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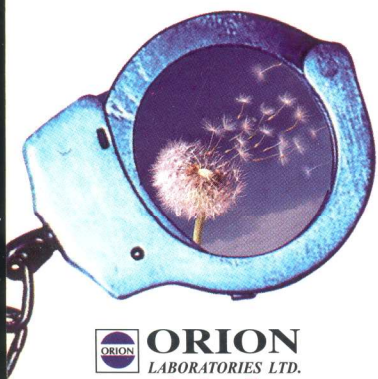
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"The ORION", touches its 10 years landmark

"The ORION" reaches its '10 years landmark' in September, 2008. Continuity is not the only thing; "The ORION" has achieved a number of successful things within these 10 years that a complete journal needs. Now "The ORION" possesses the strongest advisory and review board, quality articles, aristocratic presentation, online facility, ISSN & Copyright numbers which are the key factors to attract the attention of its authors & readers nationally and internationally. "The ORION" today is one of the mostly accepted journals in Bangladesh with highest number of publication. This 31st volume compiles 6 original articles and 3 review articles.

Editorial of this volume 'Combined drug treatment is the best alternative for the treatment of allergic rhinitis (AR) or seasonal allergic rhinitis (SAR)' conveys that trio-combination of fexofenadine + pseudoephedrine + topical steroid is more effective than pseudoephedrine alone (P-578).

The 1st original article on 'A Comparative study between the outcome of very low birth weight and low birth weight hospitalized babies' describes the importance of identifying the risk factors associated with LBW & VLBW. The article assures that the morbidity and mortality from LBW & VLBW babies will be reduced considerably by proper health education, improved antenatal care, prompt identification, proper referral, better nursing care and management (P-579). The 2nd one 'Neuroendoscopic surgery for colloid cyst of the third ventricle: Review of 2 cases' presents two rare cases of colloid cyst in the third ventricle which were removed by neuroendoscopic surgical procedure successfully (P-583). The 3rd original article 'Biliary ascariasis: Experience from a district hospital' figures out the situation of biliary ascariasis. The article summarizes that biliary ascariasis is common in female where intestinal ascariasis is endemic and conservative management along with antihelminthic medications are the choices of treatment, surgical intervention or ERCP is required if failed (P-585).

The 4th original article 'Outcome of pregnancy with history of previous cesarean section' narrates a prospective study that find out the maternal antepartum & intrapartum complications as well as perinatal outcome in the patients with history of cesarean section. The article revealed that, previous cesarean section related antenatal complications were not very high but a significant number of cases had per-operative complications (P-588). 5th original article 'Millennium development goal 4 & 5 (MDG 4 & 5): Where we are and what needs to be done' shows the scenario of women negligence and male dominance over them in our country. The article also reminds us the 8 Millennium Development Goals that to be achieved by 2015 (P-591). The last original article 'Epidemiology of encephalitis in children in the northern districts of Bangladesh' analyzes the 298 cases of acute encephalitis in children and concludes that malnourished and rural children are more sufferers of encephalitis in Bangladesh (P-594).

The 1st review 'Isolated Systolic Hypertension- A robust risk factor for cardiovascular diseases' shows the alarming prevalence of ISH in elderly population. The article emphasizes on the consistent treatment of ISH to prevent the disabling events like stroke, heart failure, coronary and peripheral vascular diseases (P-597). The 2nd review article on 'Coronary angiogram: An author view' describes one of the most accurate tests in the diagnosis of coronary artery disease, coronary angiogram in brief along with its types and complications. The article also suggests what should the treatment choice following an angiogram (P-599). The last one is 'Role of Radioiodine in therapy: A review' accounts that thyroid disorders are global health problems with an endemic prevalence in Bangladesh. It also details therapeutic advantage and limitation of nuclear medicine especially radioactive iodine for treatment of thyroid disease (P-602).

Further opinion and suggestions are highly encouraged for development of the ORION. The journal makes freely available at www.orion-group.net/journals for contributing the advancement of public health and medical research. For reproducing multiple copies of any of 'The ORION' articles, please e-mail: orionjournal@yahoo.com / msdorion@yahoo.com / journal@orion-group.net & mention the article title, author's name, volume, page number, year of publication and mostly the purpose for reproducing.

May the Almighty bless all in the spirit of good health.



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Combined drug treatment is the best alternative for the treatment of allergic rhinitis (AR) or seasonal allergic rhinitis (SAR)

Datta PG¹, Roy JS²

The ORION 2008; 31: 578

Allergic rhinitis (AR) or seasonal allergic rhinitis (SAR) whatever it may be, very easy to diagnose and hard to find out the aetiology. Treatment of the cause is hypothetical or presumptive in most of the cases. Allergic rhinitis (AR) with pregnancy, especially its first trimester is very difficult to treat. As most of the antihistaminic irrespective of its generation is supposed to be teratogenic, only mebhydroline claims itself non-teratogenic.

The triggering factor differs with socio-geographical variation. In Bangladesh, damp housing, air pollution are sometimes considered as one of the most important causes. In the US ragweed pollen is one of the most common allergens affecting upto 75% of all the subjects with allergic rhinitis¹.

It has been estimated that 20% to 30% of adolescents have allergic rhinitis¹. Approximately two thirds of all adults with the disease are under the age of 30 years². This condition imposes a significant personal and financial strain on both the patient and the society. The unrelenting and often severe clinical symptoms not only debilitating but also socially embarrassing for the patients and can effect their social life³. The economic burden of allergic rhinitis is enormous. In the US, for example there is an estimated cost of \$2.4 billion in total annual medical cost in association with allergic rhinitis⁴. Apart from financial loss, loss of working hour and general failure to perform in full efficiency is also a great indirect loss.

So far, antihistamine is the drug of choice for both AR and SAR⁵. In addition topical steroid spray with antihistamine gives better result. It has been seen that occasionally allergic rhinitis associates with bronchospasm, in that case antiallergic drug of any generation aggravates the bronchospasm. In SAR the H₁ receptor antagonists are most commonly used drug⁶. First generation antihistamines are associated with sedation, newer second generation agents have less side effects that's why they can be used for effective relief of allergic symptoms^{7,8}.

Fexofenadine, the active metabolic of the well known and effective H₁ receptor antagonist, terfenadine, is administered as the hydrochloride salt^{9,10}. It is a non-sedating antihistamine that provides rapid, long acting highly selective peripheral H₁ receptor antagonist activity. Metabolism of fexofenadine is also non-injurious to any organ or system and is excreted in faces and urine.

Combination therapy is significantly more effective than pseudoephedrine alone. What I mean fexofenadine and pseudoephedrine is a better choice than first generation. More effective is combination of three i.e. fexofenadine + pseudoephedrine + topical steroid. The trio-combination may give 90% relief with or without relapse. In between the use of this three drug combination therapy, electro-cauterization of

the trigger zone or the inferior turbinate may end with a better result. Finally, "avoid allergen, get healthy and keep away asthma".

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The followings are the minimum requirements for manuscripts submitted for publication -

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A comparative study between the outcome of very low birth weight and low birth weight hospitalized babies

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Abstract

Background: Mortality and morbidity among low birth weight babies are a major public health problem in our country. The objective of care is to protect these infants from these hazards in the first days and weeks of life. It is important to identify risk factors associated with LBW & VLBW. **Objective:** The present hospital based clinical prospective study was designed to investigate the factors associated with very low birth weight and their comparative morbidity and mortality with that of low birth weight and its adverse outcome. **Method:** One hundred (100) low birth weight babies were studied, among which 50 were weighed <1500 gm and 50 were 1500-2500 gm who were admitted in the special baby care unit of Dhaka Shishu Hospital during July 2004 to June 2005. Detailed history was recorded from the mother or attendants. Admission weight of the babies was recorded and gestational age was determined by maternal records. Anthropometric indices, socioeconomic status & demographic data were recorded. Informed consent was taken from the participating mothers. Clinical presentation during hospital stay and outcome were compared. **Results:** VLBW (86%) and LBW (84%) were significantly proportional to the gestational age ($p<0.001$). Higher incidence of VLBW is significantly related to mode of delivery ($p<0.01$), trauma during pregnancy ($p<0.001$) and multiple pregnancy ($p<0.05$). Abnormal presentation, toxemia of pregnancy and caesarian section were more common in LBW than VLBW babies. 50.9% of VLBW and 49.1% LBW were admitted only due to their prematurity. Regarding the clinical profile birth asphyxia was more common in LBW babies (57.10%) than VLBW (42.90%) babies which was statistically highly significant ($p<0.001$). Anaemia, jaundice, sepsis and apnoea were the commonest presentation during hospital stay. Sepsis, apnoea, DIC, NEC and hypothermia were the more common among VLBW babies. The cause of high mortality of very low birth weight was sepsis, necrotizing enterocolitis (NEC), disseminated intravascular coagulation (DIC). Cure rate was higher in LBW (64.60%) babies than that of VLBW (35.40%) babies and death rate was significantly ($p<0.01$) higher in VLBW (69.23%) than that of LBW (30.77%) babies. **Conclusion:** Morbidity and mortality from VLBW & LBW will be reduced considerably by proper health education and improved antenatal care, prompt identification, proper referral, better nursing care and management.

Key words

VLBW, LBW, Clinical presentation, outcome

Introduction

The very low birth weight babies are at risk from a wide range of hazards resulting from immaturity of structure and function of various organs¹. The objective of care is to protect these babies from these hazards in the first day and weeks of life. Each year 20 million of babies are born weighing less than 2500 gm. 95% of them in developing countries². Low birth weight (LBW) babies are 6.6 times more prevalent in developing countries while prematurity is only twice as high. Some neonatal risk factors vary with weight, gestational age and birth weight for gestational age³. It is important to identify these risk factors so that appropriate measures can be taken. Mortality and morbidity among low birth weight babies is a major health problem in our country. Infant mortality rate in our country is amongst the highest in the world. It is estimated to be 58 per 1000 live birth (State of World Children, 2001). About 60% of the infant's death occur in the neonatal period in rural Bangladesh⁴. Deaths of low birth weight infants are 20 times more frequent than deaths of newborn of normal weight (State of World Children, 1996).

Birth weight is the single most determinant of survival, subsequent growth and development of a child. It is strongly conditioned to be the intrauterine environment and thereby reflect the maternal nutrition and health status (Birth weight reporting project, 1993-1995). Factors affecting fetal growth are complex, numerous and may be interrelated. Maternal factors like nutritional status, age, parity, weight gain during pregnancy and utero-placental circulation is considered to be important factors affecting birth weight. An interrelationship exists between the adverse environment in which pregnant women live such as excessive physical work, lack of safe water, illiteracy, poverty and the growth of the fetus. Among these factors maternal under-nutrition, teenage pregnancy, poor antenatal care and nutritional education may play central role in causing delivery of LBW babies⁵.

Maternal nutritional status shows positive correlation with weight of the babies. The average weight and height of the mother are 42 kg and 150 cm as against 58 kg and 162 cm of english mother respectively. Identification of the above risk factors prevailing in our country and clinical profile of LBW babies will enable planners to develop specific intervention to overcome these risk factors and thus decrease the incidence of LBW babies and their adverse outcome. Therefore present study was designed to see the factors associated very low birth weight and their comparative morbidity and mortality with that of low birth weight which may help in their preventive and curative measures.

Materials and methods

A prospective study was carried out in the special baby care unit of Dhaka Shishu (Children) Hospital during July 2004 to June 2005. About one hundred (100) low birth weight babies,

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among which 50 were weighed <1500 gm and 50 were 1500 - 2500 gm. For each baby detailed history was recorded in questionnaire from the mother or attendants. Admission weights of the babies were recorded by electronic weighing scales. Gestational age was determined by maternal records, Dubowitz scoring system and also by the Ballard's system. Histories of cry or breathing after birth, apnoea, cyanotic, convulsion, respiratory distress etc. were also noted. Anthropometric indices, socioeconomic status & demographic data were recorded. Informed consent was taken from participating mothers. Clinical presentation during hospital stay and outcome were compared between babies of birth weight <1500 gm and 1500-2500 gm. All laboratory investigations done in the hospital for establishing the diagnosis were also noted correctly. Standard management of the LBW was offered according to the individual needs. Regular progress of each of the infant was strictly followed up. Neonates having congenital anomaly, facial dysmorphism, chromosomal aberration were excluded from the study population. It was a single center study, done for short period of time.

The data obtained were subjected to statistical analysis according to standard procedure. Chi-Square (X^2), Student's test, ANOVA (F) tests were used according to requirement and type of variables appropriate for the analytical purpose.

Observations and results

The present prospective clinical study has been carried out in the neonatal unit of medicine department DSH to show the predisposing factors, relative morbidity and mortality of low birth weight babies. In the present series 100 new born babies patients low birth weight of both sexes were treated from special baby care unit of DSH during the study period, between July 2004 to June 2005.

Table 1: Socio-economic characteristics of the neonates (n=100)

Socio-demographic characteristics		Neonate weight <1500 gm	Neonate weight >1500 gm
Sex	Male	31	28
	Female	19	22
Residence	Urban	23	30
	Rural	26	18
	Slum	1	2
Socio-economic class	Low	3	5
	Middle	20	23
	High	27	22
Mothers education	<SSC	24	28
	>SSC	26	22
Total		50	50

The Table 2 shows that VLBW (86%) and LBW (84%) were significantly related to gestational age ($p<0.001$). There was no antenatal check up in 54.40% in VLBW babies and 45.60% of LBW babies but there was no significant difference regarding antenatal check up between two groups. There were no maternal diseases in 52.60% and 47.40% cases of VLBW and LBW babies respectively. Obstetrical problem was not present in 54.50% and 45.50% cases of VLBW & LBW babies respectively. Premature rupture of membrane was common among VLBW and toxemia of pregnancy was frequent among LBW babies. History of trauma was more associated among the mother of VLBW babies ($X^2=67.240$, $df=1$, $p<0.001$). There was significantly high

incidence of LBW (71.40%) deliveries in case of cesarian section deliveries in comparison to VLBW (28.60%) deliveries ($X^2=7.143$, $df=1$, $p<0.01$). There was significantly ($X^2=9.474$, $df=3$, $p<0.05$) high rates of abnormal presentation in LBW (75%) than VLBW

Table 2: Obstetrical history of the neonates (n=100)

Obstetrical History		Neonate weight <1500 gm	Neonate weight >1500 gm
Gestational age	<33	43	6
	33-37	6	36
	>37	1	8
Antenatal check up	Yes	13	19
	No	37	31
History of previous abortion	Yes	6	5
	No	44	45
Parity	Primi	24	18
	Multi	26	32
Multiple pregnancy	Yes	8	2
	No	42	48
Maternal disease	Diabetes	50	1
	Hypertension		2
	Jaundice		2
	No problem		45
Obstetrical problems	Toxaemia of pregnancy	5	13
	Antepartum hemorrhage	4	3
	Premature rupture of membrane	11	9
	Without problem	30	25
Place of delivery	Home	13	18
	Clinic/Hospital	37	32
Mode of delivery	Normal	42	30
	Caesarian/Forceps	8	20
Presentation	Vertex	44	32
	Breech		4
	Face		1
	Others	6	13

Table 3: Gestational age (n=100)

Gestational age	Babies weighing <1500 gm	Babies weighing >1500 gm
<33 wks	43	6
33-37 wks	6	36
37-42 wks	1	8

$X^2=185.44$, $df=98$, $p<0.001^{**}$ (** highly significant)

Table 4: Clinical presentation (n=100)

Clinical presentation	Babies weighing <1500 gm	Babies weighing >1500 gm
Birth asphyxia	12	16
Breathing difficulty	1	
Jaundice	1	3
Lethargy	1	
Hypothermia	2	2
Others	4	1
Without problems	29	28

$X^2=185.44$, $df=4$, $p<0.001$

(25%). There was significantly ($\chi^2=4.000$, $df=1$, $p<0.05$) high incidence of multiple pregnancies in case of VLBW (80%) deliveries in comparison to LBW (20%) deliveries.

Table 4 depicts that birth asphyxia was more common clinical profile in LBW babies (57.10%) than VLBW (42.90%) babies which was statistically highly significant ($p<0.001$). The causes of high mortality of very low birth weight babies were sepsis, necrotizing enterocolitis (NEC), disseminated intravascular coagulation (DIC).

Table 5: Physical findings and other associated conditions (n=100)

Physical findings and other associated conditions	Babies weighing <1500 gm	Babies weighing 1500-2500 gm
Anemia	37	35
Jaundice	43	49
Pneumonia	2	
Sepsis	25	16
Skin infection	2	2
Apnoea	19	12
Convulsion		1
Meningitis	2	2
PDA	2	1
DIC	6	2
Diarrhea	1	4
Hypothermia	5	2
NEC	4	
Others	18	10

Table 5 shows that anemia, jaundice, sepsis and apnoea were the commonest presentation during hospital stay. Anemia, jaundice, sepsis and apnoea were present in 51.40%, 46.70%, 61%, 61.30% cases respectively of VLBW babies and 48.60%, 53.30%, 39%, 38.70% cases of LBW babies. Necrotizing enterocolitis was present only in 4 cases of VLBW babies and it was statistically significant ($\chi^2=84.64$, $df=1$, $p<0.001$). Sepsis, apnoea, DIC, NEC and hypothermia were more common among VLBW babies.

Table 6: Outcome of studied LBW babies (n=100)

Outcome	Babies weighing <1500 gm	Babies weighing >1500 gm
Cured and discharged	17	31
Improved and DOR	1	
DORB	5	6
Death	27	13

$\chi^2=11.943$, $df=4$, $p<0.01$

The Table 6 shows that cure rate was higher in LBW (64.60%) babies than that of VLBW (35.40%) babies but death rate was significantly ($p<0.01$) higher in VLBW (69.23%) babies than that of LBW (30.77%) babies.

Table 7: Death related to obstetrical problem of mother

Obstetrical problems of mothers	Babies weighing <1500 gm (n=27)		Babies weighing >1500 gm (n=13)	
	Total	Death	Total	Death
Toxaemia of pregnancy	5	3(60%)	13	2(15.38%)
PROM	14	11(78.57%)	9	4(44.44%)
APH	4	2(50%)	3	-

Discussion

In this study the babies from rich socioeconomic status constituted the major part, followed by middle and low (8%). This finding is not consistent with others (Islam, 1996). This may be due to the fact that high and middle socioeconomic classes are more health conscious and they can afford the hospital and other expenses than the poor classes.

Neonatal outcome specially that of low birth weight infants reflect the standard of perinatal care of a country. Both pre-term and low birth weight have long been identified as the two most critical risk factors for mortality and morbidity (Klaus MH, 1986). LBW infants constituted 40% of the total neonatal admission in the present study. Comparable observations were made by Khan MR in 1975 newborn infants in a study in Dhaka city (Khan MR, 1978) and also recently shown by Canosa C and Rahman SA who found an incidence of 45.4% and 47.4% respectively.

Although the overall standard of neonatal service has improved in Bangladesh since early nineteen eighties onward, the survival of LBW infants has not yet changed. The limitations are mainly in terms of technology and nursing support to ensure the continuity of care. The overall survival and mortality observed in the present study were 48% and 40% respectively, similar observation were also made by Begum HA who found an mortality and survival of about 51% and 34.4% respectively.

But when compared among the individual group, the mortality increased significantly from LBW (above 1500 gm) to VLBW (less than 1500 gm) which is 30.77% and 69.23% respectively and which is statistically significant ($p<0.01$). The similar trend of significant increase in mortality with decrease in birth weight was also observed by them.

