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Editorial Board

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Editorial

COVID 19: Plan Purposefully, Pursue Persistently

Bangladesh is now at a critical juncture in the corona virus disease (COVID) 19 pandemic. This developing country has suffered a lot due to COVID 19. Pre-existing diseases have already burdened its weak health care system, posing the country with a thrilling challenge in the current pandemic situation. An ongoing outbreak of pneumonia is caused by a novel corona virus about which we have little knowledge. On 23rd January 2020, the lock-down in Wuhan, a central city in China, alarmed people all over the world about this emerging novel corona virus that was posing major public health challenges[1]. The first case of someone suffering from COVID 19 can be traced back to 17th November 2019, according to media reports based on unpublished Chinese government data. Official statements by the Chinese government to the World Health Organization (WHO) reported that, the first confirmed case had been diagnosed on 8th December 2019[2]. On 30th January 2020, WHO declared a public health emergency of international concern[3].

Early diagnosis can help by identifying cases and areas for individual and group isolation. From draconian process of complete lockdown to confirmatory diagnosis and isolation is being practiced by almost every nation. Bangladesh has already started different mitigation processes to gain some control over this situation and the National Guidelines on Clinical Management of COVID 19 is a part of the strategy to address the case management of COVID 19 cases in Bangladesh with specific recommendations. A specific test for confirmation is done by real time polymerase chain reaction (RT-PCR) taking samples from the upper and lower respiratory tract until and unless serological tests and other WHO recommended tests are available. Every hospital (Public and private) should provide treatment for COVID and non COVID patients. These hospitals have created a separate zone for COVID and non COVID patients on the hospital premises (Subject to government policy) and a triage system has been applied to classify and differentiate the patients. The COVID zone has two separate areas; one for confirmed COVID and another for suspected or probable COVID patients. The principles of management are an appropriate supportive therapy in pneumonia cases ranging from low to high flow oxygen therapy, prone position, empiric antibiotics, antivirals (Favipiravir in hospitalized patients), anticoagulant for all hospitalized patients, steroids in severe to critical illness and mechanical ventilation for acute respiratory distress syndrome (ARDS) cases. For critically ill patients, careful fluid (Avoid excessive fluid) balance and oxygen administration is the mainstay of therapy. SaO_2 target of 88-96% should be the aim. Consider trial of high flow nasal cannula (HFNC), continuous positive airway pressure (CPAP) and non-invasive ventilation (NIV) for oxygen administration (Where facilities are available), awake proning before mechanical ventilation[4].

The Directorate General of Health Services (DGHS) revealed the latest figures which showed that the fast spreading corona virus had claimed 1,165,459 lives and infected 43,844,510 people across the world till October 26th, 2020, according to worldometer. It has spread to 215 countries and territories across the planet. On March 8, health authorities in Bangladesh reported the first three cases of Covid-19, a severe acute respiratory illness. Bangladesh has logged more than 401,000 corona virus cases and the total number of fatalities is 5,838. An overall infection rate of 17.58% and the mortality rate against the total number of cases detected so far stands at 1.45%[5].

As the world continues to grapple with the COVID-19 pandemic, the most important message remains relevant that, preparation is the key. As long as the virus is circulating anywhere, anybody can be at risk, so we need to strengthen the health system. It will benefit us now and in the future. As the Ministry of Health and Family Welfare (MoHFW) and DGHS have taken a greater role in offering health services to Bangladesh, multi-sectoral

coordination has become even more important. Yet COVID-19 does not only demand a whole government approach, it also demands a whole society approach, where the public should take responsibility for preventing the transmission. Be a good citizen and protect yourself, family and community from COVID-19. Wearing face mask, practicing hand hygiene and maintaining physical distance are obligatory. Healthy choices and protective behaviours can save lives and stop transmission.

