and haemorrhage that may occur as a result of soft tissue reaction induced by I^{131} uptake in the tumour and metastases. Cerebral oedema, spinal cord compression[86,87], stridor, vocal cord paralysis[72,84] and transient peripheral facial nerve palsy[88] may occur depending on the location of the metastatic lesion. Pretreatment with corticosteriods and mannitol, and close observation may be useful to avert potential serious complications of therapy in patients with a potentiality for these side effects[9,74,84,89,90]. Surgical debulking of spinal lesions and surgery for operable brain metastases may be considered if possible[86,87]. Of particular concern are the late complications such as ovarian and testicular damage, developmental defects caused by I^{131}, bone marrow damage, leukaemias, induction of second tumours and

pulmonary fibrosis. Both ovarian failure[91] and azoospermia[92,93] have been reported after treatment for thyroid cancer . However, in a study by Sarkar et al, no significant decrease in fertility could be demonstrated in patients so treated[94].

Developmental defects in the offspring of the patients treated by radioiodine is not significantly different from that in general population[94]. Serious and permanent effects reported with high cumulative doses of radioiodine, over I000 mCi, are leukaemia, and bladder and colon cancer[95,44]. Acute myeloid leukaemia as a complication of radioactive iodine therapy may occur within two to I0 years of treatment[84]. Those patients who have received the greatest amount of radioiodine in the shortest of time interval appear to be the most susceptible to develop leukemia[84,44,96,9]. The benefit of I^{131} therapy however outweighs the life time risk of leukaemia which is very low (0.33%)[97]. Pneumonitis and pulmonary radiation fibrosis are other complications that have been observed when whole body radiation dose exceeds the safety limit[98].

Monitoring for recurrences :

Follow up is essential in DTC for early, identification and localization of residual/recurrent and metastatic thyroid disease. , When total thyroidectomy and radioiodine ablation have been the initial treatment, three powerful tools are available for the follow-up of patients : I) basal and TSH-stimulated serum Tg measurement, 2) whole body I^{131} scan (WBS) and 3) neck ultrasound[58]. The NCCN guidelines recognizes diagnostic scanning with I^{131} and measurement of serum Tg levels as the mainstay of follow-up.

Serum thyroglobulin level measurement :

Thyroglobulin produced by the thyroid follicular cells is a sensitive marker for detection of DTC metastases in athyrotic patients. Serum Tg has a half life of 65 hours and its determination for postoperative follow up should be performed at least 25 days after thyroidectomy to permit an accurate baseline Tg level[59]. It may however remain detectable for up to a year after treatment before becoming undetectable[60]. Nevertheless, serial Tg measurement is a useful guide since a progressively rising level from baseline would generally indicate recurrence of DTC[57]. The NCCN guidelines advocate TSH stimulated serum Tg measurements, done either during thyroid hormone withdrawal or stimulation with rhTSH (thyrogen). The use of rhTSH-stimulated Tg testing without scan is a useful tool that enables the identification of recurrent disease well before diagnostic WBS becomes positive[61-62]. The particular usefulness of this method has been shown by the identification of cancer in low risk group of patients previously thought free of disease on the basis of undetectable Tg levels while undergoing THST[63]. The identification of residual and metastatic disease is reported to be high with combined use of rhTSH-stimulated WBS and Tg[64,62]. Patients are rarely found to have DTC when two post-ablation scans are negative[64] and the serum Tg values less than 2 ng/ml during rhTSH stimulation[65] or less than 5 ng/ml after thyroid hormone withdrawal[66]. However, there may be false elevation of Tg in the presence of anti-thyroglobulin antibodies that are found to be present in 25% of patients with DTC[67]. Therefore, routine screening for anti-thyroglobulin antibodies before measuring serum Tg levels is recommended[59].

Whole body scanning with I^{131} :

Diagnostic whole body scanning with I^{131} is used to identify functioning metastases that will take up I^{131}. Therefore, it is critical to withhold thyroid hormone so as to increase TSH level to more than 30 mU/ml. Alternatively, recombinant human rhTSH can be used, if available, to facilitate monitoring of thyroid cancer recurrence or persistence without the attendant morbidity of hypothyroidism seen after thyroid hormone withdrawal. The finding of an abnormal focus of I^{131} radioactivity would then prompt a repeat therapeutic attempt but it is important to exclude false positive scans which may occur due to presence of physiological body secretions.

Two or three yearly followed visit without evidence of residual metatases by diagnostic imaging and normal ancillary studies such as chest X-rays and Tg levels, less frequent evaluations need to be performed, but recurrence of thyroid carcinoma has been seen in some patients at extended period after initial treatment. Usually, 5-year interval after the fifth year post-therapy anniversary is recommended to study such potentially cured patients[33]. Due to the increased incidence of complications and morbidity, the frequency of therapy needs to be limited. Most authors agree that treatment should be limited to once yearly intervals, except in the presence of highly aggressive neoplasms. [33]

Neck ultrasound :

Neck ultrasound is a very useful method to assess residual lobe in patients with lobectomy and to distinguish benign from metastatic lymphadenopathy. The salient ultrasound features of a metastatic node include spherical shaped nodes (versus elongated nodes), loss of hilar echogenecity and overall increased echogenecity. The suspicious looking nodes then can be further evaluated by ultrasound guided FNAC.