Any discussion of the clinical profile of VLBW infants must take into account perinatal factor of the infant under review. There is a direct relationship between maternal disease during pregnancy and outcome of the foetus (Ali MM et. al. 1989). In the series among the mothers of less than 1500 gm babies, 14 having history of prolong rupture of membrane and among them 11 died. There are 9 mothers having history of PROM of babies weighing more than 1500 gm, among them 4 died. Nelson KB et. al. has shown that PROM is associated with delivery of VLBW infants. PROM as adverse effect on continuation of pregnancy and also affect outcome of infants due to greater chance of infection.

In this study 5 mothers of VLBW babies had toxemia of pregnancy among them 3 died but 13 mothers of toxemia of pregnancy among them 2 died, 9 cured and discharged and 2 DORB. Merchant and Seth showed that 17% of mother of SFD infants had toxemia of pregnancy. Antepartum haemorrhage is a common maternal problem and associated with birth of VLBW babies (Singh M, Indian Pediatric) 10% of the mothers in this series had antepartum haemorrhage both in VLBW and LBW babies. Ali MM et. al. also found 14% of the mother on their series had antepartum haemorrhage in a study of VLBW infants which is comparable to this study.

Conclusion

The most of the patient came from higher and middle socio-economic background in comparison to lower income class.

Inadequate antenatal check up, PROM, trauma during pregnancy and multiple pregnancies were more common among VLBW than LBW babies. Abnormal presentation, toxemia pregnancy and caesarian section are more common in LBW than VLBW babies. 50.9% of VLBW and 49.1% LBW admitted only due to their prematurity and LBW. Among the clinical presentation birth asphyxia was the commonest manifestation. Other reasons for admission of the low birth weight babies are jaundice, lethargy, hypothermia and breathing difficulty. Anaemia, jaundice, sepsis and apnoea were the commonest presentation during hospital stay. Sepsis, apnoea, DIC, NEC and hypothermia were more common among VLBW babies.

This study showing higher incidence of very low birth weight (1500 gm) babies with higher morbidity and mortality as compared to low birth weight babies above 1500 gm is significantly related to inadequate antenatal check up, maternal trauma during pregnancy, premature rupture of membrane which can be reduced by proper health education and improved antenatal care. If the birth weight can be increased to 1500 gm or more morbidity and mortality will be reduced considerably.

The causes of high mortality of very low birth weight like sepsis, necrotizing enterocolitis (NEC), disseminated intravascular coagulation (DIC) etc. are also preventable by prompt identification, proper referral, better nursing care and management.

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Pep Syrup

Pep-2 Syrup

pep-20 Syrup

pep plus Syrup

pep-20 Tablet

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Neuroendoscopic surgery for colloid cyst of the third ventricle : Review of 2 cases

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The ORION 2008; 31: 583-584

Summary

Colloid cyst of the third ventricle¹ is a relatively rare intracranial tumor. It generates tremendous interest for the neurosurgeon because of its benign nature, deep location and an excellent prognosis when diagnosed early and excised. However the treatment of this benign tumor remains controversial and the best surgical option has not been established. Microsurgical resection or ventriculoperitoneal shunt placement was for a long time the only means of treatment for patients with colloid cysts. In the past few years, however, endoscopic procedures have gained increasing significance and have been used more widely. In BSMMU endoscopic treatment for colloid cyst was performed recently in two cases. The technique, consisting of cyst fenestration, aspiration of the colloid and removal of the internal layer of the wall, was effective in restoring CSF circulation. In the early postoperative period, both the patients had excellent outcome, with clinical signs improving immediately. The analysis of immediate postoperative computed tomographic scan revealed no remaining cyst wall and decrease in ventricular size to some extent. Continued improvement of endoscopic techniques and instruments, together with good short-term results in endoscopically treated patients have established this method as an alternative to microsurgical techniques and might even set a new standard for treatment.

Introduction

Colloid cysts are benign congenital tumors that almost always arise from the anterior third ventricle (immediately posterior to the foramen of Monro)^{1,8}. These epithelium-lined cysts are problematic because of their location; colloid cysts can cause serious morbidity and acute obstructive hydrocephalus that may lead to occasional mortality^{2,3}.

Approximately 0.5-1% of all primary brain tumors and 15-20% of all intraventricular masses (most common) are colloid cysts². The usual location of colloid cyst at the level of foramen of Monro have led at least four theories of pathogenesis. Derivation from choroidal epithelium, from ependymal cells, and from paraphysis have been described. In addition Hiron et. al. 1978 suggest that colloid cysts arise from an endodermal source rather than neuroepithelial sources¹⁵.

In 1910, Sjovald hypothesized that colloid cysts were remnants of the paraphysis, an embryonic midline structure within the diencephalic roof immediately rostral to the telencephalic border. The cells of the paraphysis are similar to those found in colloid cysts^{6,7} associated with falls without loss of consciousness

has been reported^{8,10}. Colloid cyst may obstruct the foramen of Monro completely and irreversibly, resulting in sudden loss of consciousness and if patients are not treated, coma and subsequent death due to herniation^{5,7}. This theory of death secondary to herniation has recently been challenged with an alternative theory that suggests that sudden death in patients with colloid cysts may be related to acute neurogenic cardiac dysfunction (secondary to acute hydrocephalus) and subsequent cardiac dysfunction, cardiac arrest rather than herniation^{5,7,10}.



Figure 1: showing the foramen of Monro in relation with septal, thalamo-striate veins and choroid plexus.

The 3 approaches most commonly used for colloid cyst surgery^{8,10}. These are- 1. Microneurosurgery A) Transcortical approach B) Interhemispheric transcallosal approach 2. Endoscopic neurosurgery 3. Stereotactic aspiration.

Materials and method

In this study 2 patients recently underwent endoscopic removal of colloid cyst in BSMMU in 2008. The endoscopic approach was the same as the transcortical approach, except that the former is accomplished through a burr hole. The cyst is punctured and aspirated through the working channels of the endoscope. The basic requirement were- GAAB universal neuroendoscopic system (Karl Storz Endoscope) comprising:-

1. Operating sheath
2. Rigid endoscope with optics
3. One working channel & two irrigation channels
4. Puncture needle
5. Grasping forceps
6. Bipolar coagulation device.

Surgical technique

The patient is placed in the supine position on the operating table. The neck is flexed approximately 45° to the horizontal plane and neutral in the vertical plane. The burr hole is placed 5 to 6 cm. from the midline and 11 cm behind the nasion on the nondominant side. Provisions should be made to convert the procedure into an open, transcortical approach if necessary. The lateral ventricle, free-hand needle ventricular puncture was performed before the endoscope was introduced. We did by a rigid 0° endoscope of 5 mm outer diameter for best optical clarity. Once anatomical landmarks and the tumor were identified, the cyst was punctured and the contents evacuated. When the cyst contains inspissated, firm material, cup forceps were required to remove the contents in a piecemeal fashion. Intermittent irrigation and bipolar cautery were done to keep the operative field clear.

Postoperative management

Ventricular catheter was placed intraoperatively to safeguard against ventricular dilatation. It remained clamped & was removed on 3rd POD. Inj. Methyl Prednisolone 500mg daily for 5 days to prevent chemical meningitis.

Result

The charts of 2 patients who underwent endoscopic removal of colloid cyst were reviewed.

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Table 1: Summary of cases, presenting symptoms, radiographic findings and outcome

Case no	Age/sex	Symptoms	Hydrocephalus	Tumour size (cm)	Complications	Followup
1.	35/m	Headache -6 months, No visual problem	++	2	No	6 months No headache
2.	12/m	Headache -8 months, Vomiting, Diplopia	+++	4	Pyogenic meningitis	1 months No headache

Discussion

Neuroimaging Studies

CT scan: Colloid cysts appear homogenous, with two thirds of them appearing hyperdense to the surrounding parenchyma and one third appearing isodense to the surrounding parenchyma. The lesions are well delineated and are usually round or ovoid. Occasionally, the lesions have a thin rim of enhancement after contrast injection, but they are typically nonenhancing and are not calcified. The size of these cysts varies but most are 5-25 mm^{3,4}.

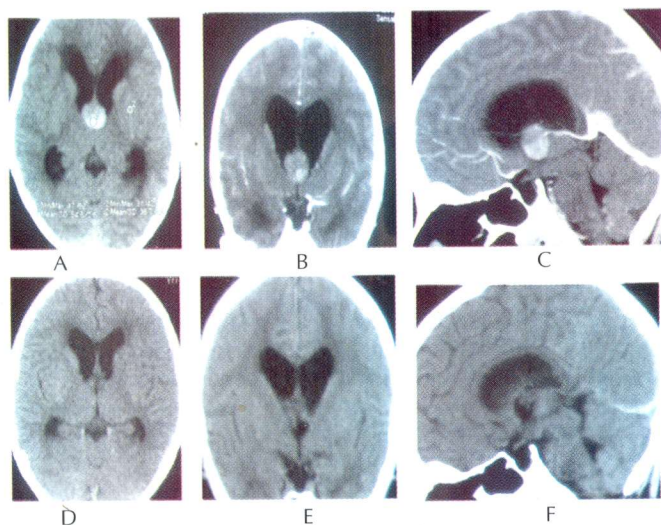


Figure 2: Preoperative and postoperative CT imaging of the patient (Case-2). A, B, C, revealed axial, coronal and sagittal CT scan shows hyperdense mass in the anterior 3rd ventricle. D, E, F, Postoperative CT shows small residual of cyst wall and establishment of CSF pathway.

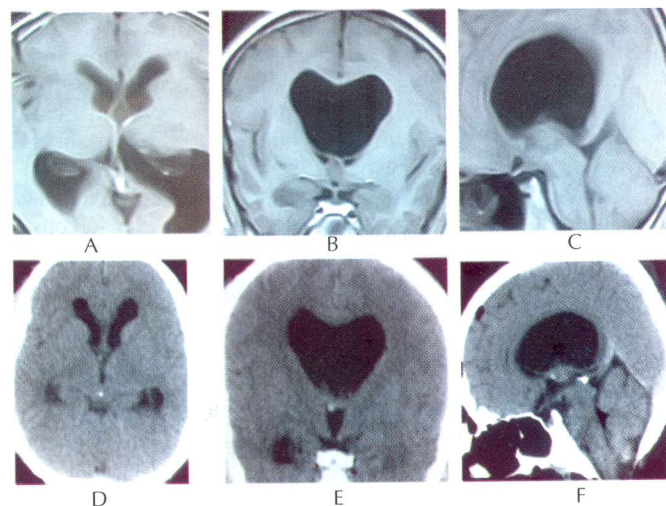


Figure 3: Preoperative MRI and postoperative CT scan of patient (Case-1). A, B, C, revealed axial, coronal and sagittal of isointense colloid cyst. Postoperative CT image D, E, F revealed very small remnant in the 3rd ventricle. CSF pathway has been re-established.

The CT scan is an important preoperative study because the viscosity of the cyst contents correlates more closely to the radiodensity visible on a CT scan than to the density visible on MRI. The viscosity of cyst contents determines the most appropriate surgical approach. A hyperdense cyst is more likely to have solid contents and is more difficult to drain. Hyperdensity may also correlate with a reduced capacity to enlarge over time^{3,5}.

MRI: The appearances of colloid cysts on MRIs are variable. The most common appearance is hyperintensity on T1 and hypointensity on T2. The amount of rim enhancement is variable. The variable MRI signals do not correlate with the fluid density of cyst contents, although a MRI is valuable in differentiating a colloid cyst from a basilar tip aneurysm, which may have similar appearance on a CT scan^{3,7}.

Surgical management : In 1983 Powell et. al.¹⁴ were the first to suggest endoscopic removal of colloid cysts. This was followed by several cases confirming the ability to remove colloid cysts successfully. In 1994 Lewis et. al.¹³ published a compelling series in which they compared endoscopic and microsurgical procedures for the removal of cysts, concluding that endoscopy was superior in terms of operative time and postoperative recovery. Since then many other studies have reinforced the advantages of the endoscopic technique.

The advantages are-

1. Less damage of brain tissue
2. Excellent view of intraventricular anatomy
3. Assessment of relation of lesion to surrounding structures

Each approach has specific risks and complications. The transcortical approach carries an increased incidence of epilepsy⁹. The transcallosal approach decreases the risk of postoperative epilepsy but risks venous infarction and contralateral leg weakness from prolonged retraction. An extensive callosal resection may also cause temporary mutism^{1,11}. Excessive manipulation of the fornix may affect memory. The endoscopic approach is the least invasive, but it can be used only on cysts that can be aspirated. Large cysts can not be removed with this technique. A steeper learning curve exists with the endoscopic technique¹¹.



Figure 4: Histopathology of colloid cyst.

Hydrocephalus can persist after surgery, even after resection of the cyst. This complication may be secondary to spillage of the cyst contents or to bleeding during surgery. A ventricular catheter may be placed intraoperatively to safeguard against ventricular dilatation¹¹.

Conclusion

Colloid cysts of the third ventricle represent 0.5-2% of all intracranial tumors. The endoscopic approach for the removal of colloid cysts of the third ventricle represents a safe procedure and can be considered a very good option for the treatment of these rare lesions.

Reference

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Biliary ascariasis : Experience from a district hospital

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The ORION 2008; 31: 585-587

Abstract

Objectives : Acute abdominal pain is a common cause of hospital admission in our clinical experience. Cholelithiasis, acute pancreatitis and peptic ulcer disease are well known causes of acute abdominal pain and some of them may require immediate surgical intervention. In our hospital, biliary ascariasis appears to be a common cause of hospital admission among the female patients, which is occasionally seen in the male. The aim of this study was to see the exact data among the female patients with biliary ascariasis including age, occupation, marital status, relationship with pregnancy and economic status and also to see the outcome of conservative treatment along with oral antihelminthic medication without surgical intervention or invasive endoscopic extraction (ERCP). **Methods :** This was a retrospective study. We have selected 100 female patients from registry, who were admitted with acute upper abdominal pain and or vomiting in Noakhali General Hospital from January 2007 to December 2007 in female medicine ward. All patients were investigated with routine examination of urine, stool and complete blood count. Sonographic examination of abdomen performed in all patients. Liver function tests (S. Bilirubin, SGPT, Alkaline phosphatase) and Serum amylase were estimated in selected cases. Age, occupation, marital status and economic condition of every patient were recorded. Presence of *Ascaris lumbricoides* (AL) in the common bile duct were confirmed by sonographic examination. After admission, all patients were given conservative treatment including nasogastric suction, intravenous fluid, antispasmodics, inj. Amoxicillin and inj. Ranitidine empirically. After sonographic confirmation of the presence of worm in the common bile duct, oral antihelminthic drug were added through nasogastric tube while on conservative treatment. **Results :** Presence of AL in the common bile duct (CBD) were confirmed sonographically in 86 cases. All patients were given antihelminthic drug while on nasogastric suction. 24 to 72 hours later about all (n=84) patients improved symptomatically and were given oral diet. Further observation for 24 to 48 hours revealed no relapse of pain. Then they were discharged with prior health education about ascariasis and advised to come back for follow up examination or symptomatic relapse. The rest 2 patients remained symptomatic despite antihelminthic medication. They were transferred to tertiary hospital for endoscopic or surgical intervention. **Conclusion :** Conservative management along with oral antihelminthic medication was found to be effective in treating biliary ascariasis in the majority of patients and thus avoiding surgical intervention or invasive endoscopic extraction.

Key words

Biliary ascariasis, epigastric pain, acalculous cholecystitis,

pancreatitis, biliary lithiasis, echogenic shadow, ERCP (endoscopic retrograde cholangio pancreatography).

Introduction

Ascariasis is a helminthic infection caused by *Ascaris lumbricoides* (AL). It is the commonest helminthic infection worldwide affecting about 1.4 billion people. In Bangladesh, 82% of the population are affected. Noakhali is a densely populated district situated in the coastal belt of Bangladesh where warm and humid environment and soil are in favour of maintaining the helminthic infection. And most of the people near coastal belt are poor and live in an inadequate hygienic condition and sanitation facilities.

Biliary ascariasis is one of the common causes of acute abdominal pain among the hospitalized female patients in our clinical experience, which is occasionally seen in the male. Accordingly, we have selected only the female patients in this study. The most common symptoms are acute upper abdominal pain, nausea, vomiting and occasionally fever & jaundice simulating acute cholecystitis². Common complications of biliary ascariasis are acute cholecystitis, acute cholangitis due to accompanying bacterial contamination, acute pancreatitis and liver abscess³. Hepatobiliary lithiasis can occasionally be seen as a remote complication⁴.

Ascaris Lumbricoides infection starts with the ingestion of fertilized ova in contaminated food and drink. In the intestine, the larva hatches which then penetrate the intestinal wall and enter into the enterohepatic circulation and then to pulmonary circulation. In the lung they enter into the alveoli from there they migrate to the upper respiratory tract. The individual then swallow the larva, which enter into the intestine where they grow into adult worm.

An adult worm varies in size from 15 cm to 50 cm long and 5-6 mm in breadth⁵. In heavily infected individuals some of the worms migrate into the duodenum from where they enter into the common bile duct (CBD) through duodenal papillae then it is known as biliary ascariasis. The alive worm in the CBD may migrate into the gall bladder, which is called gall bladder ascariasis. The adult worm in the CBD may also cause acute pancreatitis. Occasionally worm may migrate into the intrahepatic duct and causes liver abscess⁶. Often the worm

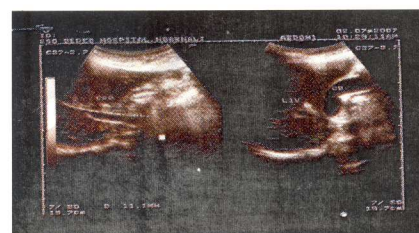


Figure: USG showing round worm in dilated CBD

comes out from the CBD into the duodenum. But at times they may die into the CBD gall bladder or intrahepatic duct and then disintegrate. The pieces of dead worm may act as nidus for

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stone formation in the CBD, gall bladder and in the intrahepatic duct (hepatolithiasis)⁷. The condition can accurately be diagnosed by ultrasonographic examination of hepatobiliary system and pancreas which often shows tubular echogenic structure without casting acoustic shadow in the dilated CBD with a linear hypo-echoic centre along its long axis indicating the gut of the worm (Figure).

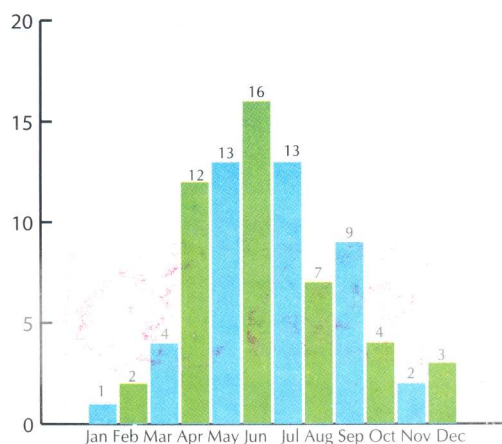
The aim of this study is to see the clinical data among the female patients particularly relationship with age, occupation, marital status, pregnancy, socioeconomic condition and finally to see the outcome after conservative treatment without going for costly and invasive surgical and endoscopic intervention.