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JALALABAD MEDICAL JOURNAL

Original Article

Blood Pressure Variability in Type 2 Diabetes Mellitus Patients

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ABSTRACT

The impact of type 2 diabetes mellitus on cardiovascular diseases has been identified in different studies around the world in a variety of sex. So the present comparative, cross-sectional and analytical study was carried out to observe blood pressure in type 2 diabetes mellitus patients in both sex groups in the department of Physiology with the collaboration of the department of Endocrinology, Mymensingh Medical College, Mymensingh, from January 2016 to December 2016. For this purpose, a total number of 200 subjects of both sexes with an age ranged from 30-60 years were selected; of whom 100 were type 2 diabetic patients and 100 were apparently healthy. The results showed that, blood pressure was significantly higher ($p<0.0001$) in both males and females of the study group in comparison to the healthy control group. From this study, it may be concluded that type 2 diabetic patients are considered to have a significant positive relationship with the development of hypertension and metabolic abnormalities. So, prevention of type 2 diabetes mellitus by taking necessary measures like regular physical exercise, intake of a healthy diet, behaviour therapy and drugs may help in prevention of type 2 diabetes mellitus related complications.

Keywords: *Diabetes, Blood pressure, Fasting serum glucose, Serum glucose 2 hours after meal.*

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INTRODUCTION

Diabetes mellitus is a clinical syndrome characterized by hyperglycaemia caused by absolute or relative deficiency of insulin. The incidence of both type 1 and type 2 diabetes is rising. It is estimated that, in the year 2000, 171 million people had diabetes and this is expected to double by 2030. The global pandemic principally involves type 2 diabetes and is associated with greater longevity, obesity, an unsatisfactory diet, sedentary lifestyle and increasing urbanization[1]. The pandemic of diabetes has progressed in association with rapid cultural transformation, growing urbanization, dietary changes, decreased physical activity and other unhealthy lifestyles[2].

Excess weight is the single most important cause of type 2 diabetes. Being overweight increases the chances of developing type 2 diabetes seven fold. Being obese makes people 20 to 40 times more likely to develop diabetes than someone with a healthy weight. Losing

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weight can help if a person's weight is above the healthy-weight range. Losing 7 to 10 percent of current weight can cut a person's chances of developing type 2 diabetes mellitus in half[3]. The American Diabetes Association has recommended the fasting plasma glucose test for screening because it is easier and faster to perform, more convenient and acceptable for patients, and less expensive than other screening tests[4]. The fasting blood glucose level in the early morning is normally 80 to 90 mg/100 ml and 110 mg/100 ml is considered to be the upper limit of normal. A fasting blood glucose level above this value often indicates diabetes mellitus or at least marked insulin resistance[5].

In recent years, non-communicable diseases like obesity, hypertension and type 2 diabetes mellitus have been increasing, especially in developing nations. In Bangladesh, the diagnosis of diabetes appears to be late or mostly diagnosed at an advanced stage of the disease. Also, it may be noted that small community surveys conducted at different periods revealed an increasing trend of hypertension and diabetes in Bangladesh[6].

In patients with type 2 diabetes, the risk of diabetes complications was strongly associated with raised blood pressure. Any reduction in blood pressure is likely to reduce the risk of complications; with the lowest risk being in those with a systolic blood pressure of less than 120 mm Hg[7]. Cardiovascular diseases are the major cause of mortality in people with diabetes and are twice as frequent in patients with diabetes compared with patients without the disease. Conversely, recent data suggests that hypertensive people are more predisposed to the development of diabetes than normotensive people. Furthermore, up to 75% of cardiovascular disease in diabetes may be attributable to hypertension, leading to recommendations for more aggressive treatment in patients with co-existing diabetes and hypertension[8]. Raised blood pressure is more common in people with type 2 diabetes than in the general population, and in people without diabetes, it is a major risk factor for myocardial infarction and stroke. On average, each 10 mm Hg reduction in systolic blood pressure was associated with a 12% decrease in the risk of any end point related to diabetes and a 15% reduction in the risk of death related to diabetes[7].

Type 2 diabetes is frequently associated with other cardiovascular risk factors, such as dyslipidaemia and hypertension. Cardiovascular disease is the leading cause of death among individuals with type 2 diabetes mellitus, accounting for 40 to 50% of all deaths. In these patients, the mortality risk for coronary, cerebrovascular and peripheral vascular disease is 2 to 10-fold higher than in the non diabetic population. The worldwide explosive increase in type 2 diabetes mellitus and its cardiovascular morbidity are becoming a major health concern[9].

Very few studies have been done to find out the blood pressure variability in type 2 diabetic patients with sex differences in Bangladesh. So the present study was carried out to observe the variation in blood pressure in type 2 diabetes mellitus patients of both sexes.