Conclusion :

Therapeutic efficacy of I^{131} depends on many prognostic factors related to both the patient and the tumour. The most important of these considerations is the capacity of the tumour to concentrate and retain enough radioiodine to achieve therapeutic effect. In tumours that are iodine avid, tremendous impact on subsequent course of the disease can be expected. Many studies report significantly improved survival rates when the treatment protocol included total thyroidectomy, radioiodine therapy and THST. On the other hand, even despite these positive effects it is reported that as many as 20% of the patients will have disease recurrences and metastases. Though 50% recurrences appear in the first five years, metastases have been reported to occur even decades after initial therapy[62]. Prolonged follow up is therefore very important. Another critical aspect of DTC is the lack of adequate concentration and retention of I^{131} about half to two-third of the metastases[99,100]. Certain tumours may exhibit Na-I symporter (LNIS) expression while post-transcription events may cause LNIS dysfunction in others[101,102,103] resulting in poor radioiodine uptake. This phenomenon is commonly observed in patients older than 40 years of age and in Hurtle cell cancer[100]. These circumstances pose major problems and becomes a challenge to clinical management. Novel treatment strategies utilizing adjuvant agents such as lithium carbonate, retinoic acid and modulation of NIS expression and/or activation etc. holds promise for improving management in individual situation. Finally, planned multimodality approach for treatment of DTC is the key to curing majority of the patients with uncomplicated disease. New initiatives needs to be evaluated and planned for the specific group of patients with precedented and/or unprecedented cause specific adverse outcome.

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CASE REPORT

Rare Location Ectopic Pregnancy - A Case Report

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Summary :

Pregnancy in an accessory horn of the uterus is very difficult to diagnose both clinically and ultrasonographically. This paper presents a case report of ruptured pregnancy at right sided accessory horn of bicornuates uterus following spontaneous conception, in a 25 years old multigravida, who presented at 12 weeks of gestation with sudden severe pain in the lower abdomen, blood stained discharge per vagina and shock. Laparotomy revealed a rupture of noncommunicating rudimentary right accessory horn of the uterus resulting in huge haemoperitoneum. Its diagnostic difficulties, surgical management and outcome have been discussed.

(J Bangladesh Coll Phys Surg 2003; 21 : 85-87)

Introduction :

Pregnancy in a accessory horn of the uterus is a rare entity with an estimated incidence of one in every 100.000 maternities[1]. It refers to a condition where implantation of the blastocyst occurs in the cavity of the rudimentary accessory horn of the uterus. The horn does not always communicate with the uterine cavity[2]. It represents a high rate of maternal mortality because of growth and secondary repture of the zone of implantation in advanced ages, resulting in severe haemodynamic decompensation[3]. Pre-operative diagnosis is very difficult to establish. In some respects, it resembles the interstitial type of tubal pregnancy and may even give rise to confusion at operation.

Here, a case of ruptured ectopic pregnancy at right accessory horn of uterus is reported.

Case report :

A 25 years old woman of third gravida and second para, presented with history of amenorrhoea for about three months, lower abdominal pain for two days and blood stained discharge for one day. She could specify the date of her last menstruation and had symptoms of early pregnancy. She was experiencing dull aching pain in the lower abdomen for two days which became severe four to five hours before admission. The patient was complaining of' pain radiating to the right hypochondrium and tip of right shoulder. According to the statement of the attendants she was developing rapidly increasing pallor and deteriorating very fast.

She had a history of regular monthly menstrual periods every 27-30 days usually lasting four to five days. She never used any type of contraceptive devices.

She was married for five years and had history of vaginal delivery of two term babies who died in the early neonatal period. She had her last childbirth about six months back. Puerperium was uneventful.

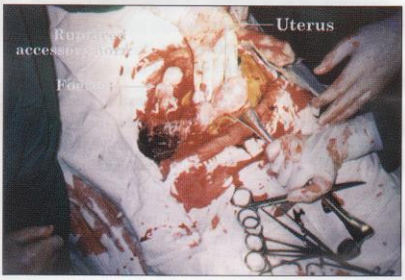

Fig.-1 : *Pregnancy in noncommunicating right accessory horn of biocornuate uterus*

The patient was clinically dehydrated, ill looking, severely anaemic but conscious. Her pulse rate was 150 /minute and feeble, blood pressure was 60/30 mm of Hg and respiratory rate was 26 /minute. She was visibly distressed by abdominal discomfort.

She had a rigid, distended and acutely tender abdomen and bowel sounds were sluggish. Pervaginal examination was done which revealed a closed cervix,

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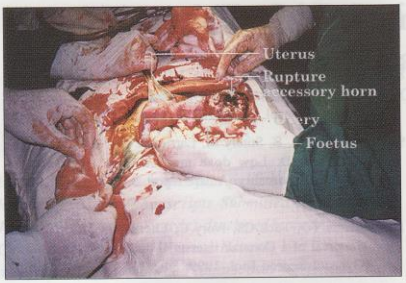

Fig.-2 : *Ruptured right accessory horn pregnancy*

slight blood stained discharge and a tender soft uterus of about eight to nine weeks size. There was pain on rocking of the cervix, and the fornices were full and tender. An acutely tender irregular mass was palpable through the right fornix but the exact size and consistency could not be detected because of extreme tenderness. An emergency ultrasonography was done which had a comment of ruptured ectopic pregnancy with an intraabdominal dead foetus of about 12 weeks size.

A preliminary diagnosis of ruptured ectopic pregnancy was made and laparotomy was done under general anaesthesia. There was huge haemoperitoneum and a ruptured right accessory horn of the uterus with a foetus of about 12 weeks size in the peritoneal cavity. Placenta was found adherent to the cornu. There was no communication of the horn with the uterine cavity. Resection of the accessory horn was done along with removal of the right tube and product of conception.