Materials and method

This was a retrospective study. We have selected 100 female patients from the registry who were admitted in the female medicine ward with acute upper abdominal pain and vomiting clinically simulating with biliary ascariasis from January 2007 to December 2007. All patients were investigated with routine examination of urine, stool and complete blood count. Sonographic examination of abdomen were performed in all patients. Liver function tests (serum bilirubin, transaminase and alkaline phosphatase) and serum amylase were estimated in selected cases. Age, occupation, marital status and socioeconomic condition of every patient were noted. Presence of *Ascaris Lumbricoide* in the common bile were confirmed by sonographic examination. After admission all patients were given conservative treatment including nasogastric suction, intravenous fluid, antibiotic (Inj. Amoxicillin), anti-spasmodic and inj. ranitidine empirically. After sonographic confirmation of the presence of worm in the common bile duct, antihelminthic drugs were added through nasogastric tube immediately after nasogastric suction. The duration of time taken to become symptom free were noted in every patient. The duration of hospital stay were also noted in every patient.

Results

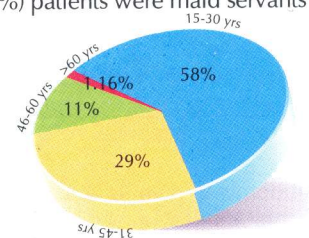
86 Patients (100%) were confirmed sonographically, the presence of AL in the dilated common bile duct. Of these maximum number of 54 (62.79%) patients were admitted during the period April to July 07 and only single patient (1.16%) admitted in January 07 (Graph 1).



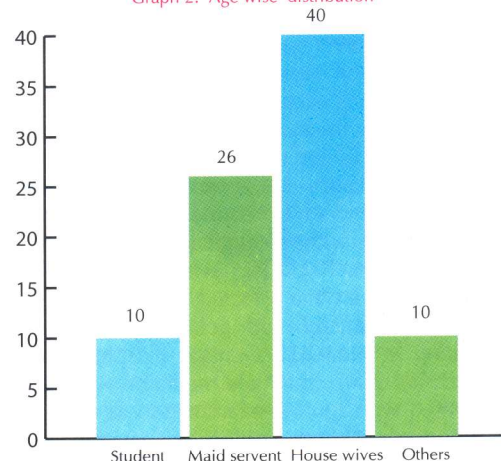
Graph 1: Monthly distribution of patients

The age range of all patients were 15-60 years. Maximum number of patients (n=50; 58.13%) were in the age range of 15-30 years and only one (1.16%) in the age = 60 years (Graph 2).

Occupational records showed that 40 (46.51%) were housewives and 26 (30.25%) patients were maid servants (Graph 3).



Graph 2: Age wise distribution



Graph 3: Occupation wise distribution

60 (69.76%) patients were married and 26 (30.23%) were unmarried. 12 (13%) patients had associated pregnancies. All patients (n=86;100%) had acute upper abdominal pain, 72 (83.72%) patients had vomiting, fever was noted in 12 (13%) patient and mild jaundice was present in 2 (2.32%) patients. Almost all (n=79;91.86%) patients became asymptomatic within 5 days after starting treatment. 7 (8.24%) patients stayed a bit longer in the hospital up to 10 days. A total number of 84 (97%) patients including associated pregnancies became asymptomatic after conservative treatment along with antihelminthic medication. 2 (2.25%) patients remained symptomatic despite antihelminthic medication. These two patients were transferred to tertiary hospital for surgical or endoscopic intervention. Acute cholangitis, acute pancreatitis and hepatic abscess were not found in any patients. Also no case of associated hepatolithiasis was found in this study.

Discussion

The most common causes of intestinal helminthiasis is ascariasis worldwide¹. The hepatobiliary tree is one of the most common site for ascariasis⁴. Biliary ascariasis was reported in the literature as early as 1946 or earlier². The first report of biliary ascariasis in North America or United Kingdom was published in 1977¹¹. Since then many report of biliary ascariasis published worldwide, specially in Asia and Latin America. Biliary ascariasis is a common complication of intestinal ascariasis in our clinical experience. It is the most common cause of acute upper abdominal pain in the female. The condition accounts for about 10%-19% of ascariasis related hospital admissions². It is second only to cholelithiasis as a cause of acute biliary symptoms worldwide¹³. The worms (AL) have a great propensity to explore small opening¹⁴. They enter into the CBD through duodenal papillae (ampulla of Vater). It is more commonly seen in women than in men (female to male ratio 3:1)¹⁵. The ratio may even be greater in our hospital.

The maximum numbers of patients are in the 15-30 years age group in this study. Pregnant women are more prone to develop biliary ascariasis¹⁶, this is also coincides with our observation. Of total number of 86 (100%) patients 12 had associated pregnancies in our study. All patients (100%) had upper abdominal pain 72 (83.72%) patients had vomiting, fever was noted in 02 patients. Common symptom are acute upper abdominal pain, vomiting, fever & jaundice. While entering into the CBD the worm carries infected intestinal contents and causes obstruction of the biliary tree¹⁷. As a result ascending pyogenic cholangitis, acalculous cholecystitis, obstructive jaundice and pancreatitis may develop. Empyema of the gall bladder by obstructing the cystic duct is an uncommon complication of biliary ascariasis. Biliary ascariasis can accurately diagnosed with ultrasonographic examination of abdomen. Other methods of diagnosis are ERCP, MRCP, CT scan of hepatobiliary system & MRI¹⁸. This are not cost effective for poor patient. In this study all cases were diagnosed by ultrasonogram of hepatobiliary system. In our study acute pancreatitis, pyogenic cholangitis and hepatic abscess were not found in any patient. Conservative treatment was shown to be effective in most cases¹⁹ and patients became asymptomatic within 72 hours after adding antihelminthic medication. Previous reports recommended to add antihelminthic drugs after subsidence of pain. But our clinical experience shows that pain relief occurred only after adding antihelminthic medication in most cases. However, we feel that this should be confirmed by further study.

Hepatolithiasis is not an uncommon complication of biliary ascariasis²⁰ but not associated cholelithiasis/hepatolithiasis were not found in any patients in this study. As the condition is more common in this endemic area ascariasis related stone formation would be expected more among this population. Our clinical experience also differ with others in this respect. However long term follow up with USG of hepatobiliary system will be able to clear this situation. Surgical intervention and endoscopic extraction during ERCP (Endoscopic retrograde cholangio pancreatography) are the definitive treatment modalities for patients not responding to conservative treatment along with antihelminthic medication. These patients have severe upper abdominal pain and associated hepatobiliary and pancreatic complications.

Conclusion

Biliary ascariasis is a common cause of acute upper abdominal pain among the female in areas where intestinal ascariasis is

endemic. This condition can accurately be diagnosed with ultrasonogram of abdomen. Conservative management along with antihelminthic medication is effective in most cases. Those patients not responding to conservative management must be treated with surgical intervention or endoscopic extraction of worms during ERCP. This condition can be prevented by providing standard sanitation facilities, improving personal hygiene through health education & by taking antihelminthic drugs at regular intervals.

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Outcome of pregnancy with history of previous cesarean section

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Summary

In modern obstetric practice, pregnancy with history of previous cesarean section is quite common. A cesarean section poses some documented risks to the mother's health in subsequent pregnancies like placenta praevia or accretes uterine scar rupture. It is also associated with increased likelihood of preterm delivery, low birth weight and perinatal death. Repeat cesarean section is technically difficult and there is chance of injury to surrounding structures. This prospective study was done in the Department of Obstetrics & Gynaecology, BSMMU, during the period of September 2005 to January 2006 to find out the maternal antepartum & intrapartum complications as well as perinatal outcome in the patients with history of cesarean section. A total number of 150 pregnant patients with history of one or more cesarean section were randomly included in this study who was admitted for termination of pregnancy either on emergency or elective basis. All the patients underwent repeat cesarean section. Mean age of the study population was 27.1 years. Here 88% & 12% cases had history of previous one and two cesarean sections respectively. Important antepartum complications were placenta praevia (4%), scar tenderness (2%), GDM (6%), PIH (22%) etc. In this study 9% cases required emergency termination before term for GDM with non-assuring CTG, Rh incompatibility with raised Ab titre, APH, severe pre-eclampsia etc. Extensive peritoneal and bladder adhesions were found in 13.3% & 16% cases respectively causing much per-operative difficulties and in one case urinary bladder was injured during operation. Post-operative period was uneventful in 80% cases. In this study 20% neonates developed some complications like prematurity, low birth weight, birth asphyxia and neonatal jaundice. Here rate of perinatal mortality was 1.33%.

Introduction

Cesarean birth has been a major source of interest & concern over the last few decades. In the past 35 years, the rate of cesarean section has steadily increased from 5% to approximately 25%¹. So pregnancy with history of previous cesarean section is prevalent in present day obstetric practice. Precise quantification of the risk attributable to a prior cesarean section is difficult. It has been associated with increased risk of placental abruption & praevia in subsequent pregnancies, conditions resulting in increased likelihood of preterm delivery, low birth weight and perinatal death.

A retrospective analysis of catastrophic complication of previous cesarean section by Cynthia Chazotte showed that 2.4% of the patient after one or more cesarean section had an extremely serious complication like uterine rupture & placenta

praevia or accrete with accompanying haemorrhage². Other complications like impending rupture, bladder discomfort, preterm delivery, operative interference & incidental morbidity can occur during pregnancy, labour & in repeat cesarean section³. There are more technical difficulties & increased chance of injury to the surrounding structures during repeat section and post-operative complications are likely to be increased⁴. The risk of injury to bladder is increased threefold in repeat cesarean section⁵. Although maternal mortality after scar rupture is low, the major risk is to the fetus who can suffer from anoxic brain damage or die if not delivered very urgently. This prospective study was so designed to find out the maternal antepartum & intrapartum complications as well as perinatal mortality & morbidity in patients with history of previous cesarean section.

Aims & objectives

- To find out any antepartum maternal complication related to previous cesarean section.
- To find out intrapartum maternal & fetal complication.
- To find out the incidence of operative interference in the patients.
- To find out fetal outcome like prematurity, perinatal mortality & morbidity.

Materials & methods

This was a prospective observational study, done in the department of Obs & Gynae, BSMMU, Dhaka during the period from September 2005 to January 2006. A total number of 150 pregnant patients admitted with history of one or more cesarean sections were included in this study. Data was collected by preparing a data collection sheet which included the patient's particulars, antepartum clinical, laboratory and ultrasonography findings and intrapartum or per-operative, post-operative findings as well as perinatal outcome of the fetus. Collected data were compiled and analysed on SPSS statistical package.

Results

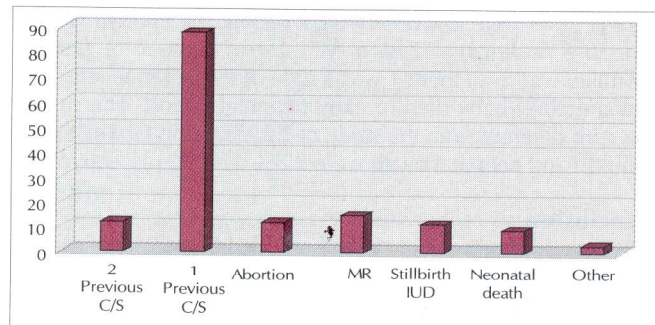
During the study period, September 2005 to January 2006 a total number of 150 pregnant patients were included in this study who was admitted with history of one or more cesarean sections. The mean age of the study population was 27.1 years (range <20-40); 78% cases were aged 21-30 years.

Table 1 : Age incidence of study population

Age in years	Number of patients	Percentage	Mean age
<20	06	4	
21-25	45	30	
26-30	72	48	
31-35	24	16	27.1 years
36-40	03	2	
41 and above	00	0	
Total	150	100	

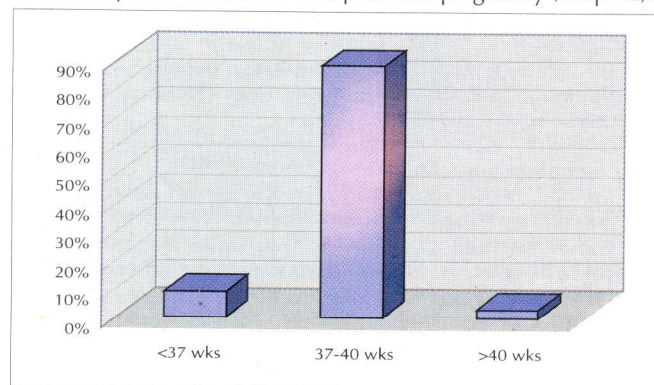
All the study populations were multigravid having various types of previous obstetrical history. Graph-1 shows that 88% patients had one & 12% had two previous sections.

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Graph-1

Majority (91%) of the cases were admitted with term, only 9% were with preterm but none with post term pregnancy (Graph-2).



Graph-2

Table 2 reveals that in around half (48%) of the cases antepartum period was uneventful. Another 16% cases had some complications related with previous surgery like placenta praevia, scar tenderness & chronic abdominal pain. In 35.34% cases had some medical disorders like GDM, PIH, UTI, respiratory diseases etc. In a single case there were multiple fibroids in uterus.

Table 2: Antepartum complications

Problems	Number	Percentage
No complication	72	48
<i>Complications related with previous surgery</i>		
Placenta praevia	06	4
Chronic abdominal pain	15	10
Scar tenderness	03	2
<i>Medical disorders</i>		
GDM	09	6
PIH	33	22
UTI	05	3.34
Respiratory diseases	06	4
Fibroid uterus	01	0.4

Among the study population 44% needed emergency cesarean section and the rest of cases were terminated on elective basis by cesarean section. Only 8% cases required blood transfusion during operation.

Table 3 shows that in 13% cases extensive peritoneal adhesion with uterus and posterior surface of anterior abdominal wall and bladder was adherent in 16% cases.

Post-operative complications have been shown in Table 4. Here majority (80%) had no complication. Important complications were wound infection (4%), PPH (2%), UTI (2.6%) etc.

Table 3: Types of preoperative problems

Types of problems	Number	Percentage
Difficulty in opening the abdomen due to adhesion:-		
Minimal adhesion	130	86.6
Extensive adhesion	20	13.3
Difficulty to reach lower segment due to adhesion with bladder	24	16
Bladder injury	1	0.6
Difficulty in stitching the uterine incision due to extreme thinning	30	20
Impending rupture	3	4

Table 4: Post operative complications

Complications	Number	Percentage
No complication	120	80
Wound infection	06	4
Serous discharge from the wound	07	4.6
Puerperal pyrexia	03	2
PPH	03	2
UTI	04	2.6
Anaemia	03	2
Headache	03	2
Post operative rise of B.P.	01	0.6

Perinatal fetal outcome has been shown in Table 5. Majority (80%) babies were healthy, the rest had some complications like prematurity (8%), IUGR (4.6%), birth asphyxia (2%), neonatal infection (2%) & neonatal jaundice (2%). Perinatal death was found in 2 cases, one of them was IUD and the other was early neonatal death.

Table-5: Perinatal fetal outcome

Condition of baby	Number of cases	Percentage
Healthy	120	80
Birth asphyxia	03	2
Premature	12	8
IUGR	07	4.6
Neonatal jaundice	03	2
Neonatal infection	03	2
Neonatal death	01	0.66
IUD	01	0.66

Discussion

In modern practice, with the objective of safe motherhood & mother baby package program the aim of obstetricians is to achieve a healthy mother & healthy baby. To achieve this goal, cesarean section plays a vital role and increasing trend of cesarean section is also related to it to a certain extent. Thus the repeat cesarean section is the commonest contributory factor for increased rate of section. It varies from country to country and center to center; 95% of all cesarean section in USA, 23% in Norway, 24-30% in India & lowest 8% in Hungary⁶.

This prospective observational study was done in the department of Obs & Gynae, BSMMU, Dhaka among 150 patients with history of one or more cesarean section who were admitted for termination of pregnancy either on emergency or elective basis. Study population was collected by random selection. All the cases were interviewed according to prepared data collection sheet to record the events of antenatal period and past obstetric history. Study was so designed that, there was no scope for trial of vaginal delivery, so all the patients were prepared for cesarean section either on elective or emergency basis.

Majority (78%) of the study population were 21-30 years which is more or less similar to other study results done in SSMC

Mitford Hospital where 69.2% cases were between 20-29 years⁷. In this study 80% had regular antenatal check-up which is similar to two other studies in our country^{8,9}. Here 88% & 12% cases had history of previous one & two caesarean sections respectively. Among all patients a significant number had history of previous pregnancy loss e.g. spontaneous abortion (12%), stillbirth (11.5%), neonatal death (9%) & other 3% had ectopic and molar pregnancies.

Among the study population there were some common complications associated with previous caesarean section like placenta praevia (4%), scar tenderness (2%) and chronic abdominal pain (10%). A significant number (35.34%) of cases had some medical disorders like GDM, PIH, UTI, respiratory diseases. One patient had multiple cervical fibroids with intra uterine fetal death that ultimately needed caesarean hysterectomy. Majority (91%) cases came with term pregnancy, only 9% were preterm and required emergency termination for GDM with non-assuring CTG, Rh incompatibility with raised Ab titre, APH, severe PE, multiple pregnancy etc. Here total 44% cases underwent emergency caesarean section. The rate of elective caesarean section is higher (56%) in this study in comparison to those of Khawaja NP et. al. in Pakistan (11.33%) and Asaduzzaman in Bangladesh (34.6%)^{9,10}.

As all the patients underwent caesarean section both per-operative & post-operative findings were observed meticulously. In 13.3% cases there were extensive adhesion among uterus, omentum and anterior abdominal wall causing much difficulties in opening the abdomen. Urinary bladder was found adherent in 16% cases and in one of them it was injured during operation. In 20% cases lower segment was found so thin that stitching was found difficult. The overall preoperative complication was much less (12.1%) in the study of Bergholt T & Stenderup JK¹¹.

This study reveals that majority (80%) cases had no post-operative complication. Here important complications were PPH (2%), wound infection (4.6%), UTI (2.6%) etc. The rate of complication is significantly less in this study in comparison to other two studies done by Chowdhury et.al. and Asaduzzaman^{7,9}. In this study 20% babies developed complications which is statistically comparable to the study of Dey N & Hatai SK in India¹². Among them 8% babies were premature, 2% had birth asphyxia & other 2% developed neonatal jaundice. The birth weight observation revealed that

12.6% cases were low birth weight babies, the number is higher than the findings of Lydon M¹³. Here number of perinatal mortality was 2, of them 1 was a case of intra-uterine fetal death and the other baby died in early neonatal period. This findings are a bit different from the study of Tadesse E. in Ethiopia where stillbirth and neonatal death were 2.8% & 4.7% respectively¹⁴.

Conclusion

This is a very limited study which revealed that previous caesarean section related antenatal complications was not very high but a significant number of cases had per-operative complications. There was no maternal mortality but perinatal fetal mortality rate was 1.33%. Further larger study with the scope of trial of vaginal delivery would be important to evaluate the pregnancy outcome in the patients with the history of previous caesarean section.

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Cefuroxime
Axet
Tablet, Suspension & Injection

A boon **to** pregnant mother



Millennium development goal 4 & 5 (MDG 4 & 5) : Where we are and what needs to be done

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Scenario 1

A 22 year old woman, wife of a Rickshawpuller, daughter of a day labourer gave birth to 3rd time dead male baby after 22 hours of prolonged labour. Her previous 2 pregnancies were also unattended and uncared. This time also when placenta was retained, she was tortured brutally by her husband & that dhai. They start pressing over abdomen and last of all boiled water (hot water in a bottle) was applied on her abdomen. Half placenta retained and half was expelled. There was profuse bleeding and she was senseless for one time.