MATERIALS AND METHODS

This comparative, cross-sectional and analytical study was carried out in the department of Physiology, Mymensingh Medical College, Mymensingh, from January 2016 to December 2016. In this study, a total number of 200 subjects with an age range of 30 to 60 years of both sexes were included, of whom 100 were apparently healthy and 100 were type 2 diabetic person. All the subjects were obtained from the department of Endocrinology, Mymensingh Medical College and Hospital. The study population was divided according to body mass index (BMI) category into control group male (IA), control group female (IB), study group male (IIA), and study group female (IIB). The subjects with a history of smoking and alcohol consumption, type 1 diabetes mellitus, any history of kidney disease, cardiac disease, liver disease, malignancy, pregnancy, diagnosed case of hypothyroidism, Cushing's syndrome, polycystic ovary, antipsychotic drug users, regular steroid users, and any type of systemic illness were excluded from the study. Fasting serum glucose and serum glucose 2 hours after meal were assessed by the enzymatic, colorimetric, GOD-PAP method. During the visit, blood pressure of the individuals was measured at least after 15 minutes of rest. An aneroid sphygmomanometer and an appropriate size cuff encircling 80% of the arm were used in the seated

posture, with feet on the floor. Three measurements about 5-10 minutes apart were taken. The statistical analysis was done by using the statistical package for social science (SPSS) programme, version 11.5 and p value <0.05 was considered as significant. The comparison between the groups was calculated by an unpaired Student's 't' test.

RESULTS

The mean (±SE) fasting serum glucose and serum blood glucose 2 hours after meals of different groups are presented in Table-I. The mean fasting serum glucose was significantly higher (p=0.0001) in study groups (IIA and IIB) in comparison to healthy control groups (IA and IB). But, no statistically significant difference was observed between groups IIA and IIB. The mean serum glucose 2 hours after meal was significantly higher (p=0.0001) in study groups (IIA and IIB) in comparison to healthy control groups (IA and IB). But no statistically significant difference was observed between groups IIA and IIB (Table-II and Table-III). The mean (±SE) systolic blood pressures of different groups were presented in Figure-1 and the mean (±SE) diastolic blood pressures of different groups were presented in Figure-2. The mean systolic and diastolic blood pressure were significantly higher (p=0.0001) in study groups (IIA and IIB) in comparison to healthy control groups (IA and IB). But no statistically significant difference was observed between groups IIA and IIB.

Table-I: *Fasting serum glucose and serum glucose 2 hours after meal of control and study groups (n=200).*

Biochemical Parameters	Group IA	Group IB	Group IIA	Group IIB
Fasting serum glucose	5.13±1.02	5.39±1.08	8.68±2.02	9.03±2.34
Serum glucose 2 hours after meal	9.41±1.72	8.74±2.16	16.82±4.65	18.30±4.56

Table-II: *Statistical analysis of fasting serum glucose in different sub groups (n=200).*

Groups	df	t value	p-value
IA versus IIA	98	11.094**	0.0001
IB versus IIB	98	10.006**	0.0001
IIA versus IIB	98	0.801^{NS}	0.425

** Indicate Significant at p< 0.05. NS= not significant

Table-III: *Statistical analysis of serum glucose 2 hours after meal in different sub group (n=200).*

Groups	df	t value	p-value
IA versus IIA	98	10.575**	0.0001
IB versus IIB	98	13.40**	0.0001
IIA versus IIB	98	1.607^{NS}	0.111

** Indicate Significant at p< 0.05. NS= not significant

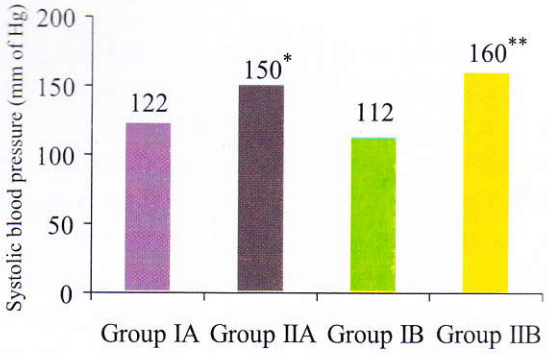

Figure-1: *Bar diagram showing mean values of systolic blood pressure in different groups (n=200).*