Fig.-3 : *Resected accessory horn along with the adherent placenta and foetus*

Thorough peritoneal toileting was also done before closure. Total six units of crossmatched whole blood was transfused. Her postoperative recovery was uneventful.

Discussion :

Cornual pregnancy is a very rare form of ectopic pregnancy occurring in atretric rudimentary horn of a bicornuate uterus[4]. It accounts for a maternal mortally of 5%. The rudimentary horn does not always communicate with the rest of the uterine cavity in which case it is assumed that spermatozoa ascend through the other horn and tube and fertilize an ovum in the peritoneal cavity[2] or in the tube connected to the rudimentary horn[5]. This then enters the tube of the rudimentary horn. The concerned ovum is usually coming from the ovary on the same side of the rudimentary horn[5].

The general and local reactions are same as for tubal pregnancy. An important feature is that the sac is surrounded by myometrium and even though this is poorly developed it can support the pregnancy's growth for a longer time than can the tube or ovary. Rupture of the horn usually takes place between twelvth to twenteeth week and when it occurs it is more likely to result in a catastrophic haemorrhage.

Symptoms are nonspecific, resembling those of a reputured tubal pregnancy though the gestation at the time of rupture tends to be more advanced and the shock may be profound. Typically abdominal pain proceeds which coincide with the rupture early in the second trimester[1]. Before the rupture, the condition is most likely to be confused with a painful leiomyoma complicating pregnancy. The pregnant horn differs from a myoma in that it can be felt to contract.

In some respects, cornual pregnancy resembles the interstitial type of tubal pregnancy and many authors presented the two conditions synonymously[4,7-13]. A distinguishing feature is the insertion of the round ligament which is always lateral to a cornual pregnancy[2]. Angular pregnancy is a related term, when there is implantation of the conceptus into the cornu of the normal uterus causing asymmetrical enlargement. The asymmetry disappears by the twelvth week.

Diagnosis is usually made at laparotomy. But high resolution ulrasonography may give a near concluding

diagnosis. Laparotomy is preferable to laparoscopy[2]. Excision of the rudimentary horn and salpingectomy is the usual treatment[1]. If the endometrial cavity of' the remaining horn is entered during the operation, caesarean section is a reasonable mode of delivery for any subsequent pregnancies[14]. Though extremely rare, cornual pregnancy associated with initial transformation to choriocarcinoma has been reported in the literature[15].

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Vol. 21, No. 2, May 2003

Uniform Requirements for Manuscripts Submitted to Biomedical Journals

INTERNATIONAL COMMITTEE OF MEDICAL JOURNAL EDITORS*

(J Bangladesh Coll Phys Surg 2003; 21 : 88-95)

In the 12 years since it was first published, the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals" (the Vancouver style), developed by the International Committee of Medical Journal Editors, had been widely accepted by both authors and editors; over 400 journals have stated that they will consider manuscripts that conform to its requirements. This is the fourth edition of the Uniform Requirements, the first to be published in the Journal, which now serves as coordinator of the ICMJE in North America.

In January 1978 a group of editors from some major biomedical journals published in English met in Vancouver, British Columbia, and decided on uniform technical requirements for manuscripts to be submitted to their journals. These requirements, including formats for bibliographic references developed for the Vancouver group by the National Library of Medicine, were published in three of the journals early in 1979. The Vancouver group evolved into the International Committee of Medical Journal Editors. Over the years, the group has revised the requirements slightly; this is the fourth edition.

Over 400 journals have agreed to receive manuscripts prepared in accordance with the requirements. It is important to emphasize what these requirements imply and what they do not.

First, the requirements are instructions to authors on how to prepare manuscripts, not to editors on publication style. (But many journals have drawn on these requirements for elements of their manuscripts in the style).

Second, if authors prepare their manuscripts in the style specified in these requirements, editors of the participating journals will not return manuscripts for changes in these details - of style. Even so, manuscripts may be altered by journals to conform with details of their own publication styles.

Third, authors sending manuscripts to a participating journal should not try to prepare them in accordance with the publication style of that journal but should follow the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals."

Nevertheless, authors must also follow the instructions to authors in the journal as to what topics are suitable for that journal and the types of papers that may be submitted - for example, original articles, instructions are likely to contain other requirements unique to that journal, such as number of copies of manuscripts, acceptable languages, length of articles, and approved abbreviations.

Participating journals are expected to state in their instruction to authors that their requirements are in accordance with the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals" and to cite a published version.

This document will be revised at intervals. Inquiries and comments from Central and North America about these requirements should be sent to Editor, the New England Journal of Medicine, 10 Shattuck St., Boston, MA 02115; those from other regions should be sent to Editor, British Medical Journal, British Medical Association, Tavistock Sq., London WCIH 9 JR, United Kingdom. Note that these two journals provide secretariat services for the International Committee of Medical Journal Editors; they do not handle manuscripts intended for other journals. Papers intended for other journals should be sent directly to the offices of those journals.

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Type the manuscript double-spaced, including title page, abstract, text, acknowledgements, references, tables and legends.

Each manuscript component should beign on a new page, in the following sequence: title page; abstract and key words; text; acknowledgments; references; tables (each table complete

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The second page should carry an abstract (of no more than 150 words for unstructured abstracts or 250 words for structured abstracts). The abstract should state the purposes of the study or investigation, basic procedures (selection of study subjects or laboratory animals; observational and analytical methods), main findings (give specific data and their statistical significance, if possible), and the principal conclusions. Emphasize new and important aspects of the study or observations.