Before treatment in the local hospital

After 17 days when severe foul smelling (like dead bodies) discharge came from vagina and abdominal gangrenous area, she was taken to nearly doctor and then to hospital, where she received 5 units of blood, triple antibiotics and others. Now she is living with a VVF and cicatrising ulcer over abdomen in her fathers residence.

Scenario 2

She is a 29 year old poor woman, gave birth to a female baby 5th time. She was already warned if female baby also this time, she will be forced to give 'Talak' and back to her father. Placenta was retained. Husband and sister in law start tremping over abdomen with legs and someone was giving undue traction over other end of the cord. So ultimately there was inversion of uterus. She was in moribund stage brought to local Government Hospital after 4 hours groaning. Resuscitation and reposition of inverted uterus was done in usual manner. But inspite of all frantic efforts we could not save her. She was forced to leave the world leaving her 5 beloved daughters.

Scenario 3

She is only 19 years old poor girl, wife of a track driver, mother of a 1 year baby. When her husband returned from trip, she was breast feeding the baby, so was a bit delay to serve him food. On the spur of moment he got ferocious and kicked her repeatedly on abdomen and head by pulling her hairs so robustly that made her unconsciousness when brought to nearby clinic. Plain X-ray showed perforation of hollow viscus. There was rupture of urinary bladder & intestine and she was in hypovolemic and neurogenic shock. With all life support measures (fluid, blood, drugs) she succumbed to death after 2 days.

So, far depicted here 2 maternal mortalities and 1 maternal morbidity. All are due to negligence of women and supremacy or male dominance. These are sombre picture or a social malady of a 3rd world country like us where persecution, ill treatment, harassment and torture is rampant toward a spouse who's father is unable to provide substantial dowry.

Violence against women & girls continue to be a global epidemic

that kills, tortures & maims- physically, psychologically, sexually & economically¹. It is one of the pervasive of human rights violation, denying women & girls equality, security, dignity, self-worth & their right to enjoy fundamental freedoms². The global dimensions of this violence are alarming as it occurs in all cultures, people of all races, ethnicities, religions, sexes & all classes can be perpetrators of this violence^{1,3}. Specific groups of women are more vulnerable including minority groups, indigenous & migrant women, refugee women & those in situation of armed conflict, women in institution (garment worker) and detention women with disabilities, female children^{2,4}. The U.S Office on violence Against Women (OVW) defines domestic violence or abuse or spousal abuse as 'violence against women & girls by an intimate partner, including a cohabiting partner & by other family members, whether these violence occurs within or beyond the confines of home'^{4,5}. It is the most prevalent yet relatively hidden & ignored form of violence against women & girls. The family is often equated with sanctuary- a place where individual seek love, safety, security and shelter but it can also be a place that imperils lives & breeds some of the most drastic forms of violence perpetrated against women & girls. These perpetrators are males who are or who have been in positions of trust & intimacy & power- husbands, boyfriends, father, father in laws, step father, brother, son or other relatives^{6,7}. Violence against women is often a cycle of abuse that manifests itself in many forms throughout their lives (see Table 1)⁸.

Table 1: Examples of violence against women throughout the life cycle⁸

Phase	Type of violence
Pre birth	Sex selective abortion, effect of battering during pregnancy on birth outcome.
Infancy	Female infanticide, physical, sexual & psychological abuse.
Girlhood	Enforced malnutrition, lack of access to medical care & education, bonded labour, female genital mutilation, incest, early marriage, forced child prostitution & pornography
Adolescence & adulthood	Dating & courtship violence (acid throwing, date rape), economically coerced sex, incest, sexual abuse in workplace, rape, sexual harassment, forced prostitution & pornography, trafficking in women, partner violence, marital rape, dowry abuse & murder, psychological abuse & scarring, repeated humiliation & insults & forced pregnancy.
Elderly	Forced "suicide" or homicide of widows for economic reasons, sexual, physical & psychological abuse.

Domestic violence can take the form of i) physical violence (PV) including direct PV ranging from unwanted physical contact to rape & murder^{6,7}. Indirect PV may include destruction of objects, striking or throwing of objects to the victims or harm to pets. PV is the intentional use of physical force with the potential for causing injury, harm, disability or even death for example, hitting, biting, restraint, kicking, pushing, shoving or use of weapon. ii) sexual abuse or incest ie unwanted or forced sexual activity against his or her will. iii) mental or emotional or psychological abuse ie verbal threats of PV to victim, the self or others including children, ranging from explicit, detailed and impending to implicit and vague to both content and time frame and verbal violence, including threats, insults, put-downs and attacks or various type of humiliation to victim, isolating the victim from friends and family. iv) economic abuse: the abuser has complete control over the victims money & other economic resources, withholding money and forcing victim to beg for

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money, preventing the victim to finish education or obtain employment or intentionally squandering or misusing communal resources. v) stalking is repeated behaviour that causes victims to feel a high level of fear¹⁰. Percentage of women who were physically assaulted by an intimate partner : Canada (29%), Egypt (34%), Newzealand (35%), United States (22%) in some countries it varies from as high as 50-70%¹¹.

Factors that perpetuate domestic violence⁹

Cultural	- Gender-specific socialization - Cultural definitions of appropriate sex roles - Expectations of roles within relationships - Belief in the inherent superiority of males - Values that give man proprietary rights over women and girls - Notion of the family as the private sphere and under male control - Customs of marriage (bride price/dowry) - Acceptability of violence as a means to resolve conflict
Economic	- Women's economic dependence on men - Limited access to cash and credit - Discriminatory laws regarding inheritance, property rights, use of communal lands and maintenance after divorce or widowhood - Limited access to employment in formal and informal sectors - Limited access to education and training for women
Legal	- Lesser legal status of women either by written law and/or by practice - Laws regarding divorce, child custody, maintenance and inheritance - Legal definitions of rape and domestic abuse - Low levels of legal literacy among women - Incentive treatment of women and girls by police and judiciary
Political	- Under-representation of women in power, politics, the media and in the legal and medical profession - Domestic violence not taken seriously - Notions of family being private and beyond control of the status - Risk of challenge to status quo/religious laws - Limited organization of women as a political force - Limited participation of women in organized political system

Domestic violence during pregnancy can be missed by medical professional as it presents in nonspecific ways as there are a number of presentations that can be related to domestic violence during pregnancy: delay in seeking care for injuries, non booking, non-attenders at appointments, self discharge, frequent attendance, aggressive or over solicitous partner, burns, pain, tenderness, injuries, use of dark or ill ventilated rooms, giving less food thinking baby become too big, use of oil or herbal juice inside vagina for lubricant, tying abdomen tightly & pushing vigorously during delivery, use of unsterile material for tying & cutting cord, introduction of tuft of hair or ragged clothes inside mouth to initiate vomiting, non stitching of vaginal & perineal injuries, bleeding, pressing legs over abdomen and extreme form is pressing with hot water bottle over abdomen and various types of forced miscarriages^{12,13}. A number of countries have been statistically analyzed to calculate the prevalence of these phenomenon: UK 2.5-3.4%, USA 3.2-33.7%, Ireland 12.5% and in Bangladesh 30.3% (14% cause of maternal mortality). The rates are higher in teenagers, severity and frequency increase postpartum (10% antenatally vs 19% postnatally, 21% at 3 months postpartum)¹⁴.

But the magnitude of this domestic violence as a crime is often under-recorded and under-reported as because of shame, fear of reprisal, lack of informations about legal rights, lack of confidence in or fear of the legal systems and the legal costs involved make women reluctant to report incidents of violence on the other hand when a women file a report, seek treatment, they may have to contend with police and health care officials who have not been trained to respond adequately or to keep consistent reports¹⁵. So, the threat & fear of violence keeps women from seeking employment or at best compels them to accept low-paid, home based exploitative labour and without economic independence, women have no power to escape from an abusive relationship. So, in 1990, womens group put their concentrated effort on the part of world community to legitimize the issue. The World Conference on Human Rights in Vienna (1993) accepted that the rights of women & girls are an inalienable, integral and indivisible part of universal human

rights. The United Nations General Assembly in December 1993, adopted the declaration on the elimination of Violence against women. It is the first international human rights instruments to deal exclusively with Violence against women, a ground breaking document that become the basis for many other parallel processes. The Fourth World Conference on women in Beijing (1995) included elimination of all forms of violence against women as one of its twelve strategic objectives & listed concrete action to be taken by Govt, The United Nations, International and Non Govt Organizations¹⁵.

Maternal mortality

Maternal mortality is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by the pregnancy or its management¹⁶.

Global situation¹⁷

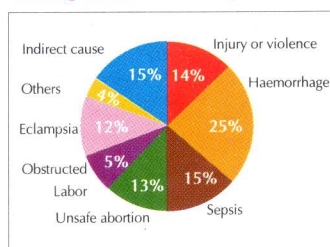
At every minute: 380 women become pregnant, 190 women face an unplanned and unwanted pregnancy, 110 women experiences pregnancy related complications, 40 women have an unsafe abortion, 1 woman dies related to complication from childbirth.

Globally, about half a million women die each year of pregnancy related causes. More than 99% of them die in developing countries. Three-quarters of deaths in Asia occur in South Asia (Bangladesh, India, Pakistan). Global situation: A women in Sub Shahara Africa has a 1 in 16 chance of dying in pregnancy or childbirth as compared to 1 in 4000 risk in developing countries - the largest difference between poor & risk countries of any health indicator.

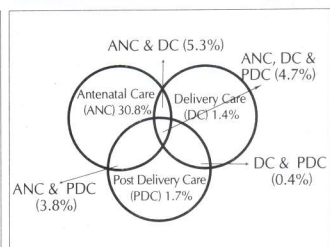
Current situation of maternal mortality in Bangladesh¹⁸:

USA/other Developed countries: 10-15 vs 320/lac live birth.

Leading causes of mortality¹⁸



Selected maternal care in Bangladesh



Major obstetric complications and their sequelae^{16,17}

Obstetric complication	Main sequelae in those surviving
Haemorrhage	Severe anaemia, impaired pituitary function
Sepsis	Pelvic inflammatory diseases, infertility, ectopic pregnancy
Obstructed labor	Fistulae, stress incontinence, uterine prolapse
Unsafe abortion	Pelvic inflammatory diseases, reproductive tract infections, infertility, ectopic pregnancy

Maternal morbidity

Maternal morbidity is any illness or injury caused or aggravated by or associated with, pregnancy or childbirth. For every maternal death, there are at least 50 women who survive only to suffer, sometimes for life from the sequalae of pregnancy & neglected child birth.

Minor morbidities

Anaemia, Dysparunia, Cystocele, Rectocele, 1st degree utero vaginal prolapse, Minor stress incontinence, Backache: Ligament stretching, Orthopaedic condition, Postnatal heavy weight lifting, PIDs, Instrumental deliveries.

Major or worst forms of maternal morbidities

Severe PIDs, VVF, RVF, Infertility, Stress incontinence, 3rd degree utero vaginal prolapse, 3rd degree perineal tear, Peroneal palsy/obstetric palsy leading to foot drop, Cervical or vaginal stenosis, Post partum psychoses, Secondary amenorrhea (Synechia & Sheehan's syndrome).

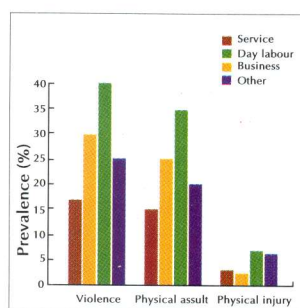
Causes of maternal mortality & morbidity

Causes	Factors	% of maternal death
Direct	Due to complications of pregnancy, delivery, puerperium	60-70%
Indirect	Due to medical disorders (anaemia, heart diseases, diabetes, malaria, hepatitis and HIV/AIDS, etc)	20-25%
Contributory	Due to social/environmental & organizational causes	14%

Causes of high maternal mortality & morbidity rate in Bangladesh

A. The social factors: Poverty, Female illiteracy, Dowry system, Gender based violence, Ignorance, Social prejudice & taboo, Less access to essential health-care facilities, Lack of health consciousness, Females get married before 18 years: 90%, Females giving birth of 2 children (by age 20): 33%.

B. Other Contributory Factors: Lack of ANC with practically no risk screening, Intranatal supervision by illiterate untrained traditional birth attendant (TBA's), Limited or no access to quality family planning counseling service, Shortcomings of existing family welfare and medical termination of pregnancy services, Lack of proper transport facilities.



Graph: Violence & Husband's occupation Picture: Husband hurting the pregnant wife



In a developing country like Bangladesh a girl from a poor or low socioeconomic condition when reached puberty, the greatest threat to her life is pregnancy and childbirth. In Bangladesh 90% of girls are married before 18 years and 33% of these below 19 are mother of 2 children. The adolescent mother is most likely to develop anaemia, eclampsia and obstructed labour.

4 groups of women face the greatest threats: 1. Who bear children too early (less than 18 years), 2. Who bear children too close (within 2 years), 3. Who bear children too many (>3), 4. Who bear children too late (>35 years).

The maternal mortality is a sensitive indicator of inequality as the current statistics show that the poorest & the least educated women are at the highest risk of death during pregnancy or childbirth or its related violence.

Steps to prevent maternal mortality & morbidity

1. Interventions needed for all

A- Advancement of women: Female literacy/education, Childhood nutrition, Raising marriageable age of girls, Vocational training, Family life education is necessary to prevent the domestic violence on pregnant women, Eliminate laws that discriminate against women and girls.

- Women access to health information

- Women's self esteem and sense of personal power
- Strengthen women in leadership & decision making
- Women's access to & control over economic resource

B- Birth planning: Family Planning should be freely and widely available, Unwanted pregnancy, Abortion, Obstetric complication associated with PPH, Ruptured uterus, can be reduced and so also MMR by 50%.

2. Interventions for all pregnant women

C- Community based prenatal care: Adequate ante, intra and postnatal care- at least 4 visit before 20 weeks, by 28 weeks, between 32-34 weeks, at full term, Tetanus toxoid immunization, Iron and folic acid supplementation, Screen for high risk pregnancies.

D- Delivery by skilled birth attendants

3. Interventions that are needed by women experiencing a life threatening complication

E- Emergency Obstetric Care (EOC)

F- Facility for referral: An efficient referral system to an equipped centre must be readily available by-

1. Transport (ambulance)
2. Telecommunication system
3. Communicable roads
4. Community participation

Key messages are

1. Safe motherhood is women's human right. This human right issue should be made accountable 2. Women's status should be increased 3. Marriageable age of girls should be raised 4. Family life education is necessary to prevent the domestic violence on pregnant women 5. Health care providers can play a decisive and critical role about pregnant women's health & to prevent violence against women.

Role of health care providers

They can play a crucial role in addressing violence against women. In most countries, the health care system is the only institution that interacts with almost every woman at some points in her life. So they can recognize the victims of violence and to help them. Violence increases the risk of other health problems for woman, so early help can prevent serious condition that follows from abuse. Several types of physical injuries, health conditions and clients behaviour should raise health care providers suspicion of domestic violence or sexual abuse.

Conclusion

In September 2000, the largest ever gathering of heads of 189 countries ushered millennium by adopting the Millennium Declaration and was translated into 8 Millennium Declaration Goals (MDG) to be achieved by 2015¹⁹. These are: MDG 1: To eradicate extreme poverty & hunger; MDG 2: To achieve universal primary education; MDG 3: To promote gender equality and empower women; MDG 4: To reduce child mortality by 2/3rd; MDG 5: To improve maternal health & to decrease maternal mortality by 3/4th; MDG 6: To combat HIV/AIDS, malaria & other diseases; MDG 7: To ensure environmental sustainability; MDG 8: To develop a global partnership for development. Recent MMR= 320/1000 live birth and ANC coverage= 56% and skilled (SBA) birth attendants= 18%. Our aim is to have MMR target (2015) by 149/1000 live birth SBA= 50%. We want no more mortality and morbidity like above 3 but want smile, smile, smile and a prosperous Bangladesh.

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The rest of References at page 596

Epidemiology of encephalitis in children in the northern districts of Bangladesh

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The ORION 2008; 31: 594-596

Abstract

Objective: The objective of the study was to determine the epidemiology of acute encephalitis in children admitted in a tertiary care hospital from the northern districts of Bangladesh. **Methodology:** This was a cross-sectional and prospective study. The sampling method was multistage purposive sampling. Among all the children admitted in the pediatric unit of Rangpur Medical College Hospital, those suffering from disease of the CNS on admission were the population of interest. Among these children, those suffering from meningitis or meningoencephalitis by clinical examination were selected for investigations. The Computed Tomographic (CT) scanning and Cerebrospinal Fluid (CSF) analysis were performed. The children having (a) brain oedema, rarefaction or attenuation and normal CSF finding or (b) normal brain scanning and CSF having lymphocytic pleocytosis were considered as diagnostic and finalized as samples for analysis. The study was conducted for a period of 3 years from January 2004 to December 2006. The total number of people of CNS diseases was 995 and among them the number of samples was 298. **Results:** The mean age was 4 ± 2.4 years. Death rate was 57.4%. The clinical features were compatible with enterovirus and adenovirus infections. All children came from low socio-economic families and from rural areas. Use of mosquito nets were very rare during sleep time and the children had free movement surrounding the household environment. Convulsion, coma and respiratory prodromal features were the presenting features. CT scanning findings showed generalized or focal oedema of brain in 78% of cases and CSF analysis showed normal to mild lymphocytic pleocytosis. **Conclusion:** Acute encephalitis is a very serious infection in children with high mortality and everyone should be aware of this disease.

Keywords: Epidemiology, children, acute encephalitis, northern districts, Bangladesh.

Introduction

Encephalitis means inflammation of the brain material. Two forms of encephalitis are found- primary encephalitis (acute) is due to direct invasion of the brain cells. Secondary (post-infectious) encephalitis follows a systemic infection and is due to allergic or immunologic reaction of the causative organisms^{1,2}. It is a very dreadful disease in children. The relative incidence and prevalence is gradually increasing with the control of other infectious diseases. The mortality rate is also very high. With the passage of time new strains/serotypes of viruses are gradually coming into light as the causative agents. It is endemic throughout the year with occasional epidemics in various localities of our country and snags a large number of lives. A few focal epidemiological and laboratory studies have been conducted in our country during outbreaks with the collaboration of some international organizations and these studies have shown evidence of infection by new viruses³. In USA, the annual incidence of encephalitis is about 1 in 200,000 population⁴. There is no national

data regarding prevalence of encephalitis in our country. In the department of paediatric of Rangpur Medical College Hospital the rate of admission of encephalitis was 1.5% in 2005 and among the Central Nervous System (CNS) diseases it was about 33%. The death rate was about 55%⁵. But there is no epidemiological survey in this region. So this study was undertaken to know the epidemiological features of encephalitis of children in this region.

Materials and methods

This was a cross-sectional and prospective study. The sampling method was multistage purposive sampling. Among all the children admitted in the Paediatric Unit of Rangpur Medical College Hospital, those suffering from disease of the CNS on admission were the population of interest. Among these children, those suffering from meningitis or meningoencephalitis by clinical examination were selected for investigations. The Computed Tomographic (CT) scanning and Cerebrospinal Fluid (CSF) analysis was performed. The children having (a) brain oedema, rarefaction or attenuation and normal CSF finding or (b) normal brain scanning and CSF having lymphocytic pleocytosis were considered as diagnostic and finalized as samples for analysis. The study was conducted for a period of 3 years from January 2004 to December 2006. The total number of people of CNS diseases was 995 and among them the number of samples was 298.