*p=0.001 **p=0.001

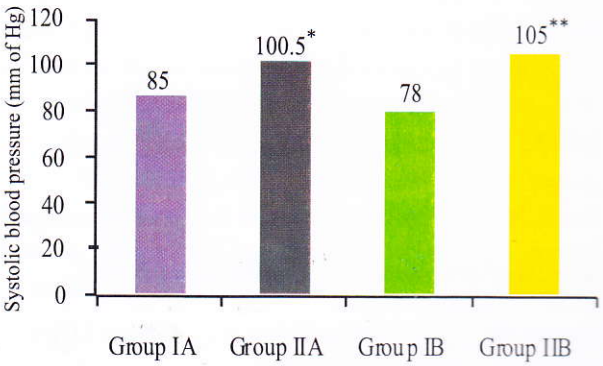

Figure-2: *Bar diagram showing mean values of diastolic blood pressure in different groups (n=200).*

*p=0.001 **p=0.001

DISCUSSION

In the present study, there was a significant change in fasting serum glucose and serum glucose 2 hours after meals in the study groups than in the control group. Fasting serum glucose, serum glucose 2 hours after meals were significantly higher (p=0.0001) and both systolic and diastolic blood pressure were significantly higher (p=0.0001) in both sexes of type 2 diabetes patients in comparison to their respective healthy controls. Similar observations were reported by Sayeed et al., Alder et al., Rahim et al., Bhowmik et al., and Vijan et al[6,7,10-12]. Those researchers used fasting serum glucose 7 mmol/l as the diagnostic criterion. It was consistent with our study. This finding was also consistent with an Indian study[13] but inconsistent with an Australian study[14]. A recent study from Copenhagen involving 20,000 women and 17,000 men aged 30-80 years found that, for each 10% increase in BMI, the systolic blood pressure was 2-6 mm of Hg higher along with an increase in diastolic pressure of 1-3 mm of Hg[15].

It was reported by Alder et al. in 2000[7] that raised blood pressure was more common in people with type 2 diabetes than in the general population, and in people without diabetes, it was a major risk factor for myocardial infarction and stroke. On average, each 10 mm of Hg reduction in systolic blood pressure was associated with a 12% decrease in the risk of any end point related to diabetes and a 15% reduction in the risk of death related to diabetes[7]. The basic mechanism involved in the development of type 2 diabetes mellitus is a deficiency of insulin at the cellular level. Cellular insulin resistance, rather than hyperinsulinaemia, may lead to hypertension. Recent observations suggest that, impaired cellular response to insulin predisposed to increasing vascular smooth muscle tone[8]. Hypertension is extremely common in patients with type 2 diabetes, affecting up to 60%. Hypertension in patients with type 2 diabetes mellitus is a prevalent condition that leads to substantial morbidity and mortality[12]. Osher and Stren[16] in 2008 found that, diastolic not systolic blood pressure showed a significant relation to type 2 diabetes mellitus. But in our study, both systolic and diastolic blood pressure showed significant relation to type 2 diabetes mellitus.

CONCLUSION

It may be concluded that type 2 diabetic patients were considered to have a significant positive relationship with the development of hypertension and metabolic abnormalities that lead to high morbidity and mortality. So, prevention of type 2 diabetes mellitus by taking necessary measures like regular physical exercise, intake of a healthy diet, and behaviour therapy may help in prevention of type 2 diabetes mellitus related complications.

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Original Article

Outcome of Primigravida with Unengaged versus Engaged Foetal Head at Term or at Onset of Labour in a Tertiary Care Hospital