Below the abstract provide, and identify as such, 3 to 10 key words or short phrases that will assist indexers in crossindexing the article and may be published with the abstract. Use terms from the medical subject; headings (MeSH) list of *Index Medicus*; if suitable MeSH terms are not yet available for recently introduced terms, present terms may be used.

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Goate AM, Haynes AR, Owen MJ, Fan-all M, James LA, Lai LY, et al. Predisposing locus for Alzheimer's disease on chromosome 21. Lancet 1989; 1 : 352-5.

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Coffee drinking and cancer of the pancreas [editorial]. BMJ 1981; 293 : 628.

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Type each table double-spaced on a separate sheet. Do not, submit tables as photographs. Number tables consecutively in the order of their first citation in the text and supply a brief title for each. Give each column a short or abbreviated heading. Place explanatory matter in footnotes, not in the heading. Explain in footnotes all nonstandard abbreviations that are used in each table. For footnotes use the following symbols, in this sequence : *†, §, ||, ¶, **, ††.....

Identify statistical measures of variations such as standard deviation and standard error of the mean.

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The use of too many tables in relations to the length of the text may produce difficulties in the layout of pages. Examine issues of the journal to which you plan to submit your paper to estimate how many tables can be used per 1000 words of text.

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Journals that have notified the Inter national Committee of Medical Journal Editors of their willingness to consider for publication manuscripts prepared in accordance with earlier versions of the committee's uniform requirements identify themselves as such in their information for authors. A full list is available on request from the New England Journal of Medicine or the British Medical Journal. Citations of this document should be to one of the sources listed below.

International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals. N Engl J Med 1991; 324: 424-8

International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals. BMJ 1991; Feb 9; 302 (6772).

Reprinted from : N Eng J Med 1991; 324 : 424-8. Reprinted once before in Journal of Bangladesh College of Physicians Surgeons May 1991, Vol. 9 No. 2

COLLEGE NEWS

(J Bangladesh Coll Phys Surg 2003; 21 : 96-119)

EXAMINATION NEWS :

Result of FCPS Part I, FCPS Part II and MCPS Examinations held in January, 2003 were announced on the respective day, examination was held.

FCPS Part I Examination

3377 candidates appeared in FCPS Part - I Examination in various Specialitis held in January, 2003. Among them 501 candidates came out successful. Speciality-wise results are as follows :

Speciality	Number of candidates appeared	Number of candidates came out successful
Medicine	1068	120
Surgery	691	33
Paediatrics	374	77
Obst. & Gynae	635	140
Ophthalmology	123	31
Otolaryngology	97	27
Psychiatry	21	07
Anaesthesiology	75	11
Radiology	73	14
Radiotherapy	09	00
Dermatology & Venereology	75	24
Physical Medicine	15	02
Dental Surgery	44	05
Haematology	40	05
Biochemistry	03	00
Microbiology	17	02
Histopathology	17	03
Total - 17	3377	501

FCPS Part-II Examination :

The following candidates satisfied the Board of Examiners and are declared to have passed the FCPS Part II Examination of the Bangladesh College of Physicians and Surgeons held in January, 2003.

Roll No.	Name of Candidate	Graduated from	Speciality
11	Dr. Md. Rafiqul Alam	Rangpur Medical College	Medicine
14	Dr. Md. Delwar Hossain	Dhaka Medical College	Medicine
17	Dr. Md. Motahar Hossain	Sir Salimullah Medical College	Medicine
19	Dr. Muhammad Sohel Mofiz	Dhaka Medical College	Medicine
21	Dr. Md. Towhid Alam	Sir Salimullah Medical College	Medicine
22	Dr. Sk. Abdul Fattah	Dhaka Medical College	Medicine
25	Dr. Md. Shahriar Kabir	Rajshahi Medical College	Medicine
27	Dr. Md. Shafiqul Bari	Dhaka Medical College	Medicine
29	Dr. ATM Humayun Kabir	Dhaka Medical College	Medicine
34	Dr. Md. Moslem Uddin	Rajshahi Medical College	Medicine
35	Dr. Abu Mohd. Shafiqul Hasan	Dhaka Medical College	Medicine
37	Dr. Md. Azizul Haque	Dhaka Medical College	Medicine
38	Dr. Rubina Yasmin	Rajshahi Medical College	Medicine
40	Dr. Mohammad Robed Amin	MAG Osmani Medical College Sylhet	Medicine
42	Dr. Md. Golam Kibria	Dhaka Medical College	Medicine
43	Dr. Ahmedul Kabir	MAG Osmani Medical College Sylhet	Medicine
57	Dr. Md. Ashraf Uddin Chowdhury	Dhaka Medical College	Medicine
74	Dr. Md. Mustafizur Rahman	Mymensingh Medical College	Surgery
76.	Dr. Md. Shafiqul Islam	Mymensingh Medical College	Surgery
79	Dr. AKM Golam Kibria	Rajshahi Medical College	Surgery
81	Dr. Mohammad Mosabber Hossain	Rajshahi Medical College	Surgery
91	Dr. Md. Zakir Hossain	Sir Salimullah Medical College	Surgery
92	Dr. Md. Shafiul Alam	Rajshahi Medical College	Surgery
94	Dr. Suresh Kumar Tulsan	Rajshahi Medical College	Surgery
95	Dr. Rukun Uddin Chowdhury	MAG Osmani Medical College Sylhet	Surgery
96	Dr. Jahangir Md. Sarwar	Mymensingh Medical College	Surgery
97	Dr. Md. Ashraf-ul-Haque	Rajshahi Medical College	Surgery
106	Dr. Md. Mamunur Rashid	Dhaka Medical College	Surgery
107	Dr. Md. Monir Hossain Khan	Dhaka Medical College	Surgery
109	Dr. Sami Ahmed	Dhaka Medical College	Surgery
113	Dr. Md. Rezaul Karim	Rajshahi Medical College	Surgery
116	Dr. Md. Jahangir Hossain Bhuiyan	Chittagong Medical College	Surgery