A research instrument was developed containing familial, socio-economic and health related indicators related to the causation of encephalitis. This was revised several times before finalization. Immediately after admission of the child, resuscitation measures were applied if necessary. Glasgow Coma Scale (GCS) was assessed in all children. A blood sample was collected for determination of blood sugar, serum calcium and blood urea during resuscitation. Then treatment was started with an antibiotic and antiviral drug. Within 24 hours of admission LP was done for analysis of CSF and CT scanning was done within 48 hours. The children having the diagnosis of meningitis or other CNS disorders were excluded from analysis. The children whose parents were the residents of the Districts of greater Rangpur (Rangpur, Gaibandha, Kurigram, Nilphamari and Lalmonirhat) were included in the study. All the children were followed up to discharge or death. There was no formal ethical committee of the hospital but verbal permission was taken from the administration of the hospital and all the ethical issues were followed during data collection. Data were entered into a computer and analysis was done by SPSS+PC method. Descriptive statistical procedures were applied and data were presented as simple tables.

Results

The mean age was 4 ± 2.4 years. Death rate was 57.4%. Convulsion (85%), coma (75%) and respiratory prodromal features (75%) were the presenting features suggesting rhinovirus or adenovirus infection (Table 1). Almost all (98%) children came from rural areas and low socio-economic families. The children were malnourished and rate of exclusive breast feeding was low. Use of mosquito nets was very rare during sleep time and the

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children had free movement surrounding the household environment (Table 2). CT scanning findings showed generalized or focal oedema of brain in 78% of cases and CSF analysis showed lymphocytic pleocytosis in 35% of cases (Table 3).

Table 1: Clinical features on admission

Features	No (%)
Coma/altered consciousness	253 (85)
Convulsion	223 (75)
Respiratory prodromal features	223 (75)
Fever	198 (65)
Vomiting	167 (56)
Severe headache	75 (25)
Stiff neck	15 (5)
Speech problem	15 (5)

Table 2: Socio-economic characteristic of admitted children

Indicators	Features	No (%)
Residence of parents	Rural	292 (98)
	Urban	6 (2)
Occupation of parents	Father (cultivator)	202 (67.75)
	Mother (housewife)	205 (68.75)
Literacy of parents	Father (illiterate)	101 (33.98)
	Mother (illiterate)	108 (36.25)
Nutrition	Malnourished	262 (88)
	(Gomez's-I, II and III grade)	
	Exclusive breast feeding	48 (15)
Others	Delayed weaning	149 (50)
	Use of mosquito nets	12 (4)
	Free outdoor playing	203 (68)
	Open air defecation	176 (59)
	Contact with pigs	Nil

Table 3. Laboratory findings of cases

Investigation	Features	No (%)
CT scanning of brain	Oedema of whole brain	164 (55)
	Focal oedema in different areas	69 (23)
	Normal in CT Scanning	65 (22)
CSF analysis	Lymphocytic pleocytosis	104 (35)
	Normal CSF	194 (65)

Discussion

The mean age of the children was 4 ± 2.4 years and 71.2% was

male children. The acute encephalitis affects persons of all age groups but the children and the immunocompromised persons are mostly affected. The children are less exposed to outdoor activities in infancy and they have less contact with the causative organisms. But in pre-school years they usually move freely and are exposed and get infection but immune system against the causative agents remains poor. There were two surveys conducted in USA where the mean age of acute encephalitis was 4 years^{6,7}. In 2001 there was an outbreak of encephalitis in Meherpur district of Bangladesh and another similar type of outbreak occurred in Naogaon district in 2004. In these two epidemics the mean age was 12 years^{3,8}.

The death rate was 57.4% in this study. Acute encephalitis is a severe and potentially life-threatening disease. Nipah virus causes highly fatal encephalitis. In Malaysia and Singapore in the period of outbreak in 1998-99, out of 265 infected cases, the death rate was 40%^{9,10}. In this hospital the death rate in children suffering from encephalitis in 2006 was 51%¹¹. In the above mentioned Meherpur and Naogaon outbreaks in Bangladesh out of 47 infected people the death rate was 74% and death occurred in 4-6 days¹². Though the patient characteristics of this study were a bit different but mortality rate of this study corresponds to the above figures. The GCS on admission correlated with the outcome of the child and GCS less than 6 had more death which has also been shown in another studies^{13,14}. Respiratory prodromal symptoms, convulsion, altered consciousness and vomiting were the presenting features suggesting infection by enteroviruses or adenoviruses. Because the most frequently reported causes are enteroviruses, herpes viruses (HSV), arboviruses and paramyxoviruses (Nipah and Hendra) and Japanese encephalitis virus. There was no history of contact with cases of encephalitis in the locality, rather it occurred sporadically. There was also no history of contact with pigs which are suspected hosts of paramyxoviruses and no history of travel of children or parents outside the localities in recent past. This does not support Nipah and Hendra virus as a causative agent. Actually the aetiological diagnosis of encephalitis in children is very difficult and has remained unexplained in this study. Glaser *et al.* has stated that there are great variation in the epidemiology of encephalitis globally and in 32-75% of cases of clinical encephalitis confirmed etiology remains unexplained¹⁵. They have described that the failure in diagnosis ascertainment was lack of standard diagnostic algorithm and routinely available diagnostic tests which was also a failure in this study.

Almost all (98%) children came from rural areas and economically poor families. Malnourished and immunocompromised children are usually victims of encephalitis. In these families there were inadequate breast feeding, improper weaning practice, low rate of use of safe water and sanitary latrines which potentiate malnutrition. Many of the parents were also illiterate who were not so careful about their child's health. The use of mosquito nets is also occasional in these families and the preschool aged children move freely in these families especially in the dusk¹⁶. This goes in favour of Japanese B virus as a cause of encephalitis because there are frequent reports of this virus as a cause of encephalitis in Bangladesh and neighboring India but it needs further evaluation by continuous virological surveillance¹⁷. In outbreaks in Bangladesh the malnourished and rural children were the sufferers of encephalitis^{3,8}. Brain

oedema either whole brain or focal areas was the commonest abnormal findings in this study. There are various types of changes in the brains revealed by CT scanning and even it may be normal. In another two studies the many of the findings were oedema and low attenuation of the brain and multifocal lesions in thalami, brainstem and cerebellar white matter which goes in favour of this study^{18,19}.

Constraints

It would be better to isolate viral markers, EEG studies, MRI studies and postmortem brain biopsy. The first three were not done due to lack of facilities in the hospital. The last one could not be done because there is no national guideline for postmortem biopsy in our country. It is only applicable in serious nationally important medicolegal cases.

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Isolated systolic hypertension : A robust risk factor for cardiovascular diseases

Ghose TC¹

The ORION 2008; 31: 597-598

Abstract

Isolated systolic hypertension has become largely a disease of older people; since the rapidly aging of the world population, inadequate control of systolic blood pressure rather than diastolic hypertension is by far the pressing public health problem. Different prospective cohort studies have shown that BP is positively, continuously and independently associated with increased risk of cardiovascular and renal diseases. Several epidemiological studies have shown that systolic and diastolic curves relating blood pressure to the risk of CV events are parallel and that systolic blood pressure is at least as important as or even more than diastolic blood pressure as a risk factor for CV complications. The Multiple Risk Factor Intervention Trial (MRFIT) has shown that the risk of coronary artery disease was more strongly related to SBP (3.7 times from the lowest to the highest deciles) than to DBP (2.8 times). In the adult Framingham Heart Study, SBP appears to play a more important role than DBP for all the clinical manifestations of CHD (acute myocardial infarction, angina and sudden death). Many observational studies have demonstrated that SBP is a stronger predictor of the risk of stroke than DBP.

Introduction

Hypertension remains the major risk factor for cardiovascular diseases (CVD) i.e strokes, coronary artery disease and heart failure. But until the 1980's diastolic blood pressure (DBP) was the most relevant haemodynamic parameter as a predictor of prognosis in hypertensive patients. Accordingly, most clinical studies particularly addressed DBP and DBP values were put forward as goals for treatment¹. Since then a radical change in thinking, based upon epidemiological studies has led to the recognition of elevated systolic blood pressure (SBP) as a risk at least as important as high DBP¹⁻⁵. Certain studies would even indicate that SBP is a more relevant predictor of prognosis than DBP, in particular with the risk of stroke¹. For this and other reasons, the term Isolated Systolic Hypertension (ISH) has been introduced for those subjects with elevated SBP and normal (or even lower) DBP. This condition is found particularly in elderly hypertensive, since SBP is known to rise with advancing age, whereas DBP usually levels off and then tends to decrease in the elderly. Consequently, pulse pressure (SBP minus DBP) will increase in such patients. It appears that elevated pulse pressure is an even better predictor of cerebral and cardiovascular events in elderly hypertensives than a high SBP as such^{1,2}. Indeed, ISH is the most common type of hypertension in the elderly and it is the most prevalent type of untreated hypertension among persons over 60 years of age. According to the modern definitions, expressed in the JNC-VI⁶ and 1999 WHO/ISH-Guidelines⁷. ISH is now defined as BP >140/<90mmHg. These criteria are most 'stringent' than the older definition of ISH at >160/<90 mm Hg.

Pathophysiology of ISH

The basic mechanism for progressive rise in systolic blood

pressure (SBP) with age is loss of distensibility and elasticity in large capacitance vessels from atherosclerosis. The proliferation of connective tissue in the walls of large vessels results in intimal thickening and fibrosis. This leads to loss of arterial compliance and the large vessels become less able to reduce the pressure generated by the left ventricle by means of distension. Consequently the pulse pressure and pulse wave velocity increase causing a disproportionate increase in SBP. On the other hand, with the increased arterial stiffness and reduce caliber of large capacitance vessels, the normal drain off into peripheral vasculature during diastole leaves less blood filling these vessels, thus reducing the diastolic blood pressure (DBP). These counteracting forces may keep the diastolic pressure normal in the setting of an increasing systolic pressure.

Prevalence of ISH

Recent estimates from the American National Health and Nutrition and Examination Survey (NHANES III) have shown the following:

- ISH is the most common form of hypertension in the elderly and tends to worsen with advancing age.
- ISH accounts for 54% of hypertension in patients aged 50-59 years and 87% in patients aged 60 years or older.
- ISH patients comprise the largest group of uncontrolled hypertensive patients.
- 65% of uncontrolled hypertensive patients have ISH.
- Systolic hypertension is more common in women than men and in the black population⁵.

Isolated systolic hypertension as a risk factor

The presence of hypertension poses an additional risk for cardiovascular damages at all ages. The widened pulse pressure found so typically in the elderly reflects both an increase in systolic and a decrease in diastolic pressure. Several studies, including the Framingham study, documented the risk of high SBP in particular with respect to stroke and less clearly, ischemic heart disease⁸. Similarly, in the MRFIT study SBP was found to be a stronger predictor of outcome than DBP⁹. However, it should be realized that too low a DBP is also dangerous¹⁰⁻¹². Compared with normotensive patients, those with ISH have more coronary artery disease and even more stroke with an approximate 1% increase in all cause mortality rates with each 1 mm Hg rise in systolic pressure. These observations once more emphasize the important role of widened pulse pressure as a risk factor. Consequently, several intervention studies in patients with ISH have demonstrated the beneficial effect of the treatment of ISH and more generally of treatment of hypertension in the elderly. At least on theoretical grounds it seems desirable to lower SBP in such patients without simultaneously lowering DBP in order to avoid a further widening of pulse pressure.

Treatment of ISH

The therapeutic approach should include modification of inappropriate lifestyle habits and for most patients appropriate antihypertensive therapy. In general terms, the beneficial effect

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of treatment of ISH runs in parallel with that of the treatment of hypertension in the elderly. Treatment of hypertension in elderly patients differs in a number of both obvious and subtle ways from the treatment of younger patients. In part, this is a reflection of the different pathophysiology described earlier, although mainly it is because of the multiple natural changes occurring with age. Elderly patients need to be treated cautiously, following the admonition: start low and go slow.

Since the elderly may have sluggish baroreceptor and sympathetic nervous responsiveness, as well as impaired cerebral auto-regulation, therapy should be gentle and gradual, avoiding drugs that are likely to cause postural hypotension or to exacerbate other common problems often seen among the elderly like- cerebral ischemia, hyponatraemia, arrhythmia, muscular weakness, drug accumulation, depression, confusion etc. These cautions should not, however, interfere with the well-documented need to treat the overwhelming majority of elderly patients with hypertension. The benefits that elderly people have been shown to receive from antihypertensive drug therapy are quantitatively greater than those provided to younger patients. No longer should age alone interfere with the provision of appropriate therapy.

In general, this issue has been addressed since the 1990s by means of intervention trials. Several trials such as STOP-1, STOP-2 and MRC elderly have clearly shown that treatment of hypertension in the elderly protects against the complications of hypertension, particularly stroke¹³. A few other clinical trials have deliberately addressed a population of patients with ISH as such- Systolic Hypertension in the Elderly Program (SHEP)¹⁴, Systolic Hypertension in Europe (SYST-EUR)¹⁵, SYST- China trial¹⁶ and INSIGHT study¹⁷ etc. The deterioration of arterial compliance especially of the large conduit arteries results in elevated systolic pressure which places additional metabolic demands on an already stressed myocardium whereas; the decrease in diastolic pressure reduces coronary artery perfusion. Drugs such as long-acting dihydropyridine calcium channel blockers (CCBs) are beneficial in the treatment of ISH in the elderly because apart from their antihypertensive efficacy, they improve endothelial function and may positively influence atherosclerosis, improving arterial compliance. Moreover, they confer the additional benefit of reducing the risk of developing vascular dementia. The combination of natural ageing and hypertensive nephrosclerosis reduces the amount of renin secreted from kidney. Therefore, elderly patients with hypertension have low plasma renin activity and tendency to retain sodium.

These patients are more sodium sensitive and have a greater fall in blood pressure when put on reduced sodium diet or given a diuretic. A combination of dihydropyridine calcium channel blocker and a thiazide type diuretic improves arterial compliance, the root cause of ISH and offers significant reduction in difficult-to-treat systolic hypertension. At least on theoretical grounds it would seem desirable to find antihypertensive drugs which reduce SBP more markedly than DBP. Newer drugs such as ACE-inhibitors, AT1-blockers and omapatrilate are effective in lowering SBP in ISH patients, but large-scale data concerning their protective effects are not available.

Conclusions

Isolated systolic hypertension is characterized by a widened

pulse pressure. It has been recognized as an important entity, which requires consistent treatment. Appropriate management of patients with ISH can be difficult and expensive in both time and money, but the rewards are well worth the effort. Lifespan may be lengthened by some amount, however, the major benefits derive from the prevention of disabling events- stroke, heart failure, coronary and peripheral vascular diseases- the common comorbidities associated with elevation of systolic blood pressure. Apart from well-known advices for lifestyle modification, drug treatment is required in the majority of patients with ISH. The data so far available indicate that low dose thiazide diuretics and long acting calcium antagonists are the drug of choice. A slow reduction of systolic pressure in the mostly elderly patients is mandatory. A target level of SBP around 140 mm Hg seems desirable.

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Coronary angiogram : An author view

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Abstract

Coronary angiogram is one of the most accurate tests in the diagnosis of coronary artery disease. It is relatively safe, though minimally invasive, test. Coronary angiogram is an x-ray of the coronary arteries with special contrast medium to diagnose coronary artery disease. This test helps to see if any of the arteries are blocked by fatty or atheromatous plaque. It is helpful for future plan of treatment for patients with coronary artery disease.

Key words

Coronary angiogram, author view

Introduction

Coronary angiogram is an x-ray of the coronary arteries with special contrast medium to diagnose coronary artery disease. This test helps to see if any of the arteries are blocked by fatty or atheromatous plaque.

A coronary angiogram is often conducted as part of cardiac catheterization, along with other catheter-based tests. These procedures may include measuring blood pressure, obtaining samples from different chambers for diagnostic testing, a left ventriculogram, root aortogram and renal angiogram.

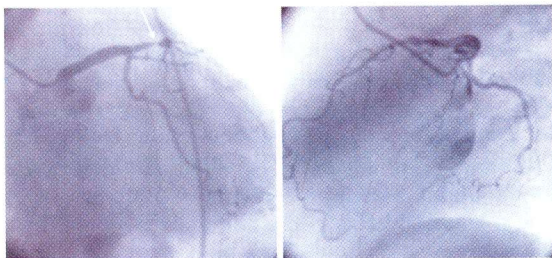


Figure: Coronary angiogram

During an angiogram, injects a contrast medium into the coronary arteries. For this purpose inserts a catheter through a blood vessel, usually through femoral artery or through radial or brachial arteries, and guides it all the way with guide wire up to the root of the aorta. Once the catheter is in place, inject the dye through the catheter and into the coronary arteries and an x-ray can be taken.

Although typically numbs the area for puncture and the catheter insertion, the patient is awake for the entire procedure. The patient receives a mild sedative before the procedure and does not ordinarily feel the movement of the catheter within the blood vessels.

Depending on the findings of angiogram, may recommend

treatments such as medication, a catheter-based procedure (e.g. balloon angioplasty, coronary stenting) or surgery (e.g. bypass surgery) for patients with coronary artery disease.

When coronary angiogram done

Coronary angiogram is one of the most accurate tests in the diagnosis of coronary artery disease and over a million of them are conducted each year. The angiogram is used to pinpoint the location and severity of coronary artery disease. For example, it can reveal blockage in an artery due to either a buildup of plaque or abnormalities in the wall of the heart.

An angiogram is a relatively safe, though minimally invasive, test. The test may be done if coronary artery disease is suspected because of symptoms, such as-

- ♦ Certain types of chest pain, pressure or discomfort called angina, especially if the patient has a history of myocardial infarction
- ♦ Shortness of breath

An angiogram may also be done if the results of less invasive tests were abnormal. These tests may include-

- ♦ Electrocardiogram
- ♦ Exercise stress test
- ♦ Echocardiogram
- ♦ Nuclear stress test

In patients with previous coronary artery bypass surgery, angiography of the grafts can detect any blockage or other abnormalities of these grafts.

Before angiogram test

Before the day of the coronary angiogram, patients should discuss their medical history with the physician and inform him or her of any medications currently being taken. Certain medications may need to be stopped or reduced. It is also recommended that patients with diabetes consult with a physician regarding food and insulin intake, because people are generally ordered not to eat or drink anything after midnight before the test. Individuals should talk with their physician if they have a blood-clotting disorder or an allergic reaction to any drug or iodine.

Angiograms are typically completed as an outpatient procedure, meaning the patient is not required to stay overnight. On the day of the procedure, the patient will be admitted to the hospital. A nurse or physician will explain the procedure and recovery. At this time, the patient and any family members will have an opportunity to ask questions about the angiogram.

Before coronary angiogram complete blood count, bleeding time, clotting time, platelet count, blood sugar, serum creatinine, serum electrolyte, VDRL, HBsAg, anti HCV, HIV test, ECG, echocardiogram, x-ray chest may be done.

Need written inform consent before procedure.

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During angiogram test

The procedure will begin with the inserting an intravenous (IV) line into the patient's arm. The IV line allows giving necessary medications during the procedure. Small electrodes will be taped to the patient's body, which allow monitoring the heart rate.

The groin or upper thigh area as the place of puncture to insert the catheter on its way to the heart, but some physicians may choose to begin at the arm or wrist. Whichever area is chosen will then be cleaned, shaved and numbed with a local anesthetic. The catheter is then fed through the artery in that area (e.g. the femoral artery in the groin or upper thigh) and up into the root of the aorta and heart. There may be some minor discomfort during this period.