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ABSTRACT

The unengagement of the foetal head in primigravida has long been considered a possible sign of cephalopelvic disproportion. Unengagement at the onset of labour is a predictor of an increased chance of caesarean section. This prospective study was carried out to observe the progress of labour, necessity of medical and surgical induction and foetal outcome in primigravida women with an unengaged versus engaged foetal head among the patients admitted to the labour room at the department of Obstetrics and Gynaecology of Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet from January 2018 to December 2018. A total of 140 patients were enrolled in this study, divided into groups A and B. Seventy primigravida with an unengaged foetal head were considered as group A and 70 with an engaged foetal head at the onset of labour were considered as group B. The majority of unengaged patients 18 (25.7%) were found in deflexed heads, followed by 13 (18.6%) in cephalo-pelvic disproportion, 4 (5.7%) in loops of cord around the neck, 2 (2.9%) in prelabour rupture of membranes and 31 (44.3%) in no cause of unengagement. Almost half (48.6%) of patients had spontaneous vaginal delivery in the unengaged and 50 (71.4%) in the engaged group. Twenty nine (41.4%) patients were found in spontaneous labour in the unengaged group and 53 (75.7%) in the engaged group. Post partum haemorrhage (PPH), perineal tears, cervical tears, wound infection, foetal distress, puerperal sepsis, and hospital stay were not statistically significant ($p>0.05$) between the two groups. The primigravida with an unengaged head at term should be regarded with suspicion and the same woman in labour should be regarded with apprehension.

Keywords: *Primigravida, Engaged foetal head, Unengaged foetal head.*

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INTRODUCTION

Primigravida are a potential group at risk for unengaged foetal head. Engagement is the first step in the mechanism of labour of a primigravida. Those with an unengaged head at the onset of labour are considered to be at high risk and potential candidates for an operative delivery[1]. Engagement of the head is

the most important event in labour which decides obstetric and neonatal outcome. Primigravida is considered an important obstetric risk factor. Similarly, an unengaged head at term should be regarded as a high-risk case[2]. An unengaged head in primigravida has been considered a possible sign of cephalo-pelvic disproportion (CPD). It is associated with a higher risk of cervical dystocia, which has led to an increased rate of caesarean section (CS) with its financial implications and future restriction of family size[3]. Unengagement at the onset of the active phase of labour is a predictor of increased risk of caesarean section. The latent phase is prolonged and the duration of the first stage increased from 12 to 14 hours due to improper adaptation of the foetal head, high station and misdirection of uterine expulsive forces[4].

The foetal head is said to be engaged when its widest diameter fits into the pelvic inlet. It has been a traditional concept in obstetrics that engagement of the foetal head occurs at 38 weeks gestation in primigravida[5]. This traditional concept is not correlated with clinical practice. In the majority, engagement occurs between 38-42 weeks or even during the first stage of labour. The incidence is very variable in different studies[6]. There are many studies documenting the maternal and foetal outcomes of primigravida with an unengaged head, but very few such studies are available in our country. The present study was undertaken to demonstrate and compare the progress of labour and foetal outcome between the engaged and unengaged foetal heads.

MATERIAL AND METHODS

This prospective study was carried out at the department of Obstetrics and Gynaecology of Jalalabad Ragib-Rabeya Medical College Hospital in Sylhet from January 2018 to December 2018 among patients attending for antenatal care (ANC) and admitted to the labour room. A total of 140 patients were enrolled in this study, divided into groups A and B. Seventy primigravida with an unengaged foetal head were considered as group A and 70 with an engaged foetal head at the onset of labour were considered as group B. Patients were selected according to inclusion and exclusion criteria. Patients with primigravida, term gestation, live singleton pregnancy and vertex presentation were included in this study. Women with multigravida and primigravida with non-vertex presentation and all high-risk cases with medical problems like anaemia (moderate and severe), heart disease, pregnancy induced hypertension (PIH), and diabetes mellitus (DM) were excluded from this study. After taking informed consent and reassuring patients regarding expertise and confidentiality, those with an unengaged foetal head were placed in group A and those with an engaged foetal head in group B. A detailed history was taken regarding parity, duration of pregnancy and history of labour pains. An examination was done, including a general examination (Height and weight), an abdominal examination for fundal height, lie, presentation, engagement, amount of liquor, estimated foetal weight, palpable uterine contractions, and foetal heart rate. A Pelvic examination was done for pelvic assessment and bishop score. Ultrasonography was done to confirm the above mentioned findings. Data was collected by a predesigned questionnaire. Patients above 40 weeks and not in labour were induced using prostaglandins. The duration of the latent phase of labour was measured and patients with inadequate uterine contractions were augmented with oxytocin. The course of labour in all the patients was recorded on partograph. All the patients were studied in detail with reference to the course of labour, intervention required, mode of delivery and foeto-maternal outcome. Data was transferred and analysed by the statistical package for social sciences (SPSS) version 23.