Roll No.	Name of Candidate	Graduated from	Speciality
123	Dr. Md. Wahiduzzaman Mazumder	MAG Osmani Medical College Sylhet	Paediatrics
124	Dr. Rubiya Parvin	Sir Salimullah Medical College	Paediatrics
134	Dr. AKM Mahbubul Alam	MAG Osmani Medical College Sylhet	Paediatrics
145	Dr. Zahangir Alam	Dhaka Medical College	Obst. & Gynae
146	Dr. Kishwar Sultana	Dhaka Medical College	Obst. & Gynae
147	Dr. Parul Jahan	Dhaka Medical College	Obst. & Gynae
149	Dr. Ashia Khatun	Bangabundhu Sheik Mujib Medical University	Obst. & Gynae
150	Dr. Nargis Rafiqa Akhter	Sher-e-Bangla Medical College, Barisal	Obst. & Gynae
153	Dr. Gulshan-e-Jahan	Chittagong Medical College	Obst. & Gynae
157	Dr. Monira Rahman	Rajshahi Medical College	Obst. & Gynae
158	Dr. Irin Parveen Alam	Dhaka Medical College	Obst. & Gynae
163	Dr. Nazneen Ahmed	Rangpur Medical College	Obst. & Gynae
166	Dr. Nur Taj Khan	Sir Salimullah Medical College	Obst. & Gynae
167	Dr. Maherunnessa	Sir Salimullah Medical College	Obst. & Gynae
168	Dr. Kashefa Nazneen	Rajshahi Medical College	Obst. & Gynae
169	Dr. Saima Ahmed	Dhaka Medical College	Obst. & Gynae
172	Dr. Nasima Arjumand Banu	Dhaka Medical College	Obst. & Gynae
173	Dr. Rahima Akhter Begum	Bangabundhu Sheik Mujib Medical University	Obst. & Gynae
177	Dr. Sultana Kaniz Fahmida	Mymensingh Medical Collge	Obst. & Gynae
183	Dr. Md. Abdul Khaleque	Rajshahi Medical College	Ophthalmology
186	Dr. Mohammad Abdus Sattar	Sir Salimullah Medical College	Otolaryngology
187	Dr. Ashfaq Ahmad	Chittagong Medical College	Otolaryngology
189	Dr. Md. Salah Uddin	Dhaka Medical College	Otolaryngology
190	Dr. Nasima Akhtar	MAG Osmani Medical College Sylhet	Otolaryngology
191	Dr. Md. Delwar Hossain	Rajshahi Medical College	Otolaryngology
197	Dr. Quazi Al Mahmud Siddiqui	Chittagon Medical College	Anaesthesiology
198	Dr. Md. Iqbal Hossain Chowdhury	MAG Osmani Medical College Sylhet	Anaesthesiology
199	Dr. Ashia Khatun	Rangpur Medical College	Anaesthesiology
200	Dr. Mohammad Delwar Hossain	Sir Salimullah Medical College	Radiology
201	Dr. Md. Taharul Alam	Sher-e-Bangla Medical College, Barisal	Radiology
206	Dr. Md. Mizanur Rahman	Mymensingh Medical College	Haematology
207	Dr. Niru Nazmun Nahar	Mymensingh Medical College	Haematology
210	Dr. Mohammad Humayun	Mymensingh Medical College	Haematology
211	Dr. Mohammed Mosleh Uddin	Chittagong Medical College	Haematology
212	Dr. Gazi Md. Zakir Hossain	Rajshahi Medical College	Urology

MCPS Examination :

The following candidates satisfied the Board of Examiners and are declared to have passed the MCPS examination of the Bangladesh College of Physicians & Surgeons held in January 2003.