When the catheter reaches the target area, the dye is injected through the catheter into a coronary artery. This dye will allow to clearly seeing the coronary arteries on the angiogram. The patient may feel hot and flushed for about 10 seconds as the dye is administered. Patients may also be asked by the physician to take certain actions, such as coughing or deep breaths, to help the dye travel through the coronary arteries. During this time, still or moving angiograms are taken to record the test results.

The dye is easily visible to monitoring the angiogram images. A "shadow" cast by the dye will show blockages of the arteries and abnormal motions of the heart walls. In the case of diseased arteries, for example, arterial walls may appear to be abnormally narrow or irregularly shaped.

Once the angiogram is completed, the catheter is removed from the body and the hole is sealed with a plug inserted under the skin or with pressure placed on the point of catheter entry. Stitches may also be necessary if the point of catheter insertion was in the elbow area. The entire process of taking angiograms lasts approximately 20 to 30 minutes, or a total of 1.5 hours from pre-procedural preparation to the removal of the catheter. Other procedures such as angioplasty and stent placement can be performed during the same setting based on the finding of the diagnostic study and the feasibility of such intervention in a given patient.

After angiogram test

After the coronary angiogram, the patient will return to a hospital bed for recovery. The patient will lie in bed with legs straight for several hours and be discharged six to eight hours after the procedure. Reducing the period of immobilization has beneficial effects on patient comfort, particularly in terms of reduced back pain. Barkman directly compared ambulation at 3 and 6 hours and confirmed that patients with the faster ambulation time experienced significantly less back pain¹.

The sedative will have worn off and the catheter insertion point may be bruised and sore. It is highly recommended that patients drink extra fluids during this period of rest. Throughout the post-catheterization monitoring, the point of catheter entrance will be checked for bleeding, swelling or infection.

Patients will be given instructions from their physician that will address the following:

- ♦ *Exercise and exertion* : Patients are reminded to refrain from lifting heavy objects and engaging in strenuous exercise or sexual activity for several days after the procedure.

- ♦ *Care of the incision area* : Bruising and soreness is possible and normal. Severe pain or swelling may require medical attention.
- ♦ *Medications* : For pain or as treatment for conditions found on the angiogram.

Potential risks with coronary angiogram

While there are some risks involved in any invasive or minimally invasive procedure, coronary angiograms are widely used and complications are low, occurring in less than 3% of patients. These potential complications include:-

- ♦ Bleeding in the area of the puncture
- ♦ Abnormal heart rhythms, arrhythmias
- ♦ Infection
- ♦ Allergic reaction to the dye
- ♦ Damage to the arteries
- ♦ Chest pain, myocardial infarction
- ♦ Stroke
- ♦ Air embolism (when air gets into the bloodstream, where it could cause damage)
- ♦ Contrast induce nephropathy
- ♦ Death

The risk of complications is greater if people are over the age of 70 or have conditions such as diabetes, hardening of the arteries (atherosclerosis), kidney failure or carotid artery disease.

Overall complication rate in diagnostic coronary angiography is very low and related to the experience of the performing cardiologist and catheter size. The only predicting risk factors for major complications in coronary angiography were catheter size and body weight². Surgical intervention for complications was required in 0.23% of patients³.

Female gender as an independent risk factor for the development of complications⁴. Other studies have also identified female gender as a predictor of femoral access site complications⁵.

Treatments that may follow angiogram

Based on the nature and extent of the coronary artery disease determine the most appropriate treatments, which may include-

Medications : (e.g. antiplatelet, beta blockers, nitrates, statins).

Balloon angioplasty (percutaneous transluminal coronary angioplasty or PTCA) : A procedure in which the physician uses a balloon-tipped catheter to press plaque back against the artery wall to allow for better blood flow in the artery.

Coronary stenting : A small metal structure called a stent is inserted into the artery after angioplasty. Currently, stents are implanted in the majority of PTCA cases. The stent acts as scaffolding, keeping the artery wall stretched and maintaining adequate blood flow through the vessel. One of the risks in stenting and angioplasty is the restenosis of the artery. Ongoing attempts to prevent this complication include the development of stents coated with chemotherapeutic drugs that are released into the wall of the artery. Approved by the U.S. Food and Drug Administration in April 2003, such drug-eluting stents have demonstrated an ability to minimize restenosis to less than

10% of cases. This success rate has contributed to the rapid acceptance of drug-eluting stents and possibly contributed to a 25% drop in the number of bypass surgeries performed. One uncommon complication of stenting is subacute thrombosis due to blood clots to form within the stent, resulting in a re-narrowing of the artery. It can occur with both drug-eluting and "bare metal" stenting. Antiplatelet and anticoagulant agents given after stenting significantly reduce this risk.

Atherectomy : A catheter is inserted with a device on the tip that destroys and removes plaque. This procedure is generally reserved for extremely calcified plaque or complex cases of atherosclerosis.

Coronary bypass surgery : A procedure in which a segment of a blood vessel from another part of the body (usually LIMA and the leg veins) is used to reroute blood flow around a blockage artery supplying blood to the heart.

Magnetic resonance angiogram (MRA)

Magnetic resonance angiogram (MRA) has evolved to a very sophisticated level, such that blood flow through the coronary (heart) or carotid (neck) arteries can be viewed without the use of catheter-based techniques, such as coronary angiograms.

Instead, the noninvasive MRA scan takes three-dimensional images of the blood flow, so the physician can detect any damage to the vessel walls. It can also reveal blockage or re-narrowing (restenosis) after vein graft procedures.

The test takes less time than an angiogram, requires less of a recovery period and does not entail the same risks as a more invasive procedure. As a result, MRA may eventually become an alternative to angiography for some patients, and may even become a screening tool for the detection of atherosclerosis and heart disease in their earliest stages.

CT angiogram

In recent years, CT scanning (computed tomography) has advanced rapidly to the point where it is becoming a valuable tool in the diagnosis and management of coronary artery disease. This noninvasive or minimally invasive test uses multiple x-ray scans to produce very high-resolution images of internal organs, including the coronary arteries.

Coronary computed tomography angiogram (Coronary CTA)

can detect soft plaque or fatty matter that has not yet hardened in the arteries. It is used to determine the calcium score, or the degree of calcification in coronary arteries. Studies have shown that the coronary calcium score closely correlates to the degree of coronary artery disease and the likelihood of a major cardiac event. This test is less invasive than the angiogram and may be recommended for patients who are at high-risk for coronary artery disease but do not have typical symptoms. Coronary CTA continues to be evaluated by medical professionals as a valuable tool for certain patients at risk for coronary artery disease.

Conclusion

Coronary angiogram is one of the most accurate tests in the diagnosis of coronary artery disease. It is relatively safe, though minimally invasive test. Coronary angiogram is an x-ray of the coronary arteries with special contrast medium to diagnose coronary artery disease. This test helps to see if any of the arteries are blocked by fatty or atheromatous plaque. It is helpful for future plan of treatment for patients with coronary artery disease. The risk of complications is greater if people are over the age of 70 or have conditions such as diabetes, hardening of the arteries (atherosclerosis), kidney failure or carotid artery disease. Depending on the findings of angiogram, may recommend treatments such as medication, a catheter-based procedure (e.g. balloon angioplasty, coronary stenting) or surgery (e.g. bypass surgery) for patients with coronary artery disease. Magnetic resonance angiogram (MRA) and coronary computed tomography angiogram continues to be evaluated to detect coronary artery disease as a valuable tool for certain patients at risk for coronary artery disease.

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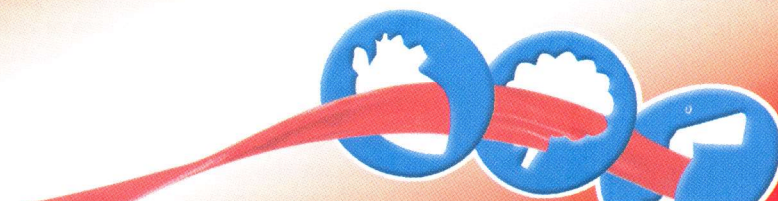
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Role of radionuclide in therapy : A review

Ali MM¹

The ORION 2008; 31: 602-604

Introduction

Thyroid disorders are the second most common endocrine problem in Bangladesh. Thyroid disorders may occur in form of abnormality in size, shape, histological structures and function of the gland.

The relative frequency of thyroid disorders may vary in different countries of the world and also in the different regions of the same country, as well as in different socioeconomic status. Cancer is the disease of this century. Proper management is a great challenge for today's medical science. Along with other modalities of treatment nuclear medicine play a great role in the management of cancer.

Nuclear medicine therapy uses unsealed radioactive sources for the selective therapy of radiation to tumours or target organs. For benign disorders such as thyrotoxicosis and arthritis radionuclide therapy provides an alternative to surgery or medical treatments. In cancer treatment, it often combines the advantages of target selectivity with that of being systemic, as with chemotherapy and it may be used as a part of a therapeutic strategy with curative intent or for disease control and palliation.

The basis of successful radionuclide therapy is sufficient uptake & prolong retention of the radio pharmaceutical in the target tissues. This can be assessed with a tracer study before administering a therapeutic dose. The mechanism of action of radionuclide therapy, with its low irradiation dose rate, is poorly understood. Radiation is delivered selectively by the appropriate radio pharmaceutical, taking advantage of short range, β particles (in the order of millimeters) or ultra short-path-length & particles or auger electron emitting radio nuclides¹. Calculation of the dose delivered to a target remains a challenge mainly because the distribution of the radio pharmaceutical in the target is non-uniform². Nuclear medicine therapy is often confined to centers which have a nuclear medicine department equipped and licensed for radionuclide therapy, where patients receiving high doses of radioactivity can be temporarily isolated, in compliance with national legislation³. Furthermore, there are significant variations in the availability of such facilities between countries.

Discussion

Benign disease

One of the oldest and still most widely used applications of radionuclide therapy is radio iodine for thyrotoxicosis, both the diffuse (Graves) and nodular (Plummer's) forms, which dose not respond to medical treatment. The efficacy of iodine -131 therapy in thyrotoxicosis is beyond dispute and long-term follow-up studies in the USA and the UK have confirmed the safety of this treatment. The reported incidence of induction of hypothyroidism ranges from 7% to 25% in the first year,

depending on the dose. The intra-articular administration of radiolabelled colloids (so-called radiosynoviorthesis or radiation synovectomy), is effective in more than 60% of patients with rheumatoid arthritis and other arthritic diseases. The choice of radioisotope, dose and injected volume is determined by the size of the joint; the range of the Beta-particle spectrum is matched to the thickness of the synovium. Yttrium-90(⁹⁰Y) citrate or silicate is generally used for big joints such as the knee, with rhenium-186 colloid for the shoulder, elbow, hip and ankle and erbium-169 citrate for small joints in the hands and feet.

Nuclear medicine therapy, advantage and limitation

Advantages	Limitation
Specificity (Radiation dose limited to the target organs.)	Isolation of the patient
Efficacy	Storage of radioactive waste
Low toxicity	Availability (Radio-pharmaceuticals/ isolation bed)
Systemic or loco regional application	High cost of some newer form of therapy
Excellent palliation	Multidisciplinary approach required
Limited long term consequence	Need form dosimetry calculation
Multiple treatment possible	Mechanism is poorly understood
New indication emerging	

Thyroid carcinoma

For nearly 50 years ¹³¹I has been an integral part of the treatment of differentiated (papillary and follicular) thyroid carcinoma. In most cases, after total or near-total thyroidectomy, an ablative dose of 1.85-3.7 GBq (50-100 mCi) is administered as a liquid or capsule to clear the neck of any remaining (normal) thyroid tissue and to permit the detection and treatment of metastases, which would otherwise not sufficiently take up ¹³¹I in competition with the thyroid remnant. Survival rates for surgery followed by ¹³¹I ablation are better than those for surgery alone. If metastatic or, during follow-up, recurrent disease is detected, therapeutic doses up to 7.4 GBq(200mCi) ¹³¹I may be administered. In a series of 394 patients with lung and bone metastases from thyroid carcinoma complete remission was attained in 46%⁴. Long-term follow-up confirms the efficacy of ¹³¹I therapy; patients with ¹³¹I avid metastases have significantly better 5 and 10 years survival rates than patients whose metastases do not take up ¹³¹I and cannot be treated this way. The clinical experience that ¹³¹I is curative in patients with pulmonary metastases⁵ illustrates the scope for others forms of radionuclide treatment in solid tumours, such as minimal residual disease.

Myeloproliferative diseases

Radioactive phosphorus, as ³²P orthophosphate has been used since 1936 for the treatment of myeloproliferative disorders such as polycythaemia vera and essential thrombocythaemia.

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Acting by incorporation of radiophosphorus into the DNA of rapidly proliferating cells, ^{32}P therapy may induce objective remission and prolonged survival. Comparative studies in polycythaemia vera demonstrated that ^{32}P is associated with fewer thromboembolic complications than repeated phlebotomy but is associated with higher rates of leukaemia, as is chemotherapy for this disease.

^{131}I -m-iodobenzylguanidine (MIBG) therapy

Active uptake via the cell membrane and neurosecretory storage granules in the cytoplasm are responsible for the specific retention of ^{131}I -MIBG in tumours derived from the neural crest (in non-adrenergic tissues uptake is via passive diffusion only), resulting in high tumour/non tumour ratios. More than 90% of pheochromocytomas and neuroblastomas, around 35% of medullary thyroid carcinomas and 70% of carcinoids concentrate MIBG. ^{131}I -MIBG therapy for malignant pheochromocytoma aims at objective tumour regression or tumour control with reduction of the tumours metabolic function and palliation of symptoms, sweats and bone pain. Pooled results in 117 patients showed an overall objective response rate of 56% and subjective improvement and decrease of blood pressure were achieved in more than 60% of patients⁶. Also in malignant (secreting or non secreting) paraganglioma, reports describe objective partial remission, pain relief and improved quality of life.

Since 1984 therapeutic doses of ^{131}I -MIBG have been given to children with metastatic or recurrent neuroblastoma not responding to conventional treatment. In 1991 pooled results from the major centers for 273 neuroblastoma patients indicated an objective response rate of 35%⁶. Both the ^{131}I -MIBG therapy and the accompanying isolation are generally well tolerated by children and toxicity is limited to hematological side-effects.

For patients with recurrent and progressive disease after conventional treatment ^{131}I -MIBG is probably the best palliative treatment because the invasiveness and toxicity of this therapy compare favorably with those of chemotherapy and external beam radiotherapy. Attempts to combine ^{131}I -MIBG with high-dose chemotherapy, with or without total body irradiation, followed by autologous bone-marrow rescue have met with severe toxicity. In patients with recurrent stage IV neuroblastoma ^{131}I -MIBG is now used in combination with hyperbaric oxygen to try to improve survival. More recently, ^{131}I -MIBG therapy has been inserted early in the treatment protocol, instead of preoperative combination chemotherapy, in children presenting with advanced and/or inoperable neuroblastoma. The objective is to reduce the tumour volume, permitting adequate surgical resection and avoiding toxicity and the induction of early drug resistance. Chemotherapy is reserved for minimal residual disease postoperatively. With this approach 70% of the patients had complete or >95% resection of the primary tumour or did not require surgery at all and toxicity was less than that of ^{131}I -MIBG after conventional therapy⁷.

Cumulative results of ^{131}I -MIBG therapy of medullary thyroid carcinoma and carcinoid tumours indicate a lower objective response rate but useful palliative effects in more than 50% of the patients. In carcinoid tumours not qualifying for ^{131}I -MIBG therapy because of insufficient tumour uptake, palliation with high dose of unlabelled MIBG has also been successful⁸.

Current therapeutic indication

Therapy	Indication
<i>Benign Disease</i>	
^{131}I as iodine	Thyrotoxicosis
Radiosynoviorthesis	Arthritic disease
<i>Malignant Diseases</i>	
^{131}I as iodide	Differentiated thyroid carcinoma
^{32}P orthophosphate	Polycythemia Vera, essential thrombocythaemia
^{131}I MIBG	Pheochromocytoma, paraganglioma, neuroblastoma, carcinoid, medullary thyroid carcinoma
^{89}Sr , ^{186}Re ,	Painful skeletal metastasis (Ca prostate/breast)
Locoregional	Hepatocellular carcinoma

Palliative therapy of painful skeletal metastasis

Although radioactive strontium had been used to treat skeletal metastases since 1937, the 1980s saw a revival of this form of therapy as new bone-seeking radio pharmaceuticals became available.

Beside medical treatments for painful bone metastases, external beam radiotherapy- either as a local dose to a single or few painful sites or as a dose up to 8 Gy as half body irradiation in more widely disseminated disease- has been used with success. Upto 80% of the patients respond. However, this approach is very toxic. Systematic treatment with bone-seeking radio-pharmaceuticals is less invasive better tolerated and just as effective because the radiation dose is limited to the metastases and normal tissues are spared. Initial clinical studies of radioactive strontium (^{89}Sr) chloride in patients with metastatic prostatic cancer demonstrated a palliative response rate of 75%, 25% of patients being able to stop taking analgesics. Double-blind studies comparing ^{89}Sr and multicoated controlled studies have shown that ^{89}Sr is as effective as radiotherapy and that the onset of pain at new sites may be delayed by it⁹.

The most frequently used agents for bone palliation today are, besides ^{89}Sr , rhenium-186, etidronate¹⁰ and samarium-153 ethylenediaminetetramethylene phosphonate¹¹. ^{89}Sr is a pure Beta-emitter with a long half-life (50.5 days); the other two are Beta/Gamma emitters with half-lives of only 3.8 and 1.95 days, respectively, offering the added advantage of imaging. In most countries these treatments can be given on an outpatient or daycare basis.

Locoregional applications of radionuclide therapy

Inoperable tumours which are localized or confined to an organ may be targeted more directly via the arterial route, exploiting the fact that most tumours have a greater arterial blood supply than surrounding normal tissue does. Example are ^{131}I -iodized oil and ^{90}Y glass microspheres, which linger or are trapped in the tumours arterioles and capillaries in hepatocellular and capillaries in hepatocellular carcinoma and liver metastases. Therapeutic doses of ^{131}I -iodized oil resulted in partial remission in more than 50% of patients with hepatocellular carcinoma; in patients with portal-vein thrombosis, a contraindication for chemoembolisation, survival after ^{131}I -iodized oil was better than that in a control group treated by medical support only¹².

Mesothelioma and malignant pleural effusions may be treated by intrapleural administration of radioactive colloids. Similar

radionuclide therapy by intrapericardial, intraperitoneal and intrathecal administration for malignant effusions has been reported, as well as intracystic installation of radiopharmaceuticals into cystic glioma and craniopharyngioma aiming at suppressing the reaccumulation of fluid. Inoperable pancreatic, liver and brain tumours may be approached by direct, intratumoral administration of ^{32}P -colloid or ^{131}I -labelled monoclonal antibodies.

New developments

Short term

- ♦ Radioimmunotherapy for non-Hodgkin's lymphoma.
- ♦ Radiolabelled peptides for neuroendocrine tumour.
- ♦ New radio nuclides (Beta emitters, Y-90, Re-186 & 188, Copper-67).

Long-term

- ♦ Radioimmunotherapy for residual disease of solid tumours.
- ♦ Radiolabelled peptides
- ♦ Antisense radiotherapy
- ♦ New radio nuclides (Alpha emitters, astatine-211, Bismuth-213).