RESULTS

In group A, the majority (25.7%) patients were found in a deflexed head followed by 13 (18.6%) in cephalopelvic disproportion, 4 (5.7%) in loops of cord around the neck, 2 (2.9%) in prelabour rupture of membranes and 31 (44.3%) in no cause of non-engagement (Table-I). In group A, 48.6% of patients had a spontaneous vaginal delivery, but 71.4% in group B. The difference was statistically significant ($p<0.05$) between the two groups (Table-II). In indications of lower segment caesarean section (LSCS), half (50%) of patients were found to have non-progress of labour in group-A and 5 (45.5%) in group-B. The difference was not statistically significant ($p>0.05$) between the two groups (Table=III). The majority (64.3%) of patients were found to have duration of labour >12 hours in group-A and 20 (28.6%) in group-B. The difference was statistically significant ($p<0.05$) between the two groups (Table=IV). 29 (41.4%) of patients were found in spontaneous labour in group A and 53 (75.7%) in group B. The majority 49 (70%) of patients required augmentation with oxytocin in group-A and 24 (34.3%) in group-B. The difference was statistically significant ($p<0.05$) between the two groups (Table=V). PPH, perineal tears, cervical tears, wound infection, foetal distress, puerperal sepsis, and hospital stay were not

statistically significant (p>0.05) between the two groups (Table=VI). APGAR score at 5 minutes, admission to NICU, meconium aspiration, neonatal intubation, and birth weight were not statistically significant (p>0.05) between the two groups (Table=VII & VIII).

Table-I: *Etiological factors of unengaged head in group A (n=70).*

Etiological Factors	Number of Patients	Percentage
Deflexed head	18	25.7
Cephalo-pelvic disproportion	13	18.6
Loops of cord around neck	4	5.7
Pre-labour rupture of membranes	2	2.9
Hydrocephalus	1	1.4
Polyhydramnios	1	1.4
No aetiological factor	31	44.3

Table-II: *Mode of delivery of the study patients (n=140).*

Mode of Delivery	Group A (n=70)		Group B (n=70)		p value
	Number	Percentage	Number	Percentage	
Spontaneous vaginal delivery	34	48.6	50	71.4	0.016^{s}
Instrumental	12	17.1	9	12.9	
LSCS	24	34.3	11	15.7	

s= significant, P value reached from chi square test

Table-III: *Indications of LSCS of the study patients (n=35).*

Indications of LSCS	Group A (n=24)		Group B (n=11)		p value
	Number	Percentage	Number	Percentage	
Non progress of labour	12	50.0	5	45.5	0.678^{ns}
Foetal distress	9	37.5	6	54.5	
Failure of induction	3	12.5	0	0.0	

ns= non significant, P value reached from chi square test

Table-IV: *Duration of labour of the study patients (n=140).*

Duration of Labour (In hours)	Group A (n=70)		Group B (n=70)		p value
	Number	Percentage	Number	Percentage	
≤12	25	35.7	50	71.4	0.001s
>12	45	64.3	20	28.6	

s= significant, P value reached from chi square test

Table-V: Onset of labour and augmentation with prostaglandins and oxytocin of the study patients (n=140).

Use of Prostaglandins and Oxytocin	Group A (n=70)		Group B (n=70)		p value
	Number	Percentage	Number	Percentage	
Onset of labour					
Spontaneous onset	29	41.4	53	75.7	0.001s
Induction with prostaglandin	41	58.6	17	24.3	
Augmentation with oxytocin					
Required	49	70.0	24	34.3	0.001s
Not required	21	30.0	46	65.7	

s= significant, P value reached from chi square test

Table-VI: Maternal complications of the study patients (n=67).

Maternal Complications	Group A (n=40)		Group B (n=27)		p value
	Number	Percentage	Number	Percentage	
PPH	12	30	8	29.6	0.334^{ns}
Perineal tears	2	5	1	3.8	0.500^{ns}
Cervical tear	1	2.5	0	0.0	0.500^{ns}
Wound infection	4	10	2	7.4	0.340^{ns}
Foetal distress	10	25	8	29.6	0.614^{ns}
Puerperal sepsis	1	2.5	2	7.4	0.500^{ns}
Hospital stay (>2 days)	10	25	6	22.2	0.287^{ns}

ns= not significant, P value reached from chi square test

Table-VII: APGAR score of the study population at 5 minutes (n=140)