Roll No.	Name of Candidate	Speciality
2	Dr. Md. Mukhlesur Rahman	Medicine
8	Dr. Md. Azizur Rahman	Medicine
20	Dr. Anisul Awal	Medicine
33	Dr. Md. Abdul Khaleque	Medicine
51	Dr. Mohammad Abul Basher	Medicine
56	Dr. Md. Monjurul Haque	Medicine
83	Dr. Sheikh Zahid Boksh	Surgery
96	Dr. Md. Fazleh Rabby	Paediatrics
97	Dr. Md. Zakaria	Paediatrics
102	Dr. Khan Golam Mostafa	Paediatrics
104	Dr. Md. Atiqul Islam	Paediatrics
108	Dr. M.A. Hye	Paediatrics
109	Dr. Md. Rafiqul Islam	Paediatrics
112	Dr. Nasima Akther	Paediatrics
115	Dr. Md. Rabiul Islam	Paediatrics
119	Dr. Shahida Begum	Paediatrics
121	Dr. Zayeda Sultana	Paediatrics
127	Dr. Dalia Rahman	Paediatrics
131	Dr. Ayesha Nigar Nur	Paediatrics
133	Dr. Fatema Rahman	Paediatrics
134	Dr. Jasmin Ara Begum	Paediatrics
138.	Dr. Taslima Akhter	Paediatrics
142	Dr. Akhtari Hossain Chowdhury	Obst. & Gynae
143	Dr. Munira Rafat Chowdhury	Obst. & Gynae
154	Dr. Afroza Akhter Mazumder	Obst. & Gynae
159	Dr. Mst. Anjuman Ara Bulu	Obst. & Gynae
168	Dr. Md. Abu Naser	Obst. & Gynae
184	Dr. Md. Mahbub Alam	Otolaryngology
188	Dr. ASM Lutfur Rahman	Otolaryngology
189	Dr. Md. Abbas Uddin	Otolaryngology
191	Dr. Masroor Rahman	Otolaryngology
198	Dr. Md. Rafiqul Hasan Khan	Psychiatry
210	Dr. Md. Shamim Kabir Siddque	Psychiatry
224	Dr. Khaleda Pervin	Radiology
232	Dr. Md. Asaduzzaman Sheikh	Dental Surgery
234	Dr. Md. Ataur Rahman	Forensic Medicine
239	Dr. Indrajit Kundu	Family Medicine
245	Dr. Md. Shafiqul Islam	Family Medicine
253	Dr. Khan Md. Asadullah Hel Galib	Family Medicine
256	Dr. Dipak Kumar Mohanta	Clinical Pathology
262	Dr. Tibunnessa Fatema Khatun	Clinical Pathology

ELECTION NEWS

Councillor Election

The post of eight councillors were going to be vacant from 1st March 2003. To fill up those vacant posts of councillors, election was held on 28th February 2003. Following Fellows were elected as Councillors :

1. Professor Syed Atiqul Haq
2. Dr. Abu Zafar Md. Zahid Hossain
3. Professor Quazi Deen Muhammad
4. Professor AHM Towhidul Anwar Chowdhury
5. Professor SAM Golam Kibria
6. Professor Mahmud Hasan
7. Professor Md. Ruhul Amin
8. Professor Abdul Bayes Bhuiyan

The newly elected councillors will hold the office from 1st March 2003 to 28th February 2007. They will join with the following eight existing councillors elected earlier for the period of 1st March 2001 to 28th February 2005.

1. Professor Md. Abdul Mobin Khan
2. Professor Md. Abdul Hadi
3. Dr. TIM Abdullah-Al-Faruq
4. Professor Md. Tahir
5. Professor Md. Sanawar Hossain
6. Professor Nazmun Nahar
7. Professor MA Majid
8. Professor Chowdhury Ali Kawsar

The Ministry of Health & Family Welfare, Government of the People's Republic of Bangladesh has nominated following four Fellows as Councillors.

1. Professor MA Majed
2. Professor AHM Ahsanullah
3. Professor Tofayel Ahmed
4. Professor Md. Abdul Hadi Faquir

They will join the College Council with the sixteen elected councillors to make the twenty members college council. They will hold the office upto 28th February 2005.

Executive Committee Election

The election of the office bearers and members of the Executive Committee of Bangladesh College of Physicians & Surgeons was held on 6th March 2003. Following councillors were elected as office bearers and members of the Executive Committee :

President :
Professor Md. Abdul Hadi

Senior Vice-President :
Professor Md. Abdul Mobin Khan

Vice-President :
Professor MA Majid

Treasurer :
Professor Tofayel Ahmed

Members :
Professor AHM Towhidul Anowar Chowdhury
Professor AHM Ahsanullah

The newly elected office bearers & members of the Executive Committee will hold the office for 2 years from March 2003.

Appointment

The College Council has appointed Dr. Abu Zafor Md. Zahid Hossain as Honorary Secretary and Professor Quazi Deen Muhammad as Controller of Examinations of the college in its 1st meeting held on 12th March 2003.

The College Council has formed the following Committees and Faculties in its 1st meeting for smooth functioning of the college activities. The committees and faculties will hold the office for 2 years from March 2003.

EXAMINATION COMMITTEE

Chairperson

1. Professor Md. Abdul Mobin Khan
   Senior Vice-President, BCPS
   Treasurer & Professor of Hepatology
   BSMMU, Shahbag, Dhaka

Members

2. Professor T. A. Chowdhury
   Professor & Head of Obst. & Gynae
   BIRDEM Hospital, Dhaka.
3. Professor M. A. Majid
   Vice-President, BCPS
   Professor & Head of Surgery
   Dhaka Medical College, Dhaka

4. Professor Md. Tahir
Professor of Medicine &
Pro Vice-Chancellor
BSMMU, Shahbag, Dhaka

5. Professor A. B. Bhuiyan
Professor of Obst. & Gynae (Retd.)
42, Dhanmondi R/A
Road No. 4/A, Dhaka.

6. Professor Md. Abdul Hadi Faquir
Professor-cum-Director
National Institute of Ophthalmology
Sher-e-Bangla Nagar, Dhaka.

7. Professor K. M. Nazrul Islam
Professor of Pathology (Retd.)
"Padma Complex"
57/15, East Razabazar
West Panthapath, Dhaka-1215.