Potential new applications in oncology reflects advances in antibody engineering, the identification of tumour antigen targets and the synthesis of regulatory peptide analogues and bifunctional chelating agents for stable and efficient complexing of beta radio nuclides more suitable than ^{131}I and eventually of alpha emitter.

Radioimmunotherapy

Monoclonal antibodies labeled with radio nuclides (mainly ^{131}I) were directed against various antigens associated with specific tumour type. Non-Hodgkin lymphomas are a privileged clinical target for radioimmunotherapy, as they express well-characterized differentiation antigens and are highly radiosensitive. Anti-CD20 antibodies, which have been evaluated most often for this indication produce a specific cytotoxic action which was not been completely elucidated¹³. Radioimmunotherapy of solid tumours has been less encouraging with objective response rates of less than 2%¹⁴. This disappointing results are attribute to the large size and relative radioresistance of the tumours and to inadequate tumour to normal tissue uptake ratios. Moreover pretargeting techniques significantly increase tumour to normal tissue ratios and prolong the residence time in tumours, thereby enhancing tumour uptake without augmenting toxicity to normal tissue¹⁴.

New radio-nuclides

Most radionuclide therapy in clinical practice today is with ^{131}I . Its physical half life is 8 days and two third of its energy is emitted as gamma rays, which do not contribute significantly to therapeutic efficacy. The gamma rays are active in non-specific irradiation of both the patients bone marrow and medical environment of the patient, requiring isolation of patients in shielded rooms for several days. Only one third of the energy is emitted as Beta rays, contributing directly to the therapeutic effect and 95% of this energy is deposited within 1mm of the emission source.

Radionuclides with more favorably radio physical characteristics are undergoing evaluation. The pure beta emitter Y⁹⁰ is more energetic and thus more penetrating, than ^{131}I , ^{186}Re , ^{188}Re and ^{67}Cu are also promising beta emitters. Alpha radio nuclides such as astatine-211 and bismuth-213 are

available for radioimmunotherapy. They are much more cytotoxic than beta emitter but because of their radio physical characteristics, can only be used for microscopic targets (Hematological malignancies readily accessible to injected radioimmunoconjugates). A first phase I clinical study in nine patients with relapsed acute myelogenous leukaemia who were injected with a humanized anti-CD33 antibody (HuM195) labeled with bismuth-213, showed no extramedullary toxicity and transient reductions in leukaemia cells in peripheral blood and leukaemic blast cells in the bone-marrow¹⁵.

Conclusion

Thyroid disorders are global health problems with an endemic prevalence in Bangladesh. The relative frequency of thyroid disorders varies in different countries of the world and also in the different regions of the same country as well as in different socioeconomic status. The most popular treatment is radioactive iodine. When thyroid disease is diagnosed early, treatment can control the disorder even before the onset of symptoms. Thyroid diseases are life-long conditions. With careful management, people with thyroid disease can live healthy, normal lives.

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MSD NEWS

Intern Doctor Reception Program (IDRP)

Sir Salimullah Medical College & Mitford Hospital: Sir Salimullah Medical College & Mitford Hospital, Dhaka arranged an intern doctors reception program and scientific seminar on "Comparative review on cephalosporins" on 27th April 2008 at China Kitchen Chinese Restaurant, Hatirpool, Dhaka. Dr. Khalid Nur Md. Mahbub & Dr. Shoma Sharkar were the keynote speakers. About 160 intern doctors enjoyed the session and raffle draw.

Launching of New Products

New steps towards ... treating skin disease

Skin disease appears to be becoming more common. The most common skin diseases include eczema, psoriasis and fungal infection.

For the effective treatment of skin diseases, Orion entered the huge market of cream & ointment with steroidal anti-inflammatory agent & antifungal agent with steroidal anti-inflammatory agent. Orion introduces Xenocort cream & ointment (clobetasol propionate BP 0.05%), Avison cream (econazole nitrate BP 1.0% & triamcinolone acetonide BP 0.1%) and miki-H cream (miconazole nitrate BP 2.0% & hydrocortisone BP 1.0%).

Manufacturing these cream & ointment Orion introduces an innovative technology (AXOMATIC OPTIMA 800), which is 1. Regulated by FDA & CGMP approved guidelines to ensure excellent quality product, 2. High precision in manufacturing to ensure high dosage accuracy, 3. Versatility in filling and sealing of plastic lami tube to prevent any kind of leakage, 4. Machine body frame is fully built with stainless steel to ensure unwanted particle in final product, 5. Fully automated to minimize the chance of contamination.

Avison cream

Econazole Nitrate BP 1.0% & Triamcinolone Acetonide BP 0.1%

Excellent treatment success in fungal infection

Avison cream is a preparation of antifungal agent with steroidal anti-inflammatory agent. Each gram of Avison cream contains Econazole Nitrate BP 10 mg and Triamcinolone Acetonide BP 1 mg. Econazole Nitrate is a broad spectrum antifungal agent. It is effective against various dermatophytes, yeasts and moulds. Moreover, it has activity against gram-positive bacteria. Triamcinolone Acetonide is a potent corticosteroid with anti-inflammatory, anti-pruritic and anti-allergic activity. Avison cream is indicated in the treatment of 1. Dermatophytosis 2. Superficial mycosis 3. Cutaneous candidiasis 4. Ringworm 5. Eczematous mycosis 6. Onychomycoses and 7. Vulvo-vaginal candidiasis. Avison cream is recommended to be applied by gently rubbing into the skin with the finger once or twice daily for 14 days or as directed by the physician. Avison cream is presented in a pack has a tube containing 10 gm of the cream. MRP of Avison cream is Tk. 35.00/tube.



Miki-H cream

Miconazole Nitrate BP 2.0% & Hydrocortisone BP 1.0%

Ideal antifungal and anti-inflammatory combination

Miki-H cream is a preparation of antifungal agent with steroidal anti-inflammatory agent. Each gram of Miki-H cream contains Miconazole Nitrate BP 20 mg & Hydrocortisone BP 10 mg. Miconazole Nitrate is an imidazole antifungal agent and possesses antibacterial activity. At low concentrations, it interacts with fungal cytochrome p450 which results in inhibition of a demethylation step in the biosynthesis of ergosterol. At high concentrations, Miconazole interacts with membrane lipids causes direct membrane damage which results in leakage of fungus cell constituents. It appears that fungistatic effects result from the inhibition of membrane sterol synthesis and fungicidal effects from impairment of the barrier function of the membrane. Hydrocortisone is a naturally occurring glucocorticoid that is now prepared by chemical synthesis and its main action is to reduce the response of the skin to injury. It also has immunosuppressant and antimicrobial actions. The anti-inflammatory activity of Hydrocortisone is its main therapeutic property. Miki-H cream is indicated in the treatment of 1. Intertrigo 2. Infected eczema 3. Moist and dry eczema or dermatitis 4. Intertriginous eczema such as inflammatory intertrigo 5. Atopic eczema 6. Primary irritant or contact allergic eczema and 7. Seborrheic eczema. Miki-H cream is presented in a pack has a tube containing 10 gm of the cream. MRP of Miki-H cream is Tk. 40.00/tube.



Xenocort cream & ointment

Clobetasol Propionate BP 0.05%

The super potent option for all possible inflammation

Xenocort is the preparation of Clobetasol Propionate; a super potent topical steroid. Each 10 gm Xenocort cream & ointment contains Clobetasol Propionate BP 5 mg. It has both local anti-inflammatory and immunosuppressive activity. Xenocort inhibits the adherence of neutrophils and monocyte-macrophages to the capillary endothelial cells of inflamed area. Xenocort blocks the effect of macrophage migration inhibitory factor and decreases the activation of plasminogen to plasmin. Xenocort is indicated in 1. Initial control of all forms of hyperacute eczema in all age groups 2. Chronic hyperkeratotic eczema of the hands, feet and patches of chronic lichen simplex 3. Chronic hyperkeratotic psoriasis 4. Severe acute photosensitivity 5. Hypertrophic lichen planus 6. Acute contact dermatitis and 7. Keloid scarring. Recommended dose and administration of Xenocort is applying sparingly to the affected area once or twice daily until improvement occurs. As with other highly active



topical steroid preparations, therapy should be discontinued when control is achieved. If a longer course is necessary, it is recommended that treatment should not be continued for more than four weeks without the patient's condition being observed. Xenocort cream is presented in a pack has a tube containing 10 gm of the cream and Xenocort ointment is presented in a pack has a tube containing 10 gm of the ointment. MRP of Xenocort cream is Tk. 40.00/box and Xenocort ointment is Tk. 50.00/box.

Lipex 20 Tablet

Atorvastatin INN 20 mg tablet

Better lipid management with higher strength

Orion introduced Lipex 20 tablet, a new strength of atorvastatin. Each tablet contains atorvastatin calcium trihydrate INN equivalent to atorvastatin 20 mg. Lipex is a synthetic lipid-lowering agent. It is an inhibitor of 3-hydroxy-3-methyl-glutaryl-coenzymeA (HMG-CoA) reductase, an enzyme which catalyzes the early and rate-limiting step in cholesterol biosynthesis. Lipex is indicated in primary hypercholesterolaemia, heterozygous familial hypercholesterolaemia, homozygous familial hypercholesterolaemia or combined (mixed) hyperlipidaemia in patients who have not responded adequately to diet and other appropriate measures. Recommended dose of Lipex for hypercholesterolaemia and mixed dyslipidaemia is 10 to 20 mg once daily as starting dose. Patients who require a large reduction in LDL-C (more than 45%) may be started at 40 mg once daily dose. The dosage range of Lipex is 10 to 80 mg daily. In heterozygous familial hypercholesterolaemia in paediatric patients (10-17 years of age); the recommended starting dose of Lipex is 10 mg/day; the maximum recommended dose is 20 mg/day. Lipex 20 is presented in a box containing 2X10 tablets in blister strips. MRP of Lipex 20 is Tk. 15.00/tablet.



Nugesic injection

Thiamine Hydrochloride 100 mg, Pyridoxine Hydrochloride 100 mg & Cyanocobalamin 1 mg.

More than an analgesic

Orion launched Nugesic injection; each 3 ml ampoule contains Thiamine Hydrochloride (vitamin B1) BP 100 mg, Pyridoxine Hydrochloride (vitamin B6) BP 100 mg, Cyanocobalamin (vitamin B12) BP 1 mg. Nugesic injection is a combination of neurotropic vitamins, for their role as co-enzyme are indispensable factors in the metabolism of the nervous system. Nugesic normalizes the nerve cell metabolism. Nugesic supports the regeneration of nerve fibres and myelin sheath by activation of the metabolism and the natural repair mechanism. The analgesic effect of Nugesic is attributed to an increased availability and/or effectiveness of noradrenaline and 5-hydroxytryptamine acting as inhibitory transmitters in the nociceptive system. High doses of these vitamins administered alone or in combination inhibits nociceptive behavior and depressed the nociceptive activity evoked in single neuron of the dorsal horn of the spinal cord and in the thalamus. Moreover, they were found to enhance the antinociceptive effect of non-opioid analgesic agents. Nugesic is indicated for the treatment of the following diseases: neuropathy, neuritis, neuralgia, cervical syndrome, shoulder arm syndrome, lumbago, sciatica, myalgia, intercostal neuralgia, trigeminal neuralgia, tardive dyskinesia and arthritis. It is also indicated where a deficiency of the relevant vitamins exists. Nugesic ampoules are preferably injected intramuscularly (deep intragluteal). Nugesic injection is given in severe cases 1 ampoule daily until the acute symptoms subside. For milder cases and follow up therapy 2 to 3 ampoules per week. Nugesic injection is presented in a commercial pack containing 10 ampoules of 3 ml each. MRP of Nugesic injection is Tk. 25.00/ ampoule.



Maprocin 60 ml suspension

Ciprofloxacin HCl USP 250 mg/ 5 ml

Easy-to-reconstitute

Orion has introduced Maprocin 60 ml ready-mix blended pellets for suspension, a new pack-size of Ciprofloxacin HCl USP. Ready-mix blended pellet is an innovative formulation of taste masked suspension which is very easy-to-reconstitute in comparison to other brands. Maprocin suspension contains special type of stabilizer to ensure palatability even up to 14 days. Maprocin suspension is highly acceptable to the patients for sweet taste and strawberry flavor. Maprocin suspension is indicated for typhoid fever, urinary tract infections, respiratory tract infections, gastro-intestinal tract infections, urogenital tract infections, bone & joint infections, skin & skin structures infections, gonorrhea & other sexually transmitted diseases, severe systemic infections and surgical prophylaxis. Recommended dose of Maprocin suspension for children above 1 year is 10-30 mg/kg/day depending on the severity of infections, administered in two divided doses. Maprocin suspension is presented in a bottle containing ready-mix blended pellets to prepare 60 ml suspension. MRP of Maprocin suspension is Tk. 90.



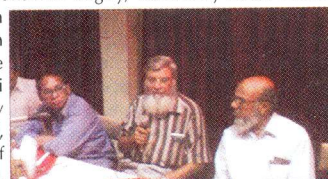
Medical Services Department (MSD) of ORION Laboratories Ltd. successfully arranged significant number of Round Table Meetings, Scientific Seminars, Intern Doctors Reception Programs in different venues of all over Bangladesh during April 2008 to July 2008.

Scientific seminar (SS)

BMA Faridpur: On 29th June 2008, BMA Faridpur arranged a scientific seminar on "Radiology & imaging" at BMA Bhavan, Jhiltuli, Faridpur. Dr. Muhammad Abu Hashem, Associate Professor, Radiology & Imaging, FMCH was the chairperson of the seminar and Dr. Md. Mostafizur Rahman Shamim, President, BMA, Faridpur was present as the special guest. Dr. J. C. Saha, Scientific Secretary, BMA, Faridpur was the rapporteur and Dr. Md. Mosharraf Hossain Khan, Junior Consultant, Radiology & Imaging, Faridpur General Hospital; Dr. Ali Akbar Halder, Sonologist; Dr. Md. Towrit Reza (Rishlu), Medical Officer, Radiology & Imaging, FMCH were the keynote speakers of the occasion. About 250 doctors of Faridpur enjoyed the seminar and raffle draw.



Department of Surgery, CBMCH: Department of Surgery, Community Based Medical College, Mymensingh arranged a SS on "Comparative review on cephalosporin" on 12th May 2008 at New Young King Chinese Restaurant, Mymensingh. Prof. Hydar Ali Talukder, Head of the Dept of Surgery chaired the meeting and Prof. M A Ghani, Principle; CBMC was present as the chief guest. About 65 doctors attended the meeting.



Round Table Meeting (RTM)

Dhaka

Department of Hepatology, BSMMU: Hepatology Dept. BSMMU arranged a RTM on "Hepatic encephalopathy" on 14th May 2008 at China Kitchen Chinese Restaurant, Hatirpool, Dhaka. Dr. Ananta Srestha was the keynote speaker. About 60 doctors attended the seminar.

Surgery Unit-6, DMCH: On 22nd May 2008 Surgery Unit-6, arranged a RTM on "Surgical patient with co-existing cardiac disease" at the Professor's Room. Dr. Md. Saifullah was present as the chairperson. About 40 doctors attended the session.

DIPHAM Hospital, Dhanmondi, Dhaka: A RTM was arranged by DIPHAM Hospital, Dhanmondi, Dhaka on "Role of ceftriaxone to treat various infections" on 11th July 2008 at Chilis Chinese Restaurant, Dhanmondi. About 15 doctors attended the session.

Paediatric Surgery Department, DMCH: Department of Paediatric Surgery, DMCH arranged a round table meeting on 24th June 2008 on "Burn in children" at the seminar room. Prof. Mahbub-Ul-Alam, Head of the department chaired the meeting. Dr. Shah Alam Talukder, Associate Professor was the chief guest and Dr. Abdul Hanif (Tablu), Assistant Professor, Dr. Mahmudur Rahman, Assistant Professor and Dr. Kaniz Hassina, Assistant Professor were the special guests. Dr. Asif Mahmud, HMO was the keynote speaker. About 30 doctors enjoyed the session.

Faridpur

Dr. Zahed Memorial Children Hospital, Faridpur: A RTM was arranged by Dr. Zahed Memorial Children Hospital, Faridpur on 15th April 2008 on "Role of cefuroxime in different infections" at the seminar room. Dr. Niranjana Kumar Das chaired the meeting and Dr. A. C. Paul was the keynote speaker. About 15 doctors attended the meeting.

Veramara UHC, Kushtia: Veramara UHC, Kushtia arranged a RTM on 11th June 2008 on "Role of ceftriaxone to treat various infections" at the UHC's room. Dr. Abu Eusuf, UH & FPO was the chairperson. About 10 doctors attended the meeting.

Sylhet

Hobigonj Sadar Hospital: On 16th April 2008 Hobigonj Sadar Hospital arranged a RTM on "Comparative review on cephalosporins" at Sky Queen Chinese Restaurant. Dr. Mosharraf Hossain, Civil Surgeon, Hobigonj chaired the session and Dr. M. A. Wahab, Deputy Civil Surgeon was present as the special guest. About 35 doctors attended the meeting.

Modern General Hospital, Sylhet: A RTM was arranged by Modern General Hospital on 21st May 2008 on "Role of ceftriaxone to treat various infections" at Teradin Chinese Restaurant. Dr. Md. Sabbir Hossain, SMO was the chairperson. About 20 doctors enjoyed the session.

Surgery Unit-II, SOMCH: A RTM was arranged by Surgery Unit-II, on 5th July 2008 at Taradin Restaurant on "Prophylactic role of ceftriaxone in surgery". Dr. Atiqul Ahsan, Assistant Registrar chaired the session and Dr. Ashraf Haque, IMO was present as the special guest. About 30 doctors attended the meeting.

Mymensingh

Paediatric Ward, MMCH: A RTM was arranged by Paediatric Ward, MMCH on "Dengue fever" on 28th April 2008 at the Conference Room of Paediatric outdoor, MMCH. Professor Dr. Md. Nazmul Islam was present as the chairperson. Dr. Biplob, Dr. Pritom and Dr. Bilkis were the keynote speakers. About 80 doctors enjoyed the session.

Purbadhala UHC: On 26th May 2008 a RTM was arranged by Purbadhala UHC, on "Role of ceftriaxone to treat various infections" at the room of UHC. Dr. Dipok Saha, UH & FPO was present as the chairperson. About 10 doctors enjoyed the session.

Mohongonj UHC, Netrokona: A RTM was arranged by Mohongonj UHC, Netrokona on 11th June 2008 on "Role of ceftriaxone to treat various infections" at the room of UH & FPO. Dr. Nurul Islam, UH & FPO chaired the session. About 15 doctors attended the meeting.

Fukbaria UHC: Fulbari UHC, arranged a RTM on "Cream & Ointment" on 26th July 2008 at the Conference Room. Dr. Rashida Khatun, UH & FPO was present as the chairperson. About 15 doctors attended the seminar.

Modon UHC, Netrokona: Modon UHC, Netrokona arranged a RTM on "Role of ceftriaxone to treat various infections" on 10th June 2008 at the Conference Room. Dr. Sirazul Haque Talukder, UH & FPO was present as the chairperson. About 15 doctors attended the seminar.