APGAR score at 5 minutes	Group A (n=70)		Group B (n=70)		p value
	Number	Percentage	Number	Percentage	
≤7	5	7.1	4	5.7	0.500^{ns}
>7	65	92.9	66	94.3	

ns= not significant, P value reached from chi square test

Table-VIII: Foetal outcome of the study patients (n=140)

Foetal Outcome	Group A (n=70)		Group B (n=70)		p value
	Number	Percentage	Number	Percentage	
Healthy newborn	59	84.2	63	90	0.44^{ns}
Admission to NICU	6	8.6	4	5.7	0.511^{ns}
Meconium aspiration	3	4.3	2	2.9	0.500^{ns}
Neonatal intubation	2	2.9	1	1.4	0.500^{ns}
Early neonatal death	0	0.0	0	0.0	-
Birth weight (kg)	2.84±0.41		2.76±0.44		0.268^{ns}

ns= not significant, P value reached from chi square test

DISCUSSION

In the present study observed in group A, the majority (25.7%) of patients were found in a deflexed head, followed by 13 (18.6%) in cephalopelvic disproportion, 4 (5.7%) in loops of cord around the neck, 2 (2.9%) in prelabour rupture of membranes and 31 (44.3%) in no cause of unengagement. Iqbal and Sumaira reported the most common apparent aetiological factor in group-A was deflexed head, present in 25% followed by CPD in 20% and no cause of unengagement was found in 46% of women[5].

The current study showed almost half (48.6%) of patients had spontaneous vaginal delivery in group-A and 50 (71.4%) in group-B. The difference was statistically significant ($p<0.05$) between the two groups. Iqbal and Sumaira reported vaginal delivery occurred in 62% of women with an unengaged head and 85% of women with an engaged head[5]. The single most important predictor for vaginal delivery in women with an unengaged head was the natural onset of labour, and this was seen in our study, where 41.4% of women with an unengaged head who presented with a spontaneous onset of labour had a vaginal delivery. Bhadra and Sonawane reported 53 (53%) patients had spontaneous vaginal delivery in the unengaged group and 70 (70%) in the engaged group. The difference was statistically significant ($p<0.05$) between the two groups[7].

Indications of LSCS, 50% of patients were found to have non-progress of labour in group A and 5 (45.5%) in group B. The difference was not statistically significant ($p>0.05$) between the two groups. Bhadra and Sonawane observed in patients going for LSCS, 18 (48.64%) in the unengaged group as compared to 9 (39.13%) in the engaged group had no progress in labour[7].

In this study, the majority (64.3%) of patients were found to have a duration of labour >12 hours in group A and 20 (28.6%) in group B. The difference was statistically significant ($p<0.05$) between the two groups. Iqbal and Sumaira in a study found that, the duration of labour was more than 12 hours for 66% of women with unengaged heads versus 34% of women with engaged heads, which is similar to our findings. These results were also consistent with the study conducted by Ambwani et al. and Shivamurthy et al., which showed that the mean duration of the active phase and the duration of the second stage were shorter in the engaged group as compared to the unengaged group[6,8].

Twenty nine (41.4%) patients were found in spontaneous labour in group-A and 53 (75.7%) in group-B. The majority (70%) of patients required augmentation with oxytocin in group-A and 24 (34.3%) in group-B. The difference was statistically significant ($p<0.05$) between the two groups. Iqbal and Sumaira found that only 41% of women with an unengaged head presented in spontaneous labour (Versus 78% with an engaged head) and the rest were induced with prostaglandins for postdates[5]. Bhadra and Sonawane reported that 73 (73%) patients in the unengaged group required augmentation with oxytocin as compared to 36 (36%) in the engaged group[7]. A study conducted by Shaikh et al. found that, 74 (74%) of patients with unengaged heads required augmentation of labour[9].

The current study showed PPH, perineal tears, cervical tears, wound infection, foetal distress, puerperal sepsis, and hospital stay were not statistically significant ($p>0.05$) between the two groups. Iqbal and Sumaira showed that maternal morbidity was higher in women with unengaged heads, but there was no significant difference in maternal mortality[5]. Bhadra and Sonawane found that, in the unengaged group, 11 (11%) patients had post-partum haemorrhage, 7 (7%) patients had perineal tear, 3 (3%) patients had cervical tear, 3 (3%) patients had wound infection and 1 (1%) patient had post-partum psychosis, whereas in the engaged group, 7 (7%), 4 (4%), 5 (5%), and 2 (2%) had the same complications respectively[7]. Shaikh et al. also found similar results in the unengaged head group with PPH occurring in 10% of women, perineal tear in 2% and wound infection in 7%[9].