8. Professor M. A. Mannan Miah
Prof. of Paediatric & Pro Vice-Chancellor
BSMMU, Shahbag, Dhaka

REFERENCE COMMITTEE

Chairperson

1. Professor Md. Abdul Hadi
President, BCPS & Vice Chancellor
BSMMU, Shahbag, Dhaka

Members

2. Professor A.H.M. Ahsanullah
Professor of Neurosurgery (Retd.)
64, Central Road, Dhanmondi, Dhaka.

3. Professor Tofayel Ahmed
Principal & Professor of Medicine
Dhaka Medical College, Dhaka

4. Dr. T.I.M. Abdullah-Al-Faruq
Associate Professor of Surgery
Shaheed Suhrawardy Hospital Dhaka.

5. Professor M. A. Kashem Khandaker
Professor of Medicine
SSMC & Mitford Hospital, Dhaka.

6. Dr. Mohammad Saiful Islam
Associate Professor of Paediatric Surgery
BSMMU, Shahbag, Dhaka

FINANCE AND TENDER COMMITTEE

Chairperson

1. Professor M. A. Majid
Vice-President, BCPS
Professor & Head of Surgery
Dhaka Medical College, Dhaka

Members

2. Professor A.H.M. Ahsanullah
Professor of Neurosurgery (Retd.)
64, Central Road, Dhanmondi, Dhaka.

3. Professor Tofayel Ahmed
Principal & Professor of Medicine
Dhaka Medical College, Dhaka

4. Professor Sultana Jahan
Professor & Head of Obst. & Gynae
Dhaka Medical College, Dhaka

5. Professor K.M.H.S. Sirajul Haque
Professor & Chairman of Cardiology
BSMMU, Shahbag, Dhaka

6. Professor Nazmun Nahar
Professor & Head of Paediatrics
Dhaka Medical College, Dhaka

7. Dr. (Major General) Ziauddin Ahmed
Consultant Physician, Bangladesh Arm Forces
DGMS, Dhaka Cantt., Dhaka.

8. Dr. (Brig. Gen.) Md. Ali Akbar
Consultant Surgeon
Bangladesh Armed Forces
DGMS. Dhaka Cantt., Dhaka.

9. Professor Mohammad Hanif
Professor of Paediatrics
Bangladesh Institute of Child Health, Dhaka

10. Professor Humayun Kabir Chowdhury
Professor of Surgery
BIRDEM Hospital, Dhaka.

11. Professor Selim Md. Jahangir
Professor of Anaesthesiology
ICMH Matuail, Dhaka.

12. Professor Syed Atiqul Haq
Professor of Medicine
BSMMU, Shahbag, Dhaka

13. Dr. A.N.M Zia-ur-Rahman
Associate Professor of Surgery
Dhaka Medical College, Dhaka

14. Dr. Md. Abdul Quadir
Associate Professor of Otolaryngology
Dhaka Medical College, Dhaka

14. Dr. Parveen Shahida Akhter
Associate Professor of Radiotherapy
Dhaka Medical College, Dhaka

DISCIPLINARY COMMITTEE

Chairperson

1. Professor M. A. Matin M.P.
   Professor of Ophthalmology (Retd.)
   116. Shantinagar. Dhaka.

Members

2. Professor A.H.M. Ahsanullah
   Professor of Neurosurgery (Retd.)
   64. Central Road, Dhanmondi, Dhaka

3. Professor T.A. Chowdhury
   Professor & Head of Obst & Gynae
   BIRDEM Hospital, Dhaka

4. Professor Md. Abul Quasem
   Professor of Anatomy (Retd.)
   Road No. 5, Dhanmondi R/A
   Dhaka

5. Professor Md. Tahir
   Professor of Medicine &
   Pro Vice-Chancellor
   BSMMU, Shahbag, Dhaka

6. Professor A .K.M. Mahbubur Rahman
   Professor of Surgery
   BSMMU, Shahbag, Dhaka

MUSEUM COMMITTEE

Chairperson

1. Professor Anowara Begum
   Professor of Obst. & Gynae (Retd.)
   57/1, Chamelibagh,
   3rd Lane Santinagar. Dhaka

Members

2. Professor A. K. M. Anowarul Azim
   Professor of Obst. & Gynae (Retd.)
   Flat D/3, House 72, Road 11 /A
   Dhanmondi R/A, Dhaka.

3. Major General A.S.M. Matiur Rahman
   Commandant AFIP
   Dhaka Cantt. Dhaka.

4. Professor Syed Mukarram Ali
   Professor of Pathology
   Prime View. Flat 204,
   7, Gulshan Avenue (S E)
   Gulshan - 1, Dhaka-1212.

5. Professor S. A M. Golam Kibria
   Professor of Urology
   BSMMU, Shahbag, Dhaka.

6. Professor Shafiqul Haque
   Professor & Chairman
   Department of Paediatric Surgery
   BSMMU, Shahbag, Dhaka

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   Professor & Head of Obst. & Gynae
   ICMH, Matuail, Dhaka.

8. Professor Md. Khademul Islam
   Professor & Head of Surgery
   Sir Salimullah Medical College, Dhaka

9 Dr. (Brig. Gen.) Nazrul Islam
   Cl. Specialist &. Advisor, Ophthalmologist
   CMH. Dhaka Cantt. - Dhaka.

10. Dr. Ahmed Sayeed
    Assistant Professor of Surgical Oncology
    National Institute of Cancer Research
    & Hospital, Mohakhali. Dhaka.

11. Dr. Manzare Shamim
    Associate Professor of Anatomy
    BSMMU, Shahbag, Dhaka

12. Dr. Md. Mazibar Rahman
    Associate Professor of Surgery
    Mymensingh Medical College
    Mymensingh.

13. Dr. Maliha Rashid
    Associate Professor of Obst. & Gynae
    Dhaka Medical College, Dhaka

14. Dr. Kamal Ibrahim
    Associate Professor of Anaesthesiology
    Bangladesh Medical College
    Dhanmondi, Dhaka.

15. Dr. Feroze Quader
    Associate Professor of Surgery
    House No. 11, Road No. 2/A
    Banani, Dhaka-1213.

16. Dr. Farhat Hossain
    Assistant Professor of Obst. & Gynae
    136, New D.O.H.S., Lane - 5
    Eastern Road, Mohakhali, Dhaka.