Khulna

Department of Paediatrics, KMCH: On 22nd April 2008 a RTM was arranged by Department of Paediatrics, KMCH on "Child health problem: Vascular disorder" at Hotel Royal International. Dr. MA Khalilur Rahman, Vice Principal & Head, Dept of Skin & VD chaired the session. Dr. Abdullah Al Mahboob, Assistant Professor, Dept of Paediatrics was the Co-chairperson and Prof CH Rasul, Dept of Paediatrics was the Co-ordinator of the meeting. Dr. Prodig Debnath and Dr. AKM Mamunur Rashid were the keynote speakers. About 40 doctors attended the meeting.

Chitalmari UHC, Bagerhat: Chitalmari UHC, arranged a RTM on "Role of ceftriaxone to treat various infections" on 26th July 2008 at the Conference Room. Dr. Amalendu Biswas, UH & FPO was present as the chairperson. About 10 doctors attended the seminar.

Comilla

Medicine Unit, CoMCH: A RTM was arranged by Medicine Unit, CoMCH on "Management of stroke" on 29th April 2008 at the room of Head of the Department. Prof. Md. Azizul Haque, Head, Dept of Medicine was the chairperson of the session and Dr. Mahfuzur Rahman Babul, CA, Neuromedicine was the keynote speaker. About 60 doctors attended the meeting.

Surgery Unit, CoMCH: On 25th June 2008, Surgery Unit of CoMCH arranged a RTM on "Gastric Malignancy" at the Conference Room. Prof. Dr. Md. Shahid Hossain, Head, Department of Surgery was the chairperson of the seminar and Prof. Dr. Faruk Hossain, Surgery Unit-II was present as the chief guest. Dr. Mozammel Haque, Assistant Registrar, Surgery Unit-I was the keynote speaker. About 80 doctors attended the session.

B.Baria Sadar Hospital: On 21st April 2008 B.Baria Sadar Hospital arranged a RTM on "Total parenteral nutrition" at the Conference Room. Dr. Nurul Haque, Civil Surgeon, B.Baria chaired the session and Dr. Quyum, Medical Officer; B.Baria Sadar Hospital was the keynote speaker. About 40 doctors attended the seminar.

Zaman's Clinic, Nangolkot, Comilla: Zaman's Clinic, Nangolkot, Comilla arranged a social awareness rally against drug and a RTM on 25th June 2008. Dr. Md. Mustafa, UH & FPO, Nangolkot UHC was present as the chairperson. About 30 doctors and other staffs attended the rally and meeting.

Rajshahi

Tanore UHC: Tanore UHC of Rajshahi arranged a RTM on "Common surgical problems and irrational use of antibiotics" on 22nd July 2008 at the seminar room. Dr. Md. Abdul Alim, UH & FPO chaired the meeting and Dr. Nowshad Ali, Consultant Surgeon was the keynote speaker. About 20 doctors enjoyed the session.

Bonpara Clinic, Natore: On 22nd July 2008 Bonpara Clinic of Natore arranged a RTM on "Cream & Ointment" at the seminar room. Dr. S. R. Patwary, Director of Bonpara Clinic chaired the meeting. Dr. Ansarul Haque was the chief guest and Dr. Saber Ali was the special guest. Dr. N. K. Sharma was the rapporteur of the occasion. About 20 doctors attended the meeting.

Chittagong

Miressarai UHC: Miressarai UHC, arranged a round table meeting on 23rd July 2008 on "Malaria" at the UHC's room. Dr. A.S.M. Tobarakullah (Bazid), UH & FPO was the chairperson of the occasion and Dr. Imroz Uddin, Medical Officer was the keynote speaker. About 10 doctors attended the meeting.

Barisal

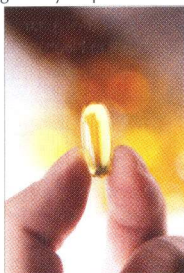
Medicine Unit-1, Sher-E-Bangla Medical College & Hospital: Medicine Unit-1, Sher-E-Bangla Medical College & Hospital, Barisal arranged a RTM on "Omeprazole" on 15th May 2008 at the doctors' room. Dr. Faruk Alam, Registrar was present as the chairperson. About 30 doctors attended the meeting.

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Omega-3 fatty acid may guard against repeat stroke

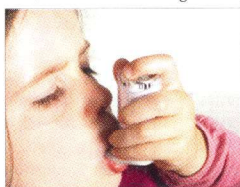
Eicosapentaenoic acid or EPA- the essential omega-3 polyunsaturated fatty acid abundant in oily fish may help protect stroke patients from suffering a second stroke, a Japanese study shows. In a study of people with high cholesterol who were taking a low dose of a cholesterol-lowering "statin," researchers found that adding EPA did not reduce the occurrence of a first stroke but did lower recurrence rates in those with a history of stroke. The finding, published in the journal *Stroke*, stems from a large study of patients with elevated cholesterol levels who were randomly assigned to a low dose of pravastatin or simvastatin daily alone or with 1800 milligrams daily of EPA for roughly 5 years. Of the 9,326 patients in the EPA group, 485 had a history of stroke, as compared with 457 of the 9,319 patients in the no-EPA group. Dr. Kortaro Tanaka of Toyama University Hospital and colleagues found that rates of first stroke were 1.3 percent and 1.5 percent in the EPA and no-EPA groups- a nonsignificant difference. However, there were far fewer second strokes in the EPA group. The recurrent stroke rates were 6.8 percent in the EPA group versus 10.5 percent in the no-EPA group- a significant difference. Tanaka and colleagues say it is noteworthy that even among Japanese individuals, who have relatively high blood concentrations of EPA, "further increases in EPA concentration may lead to prevention of recurrence of stroke." The researchers note that because this trial used purified EPA instead of the fish oil used in previous studies, the preventive effects on stroke can be attributed to EPA. The exact mechanism remains unclear, however, because EPA has a variety of beneficial effects in the body including lowering cholesterol and inflammation as well as production of platelets, a blood component that promotes the formation of blood clots. It may also guard against heart rhythm disturbances. Based on the many studies of fish consumption in the US and Europe, Tanaka told Reuters Health, "the beneficial effects of EPA which became clear from our study can be applied to other nationalities."



Stroke

Cesarean delivery may increase kids' asthma risk

Babies born by Cesarean section may have a moderately increased risk of developing asthma compared with those born naturally, Norwegian researchers report after investigating this link in a population-wide study. Dr. Mette C. Tollanes, of the University of Bergen, in Norway, and colleagues looked at the modes of delivery among more than 1.7 million single births reported to the Medical Birth Registry of Norway between 1967 and 1998. They used registry data from Norway's National Insurance Scheme to determine the number of children who, through the age of 18 or the year 2002, developed severe asthma. Between 1967 and 1998, asthma risk was about 50 percent higher among children born by C-section compared with children born spontaneously and vaginally, the researchers report. They found 19 percent increased risk among children born by vaginal delivery requiring the use of instruments (forceps or vacuum). From 1988 through 1998, when the birth registry designated between emergency and planned C-section deliveries, unexpected differences emerged. Compared with spontaneous vaginal deliveries during this period, emergency C-sections carried higher asthma risk (59 percent) than planned C-sections (42 percent increased risk). Instrument-assisted vaginal deliveries brought a 14 percent increased asthma risk during this 10-year period. Overall, these findings confirm a moderate association between C-section delivery and later development of asthma, Tollanes and colleagues say. However, the reasons behind this association must still be determined. According to Tollanes, there are two main theories about why C-sections could cause asthma. "The first is that babies who are born by Cesarean section are not exposed to their mothers' bacteria during birth, which is detrimental for development of the immune system," Tollanes explains in a written statement. "The other is that babies born by Cesarean section have more breathing problems after birth because they are less exposed to stress hormones and compression of the chest, since these mechanisms contribute to emptying the lungs of amniotic fluid. Maybe this can negatively affect lung function in the long term," Tollanes said. "The fact that emergency Cesarean section apparently has a stronger effect on the risk of asthma than planned Cesarean section cannot easily be explained by any of these theories," Tollanes admits. "It is possible that there are other common causes that can induce the need for Cesarean section and the development of asthma."



The Journal of Pediatrics

Cancer drug imatinib could fight stroke

A powerful weapon against cancer might also boost stroke patients' survival, new research suggests. Imatinib, long hailed as a "wonder drug" against cancers such as chronic myelogenous leukemia (CML), will be tested to see if it can boost the effectiveness and limit the side effects of the clot-dissolving drug tissue plasminogen activator (tPA), an international team of researchers say. One of the ways that Imatinib stops the growth of

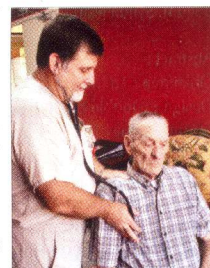
cancer cells is to block receptors of platelet-derived growth factor-CC (PDGF-CC), explained Daniel Lawrence, professor of cardiovascular medicine at the University of Michigan and a member of the research team. Studies performed at his lab, as well as at Sweden's Karolinska Institute, have both shown that blocking those receptors improves the activity of tPA. Doctors typically give tPA in the hours after an ischemic stroke, which occurs when a blood clot blocks a brain artery. About 80 percent of all strokes are ischemic, and tPA is given to dissolve the clots. But there's a big downside with the drug: It also can increase the odds for brain hemorrhage. Reporting in the June 22 online edition of the journal *Nature Medicine*, the researchers at Karolinska and in Michigan showed for the first time that tPA increases the risk of bleeding by acting on PDGF-CC, as well as the cellular receptor to which it binds. This activity makes blood vessels in the brain dangerously leaky. However, in other laboratory tests and in animal studies, Imatinib prevented this leakiness by blocking PDGF-CC receptors. "Blocking the receptor reduces formation of edema- swelling of the brain- and so even in the absence of tPA, the [Imatinib] treatment would be beneficial," Lawrence pointed out. But Imatinib might also extend tPA's usefulness, he added. "tPA loses its efficacy three hours after a stroke. Part of that loss may be an increase in major side effects, and the major side effect of tPA is bleeding," Lawrence explained. "You could conceivably block the receptor and give tPA beyond its current three-hour limit and still be effective at removing the blockage of a brain artery but reduce the complications." Imatinib is not necessarily the perfect drug to achieve that effect, Lawrence said, because its activity on a number of other receptors could raise new concerns. "We are not currently testing any [other drug] in our laboratory, but any drug that blocks those receptors might possibly be even better than Imatinib," he said. "One could develop even more specific receptor blockers." A first human trial, primarily to test the safety of the proposed treatment, will soon begin in Sweden, said Ulf Eriksson, professor of molecular biology at the Karolinska Institute, one of the leaders of the research effort. It will be done by physicians at the Karolinska Institute Hospital in Stockholm. The trial is planned to include 60 people who will be treated in the hours after they suffer strokes. Some will be given Imatinib within three hours of the stroke in addition to standard tPA treatment. Others whose treatment started later for one reason or another will be given Imatinib in addition to tPA after the three-hour period desired for such treatment. Their results will be compared to similar stroke patients given standard treatment. Results of that study should be available "within one year," Eriksson said. Plans for future human trials would depend on those results, he said.



Nature Medicine Journal

COPD patients have high mortality rate from ulcers

Patients with chronic obstructive pulmonary disease (COPD) have a substantial increase in short-term mortality if they also have bleeding or perforated peptic ulcers, results of a Danish study indicate. COPD includes chronic lung diseases such as bronchitis and emphysema that make breathing difficult; it is frequently, but not always, the result of smoking. In the last decade, evidence has accrued that smokers and patients with COPD are at increased risk of developing peptic ulcers, along with complications, such as perforations and bleeding, Dr. Steffen Christensen, of Aarhus University Hospital, Denmark, and colleagues report in the medical journal *Chest*. "The little existing data on the association between COPD and prognosis following complicated peptic ulcer disease have suggested that the mortality rate is higher among ulcer patients with COPD," they point out. The researchers examined this association in a study of patients who were hospitalized with a new diagnosis of peptic ulcer perforation (2033 subjects) or bleeding (7486 subjects) in northern Denmark between 1991 and 2004. Among the patients with perforated peptic ulcers, 218 (10.7 percent) were previously hospitalized with COPD. The overall 30-day mortality rate was 44.0 percent among the COPD patients, compared with 25.5 percent among those without COPD. Among patients with bleeding peptic ulcers, 759 (10.1 percent) were previously hospitalized with COPD. These patients had a 30-day mortality rate of 16.5 percent, compared with 10.8 percent among patients without COPD. Among COPD patients, the use of oral steroid medications was associated with a higher mortality from both perforated and bleeding peptic ulcers. These findings have important clinical implications, the investigators point out. Medication to prevent ulcers should be considered for COPD patients with risk factors for peptic ulcer disease, especially patients on steroids, which appear to increase the risk and mortality of complicated peptic ulcers, Christensen and colleagues advise. "Also," they add, "the high mortality rate among COPD patients who had been hospitalized for complicated peptic ulcers underscores the importance of optimizing their preoperative and postoperative supportive care."



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Zinc supplementation in the management of shigellosis in malnourished children in Bangladesh

SK Roy, R Raqib, W Khatun, T Azim, R Chowdhury, GJ Fuchs, DA Sack

Abstract

Objective : To assess the impact of zinc supplementation on clinical recovery, weight gain and subsequent growth and morbidity in moderately malnourished children with shigellosis.

Design : A randomized, double-blind, controlled trial.

Setting : Dhaka hospital of ICDDR,B: Centre for Health and Population Research, Dhaka, Bangladesh.

Subjects : Fifty-six moderately malnourished children, aged 12-59 months with culture-proven shigellosis.

Methods : Subjects were randomly allocated to receive zinc (20 mg/day elemental) in multivitamin syrup (intervention) or multivitamin syrup without zinc (control) in two equally divided doses daily for 2 weeks. All children received pivmecillinam in a dose of 15 mg/kg every 6 h for 5 days. After supplementation, children were followed in their respective homes every 2 weeks for 6 months.

Results : Children receiving zinc recovered from acute illness significantly faster than the control children ($P < 0.05$). The median time (days) to recovery and disappearances of blood and mucus were significantly 50% shorter in the zinc-supplemented group compared to the control group. The mean body weight of zinc supplemented children increased significantly from 8.8 kg on admission to 9.2 kg ($P < 0.01$) at recovery, which was not observed in the control children (from 9.3 to 9.6 kg; $P = 0.12$). During the 6-month follow-up period, zinc-supplemented children had significantly fewer mean episodes of diarrhea compared to the control children (2.2 vs 3.3; $P = 0.03$).

Conclusion : Zinc supplementation significantly shortens the duration of acute shigellosis, promotes better weight gain during recovery and reduces diarrhoeal morbidity during the subsequent 6 months.

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Zinc supplementation in children with cholera in Bangladesh: randomised controlled trial

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Abstract

Objective : To investigate the impact of zinc supplementation in children with cholera.

Design : Double blind, randomised, placebo controlled trial.

Setting : Dhaka Hospital, Bangladesh.

Participants : 179 children aged 3-14 years with watery diarrhoea and stool dark field examination positive for *Vibrio cholerae* and confirmed by stool culture.

Intervention : Children were randomised to receive 30 mg elemental zinc per day ($n = 90$) or placebo ($n = 89$) until recovery. All children received erythromycin suspension orally in a dose of 12.5 mg/kg every six hours for three days.

Main outcome measures : Duration of diarrhoea and stool output.

Results : 82 children in each group completed the study.

More patients in the zinc group than in the control group recovered by two days (49% v 32%, $P = 0.032$) and by three days (81% v 68%, $P = 0.03$). Zinc supplemented patients had 12% shorter duration of diarrhoea than control patients (64.1 v 72.8 h, $P = 0.028$) and 11% less stool output (1.6 v 1.8 kg/day, $P = 0.039$).

Conclusion : Zinc supplementation significantly reduced the duration of diarrhoea and stool output in children with cholera. Children with cholera should be supplemented with zinc to reduce its duration and severity.

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doi:10.1136/bmj.39416.646250.AE

Effect of oral zinc supplementation on growth of premature babies

M Nazrul Islam, MAK Azad Chowdhury, Sohel Akhter, Shamshad Begum Quraishi, M Mahbulul Hoque

Abstract

"Zinc supplementation has been shown to reduce the rates of diarrhea and pneumonia and to enhance physical growth of young infants. Many countries including several parts in India have already introduced zinc supplementation along with other vitamins and nutrients in their preterm low birth weight babies. So a randomized controlled trial was carried out in Neonatal ward of Dhaka Shishu Hospital, in collaboration with Atomic Energy Centre, Dhaka during January 2006 to May 2007 to determine the effect of oral zinc supplementation on growth of preterm babies. A total of 100 preterm babies were enrolled in the study and were assigned to either zinc & multivitamin supplemented group (group I) or only multivitamin supplemented group (group II) by randomization. Baseline characteristics of both groups were almost similar. Baseline anthropometric measurements, serum zinc and hemoglobin estimation were done before supplementation. Mean serum zinc and hemoglobin levels were similar in both groups (62.1±12.4 gm/dl in group I and 63.1±14.6 gm/dl in group II & hemoglobin level 14.9±2.4 gm/dl in group I & 14.4±1.7 gm/dl in group II) at enrollment. Serum zinc levels in lower limit of normal range. Zinc supplementation (Syrup Pep) was given 2mg/kg/day for 6 weeks along with multivitamin in group I and only multivitamin to group II. After supplementation serum zinc level and hemoglobin level were estimated and mean serum zinc level was higher in group I (105±16.5 gm/dl) than group II (82.2±17.4 gm/dl) ($p < 0.05$). Hemoglobin levels were decreased to both groups and more marked in group I than group II but difference was not statistically significant. Anthropometric measurements were recorded with accuracy and precision. Follow up and growth monitoring were done at 6 weeks interval for 12 weeks. Weight, length and OFC were almost similar in both groups at enrollment. Significant differences gain in weight and length were found in first and second follow up between two groups ($p < 0.05$). Baseline OFC was similar in both groups. OFC was increased at first and second follow up in both groups but difference of increment between two groups were not statistically significant ($p > 0.05$). Reduction of morbidity was apparent in zinc supplemented group. The incidence of diarrhoea was significantly less in group I but more in group II ($p < 0.05$). The frequency of ARI was also less in group I than group II but difference was not statistically significant. No serious adverse effect was noted related to supplementation therapy except vomiting and loose stool. Thus zinc supplementation promotes growth better than only multivitamin supplementation. The results of this study prove that supplementation in preterm low birth weight babies is found effective to enhance the growth in early months of life."

Bangladesh Institute of Child Health & Dhaka Shishu Hospital jointly arranged a Scientific Seminar on this research "Role of oral Zinc Supplementation on growth of preterm babies" on 11th March 2008 at Bangladesh-China Friendship Conference Centre. National Professor M R Khan was present as the Chief Guest in the seminar. Professor Md. Ruhul Amin, Secretary, Academic Council welcomed everyone in the seminar. The keynote speech was delivered by Dr. Md. Nazrul Islam. Professor M.A.K Azad Chowdhury, Professor of Pediatrics & Head of Neonatology, Professor Md. Salim Shakur, Director, Dhaka Shishu Hospital, Dr. S. K. Roy, Senior Scientist, ICDDR,B, Dr. Tracey Lynn Perez Koehlmoos, Health System Research Scientist, ICDDR,B and Dr. Shamshad Begum Quraishi, Senior Scientific Officer, Chemistry Division, Atomic Energy Centre expressed their expert opinions on the topic as discussants. Chairperson Professor Mohammed Hanif, Academic Director, BICH ended the seminar by delivering his closing speech. The seminar was sponsored by Orion Laboratories Limited. Mr. Tapan Kumar Roy, Senior Vice president, Marketing; Orion Laboratories was present in the occasion.



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