17. Dr. Ferdousi Sultana
Assistant Professor of Obst. & Gynae
Rangpur Medical College, Rangpur

18. Dr. Farida Yesmin
Assistant Professor of Obst. & Gynae
287/G, Nayatola, Moghbazar, Dhaka.

19. Dr. Md. Shahab Uddin Talukder
Medicine Specialist
110/1, Bashir Uddin Road
Kalabagan, Dhaka.

Member Secretary

20. Dr. A.M.S.M. Sharfuzzaman
Associate Professor of Surgery
SSMC & Mitford Hospital Dhaka.

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Professor of Neurosurgery (Retd.)
64, Central Road, Dhanmondi, Dhaka.

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26-G, Mitali Road, West Dhanmondi
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Dhaka Medical College, Dhaka

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Professor of Paediatrics
Bangladesh Institute of Child Health
Sher-e-Bangla Nagar, Dhaka.

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Professor & Head of Surgical Oncology
National Institute of Cancer Research &
Hospital, Mohakhali, Dhaka.

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CMH, Dhaka Cantt., Dhka.

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& Reconstructive Surgery
CMH, Dhaka Cantt., Dhaka.

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CMH, Jessore Cantt., Jessore.

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BSMMU, Shahbag, Dhaka

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SSMC & Mitford Hospital, Dhaka.

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Assistant Professor of Paediatric Surgery
Sher-e-Bangla Medical College
Barisal.

14. Dr. Maliha Rashid
Assoc. Prof. of Obst. & Gynae
Dhaka Medical College, Dhaka

15. Dr. Muhammad Ali
Consultant, Anaesthesiology
Holy Family Red Crescent Hospital
Maghbazar, Dhaka.

16. Dr. S. M. Amjad Hossain
Associate Professor of Surgery
Shaheed Suhrawardy Hospital, Dhaka.

17. Dr. A. B. M. Yunus
Associate Professor of Haematology
BSMMU, Shahbagh, Dhaka.

18. Dr. Md. Shahadot Hossain Sheikh
Junior Consultant, Casualty Surgery
Dhaka Medical College Hospital, Dhaka

19. Dr. Md. Roushon Ali
House No. 7, Rod No. 4
Sector - 4, Uttara, Dhaka.

20. Dr. Mahfuza Shireen
13/5/A-1, Road No. 2
Shamoli, Dhaka-1207.

21. Dr. Shah Habibur Rahman
House No. 140, Lane No. 4
New DOHS, Mohakhali, Dhaka.

22. Dr. Md. Abdul Kader
Medicine Specialist
Room No. 405, Block – A
BSMMU, Shahbagh, Dhaka.

Member Secretary

23. Dr. Feroze Quader
Associate Professor of Surgery
House No. 11, Road No. 2/A
Banani, Dhaka.

JOURNAL COMMITTEE

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Prof. of Otolaryngology (Retd.)
152/2-B, Green Road, Dhaka.

Members

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Dhaka Medical College, Dhaka

4. Professor Tofayel Ahmed
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18. Professor Rowshan Ara Begum
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FACULTY OF ANAESTHESIOLOGY

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FACULTY OF PHYSICAL MEDICINE

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FACULTY OF RADIOLOGY & RADIOTHERAPY

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FACULTY OF PSYCHIATRY

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FACULTY OF OTOLARYNGOLOGY

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FACULTY OF BASIC MEDICAL SCIENCES

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12. Professor Badrul Islam
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13. Professor Motahar Hossain
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15. Professor Nayeema Moazzem
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16. Professor Abdullah Akter
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17. Professor Md. Sahadat Hossain
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19. Brig. Gen. Md. Jalal Uddin
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21. Dr. (Col.) Shahzadi Nilufar
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23. Dr. Nadira Islam
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24. Dr. Nilufar Sultana
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25. Dr. (Lt. Col.) Zahid Mahmud
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26. Dr. Zinnat Ara
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Member Secretary

27. Professor Mohammad Mozarnmel Haque
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OBITUARY NOTE

The Council of Bangladesh College of Physicians and Surgeons and its Executive Committee, on behalf of all Fellows and Members of the College, wish to express their deep condolence for the premature and untimely death of the following Fellows of the College, who were always highly regarded as forerunners and very valued members of medical fraternity :

1. Prof. S.A. Sobhan
   Retired as Professor of Radiology

2. Prof. A.K. Khan
   Retired as Professor of Medicine

3. Prof. Md. Abdul Latif
   Retired as Professor of Medicine & Principal

4. Prof. Md. Samaruddin
   Retired as Professor of Surgery

5. Dr. AFM Yusuf
   Joined in Foreign Service and
   Retired as High Commissioner of UK

6. Prof. Md. Fazlul Karim
   Retired as Professor of Physiology

The medical community and the nation as a whole would always remember with great admiration the contribution of the above Fellows of the College in the field of medical science and other development areas. People, of their stature with width of their accomplishments are hardly replaceable. Their absence is always felt with pain and anguish by their colleagues, friends and admirers. The College Council, the Executive Committee, and the Fellows and Members of the College are none but the colleagues, friends and admirers of those great souls.

They will be deeply missed, now and always.

May Almighty rest them in peace.