In this study, APGAR score at 5 minutes, admission to the neonatal intensive care unit, meconium aspiration, neonatal intubation, and birth weight were not statistically significant ($p>0.05$) between the two groups. Iqbal and Sumaira observed that foetal outcome was higher in women with an unengaged head, but there was no significant difference between the two groups[5]. Bhadra and Sonawane reported that the mean APGAR score at 1 minute was 6.171.882 and at 5 minute was 8.371.256[7].

The mean birth weight in the unengaged group was 2.84 kg as compared to 2.76 kg in the engaged group. The unengaged group's mean birth weight was 2.77 kg, which was larger than the engaged group's 2.06 kg, according to Dayal and Dayal[2]. In total, 15.8% of newborns were admitted to the neonatal word in the engaged group and 8.6% of them were admitted to the NICU. The findings were comparable to those of Mahajan et al., who found that 9.33% of neonates were

admitted to the NICU[10].

CONCLUSION

The incidence of active medical and surgical intervention in primigravida with unengaged foetal head at term or onset of labour is quite high. In addition, the total duration of labour is longer in these women. If the attitude of watchful expectancy and timely intervention is used in these cases, especially in cases where no aetiological factor is found most of these will deliver vaginally with minimal maternal and foetal morbidity.

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JALALABAD MEDICAL JOURNAL

Original Article

Clinical Profile and Outcome of Neonates Admitted with Pneumonia in a Tertiary Care Hospital

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ABSTRACT

Neonatal pneumonia is one of the major causes of mortality and morbidity in Bangladesh. Though the clinical features are nonspecific, the diagnosis is difficult. This cross sectional study was conducted at the neonatal unit of the department of Paediatrics in Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet, to evaluate the clinical profile and outcome of neonates admitted with pneumonia. The study was conducted among 30 neonates with pneumonia from July to December 2018 who fulfilled the inclusion and exclusion criteria by convenient sampling. The study results showed that, the majority (90.6%) of the cases were early onset within 0-3 days. Normal birth weight neonates (80%) were more affected than low birth weight neonates. Commonly found clinical features were difficulty in breathing in all cases (100%), followed by chest indrawing (67%), poor feeding (56.7%), grunting (50%), fever (30%), cough (10%), cyanosis (10%). The majority (56.7%) of the patients were discharged on request after clinical improvements and 10% of the patients died. This study summarized the current knowledge regarding clinical features of neonatal pneumonia that might help in early recognition and treatment of neonatal pneumonia to save sick neonates.

Keywords: *Pneumonia, Neonates, Respirc tory distress.*

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INTRODUCTION

Pneumonia is an important cause of neonatal infection and accounts for significant morbidity and mortality, especially in developing countries, where the World Health Organization (WHO) estimates that 8,00,000 neonatal deaths occur each year from acute respiratory infections, mostly pneumonia[1]. Throughout childhood, the greatest risk of death from pneumonia is in the neonatal period[1]. The most important neonatal factor predisposing to infection is prematurity or LBW. Preterm LBW neonates have a 3-10 fold higher incidence of infection than term normal birth weight infants[2].

Neonatal pneumonia is the lung infection of a neonate. It is an inflammatory pulmonary process that may originate in the lungs or be a focal complication of a systemic process. The definition of pneumonia varies widely. WHO has defined pneumonia solely on the

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basis of clinical findings obtained by inspection and respiratory rate[1]. Neonatal pneumonia can be classified as early and late onset. Early onset pneumonia, in general, is defined as a clinical presentation in the first 48 hours up to 1 week of life, while late onset neonatal pneumonia occurs in the next 3 weeks. Intrauterine pneumonia is a subgroup of early onset neonatal pneumonia[1]. Neonatal pneumonia is described as having early symptoms which may be nonspecific, like ill looking, lethargy, poor feeding, irritability, cyanosis, temperature instability, and respiratory symptoms like grunting, tachypnoea, retraction, flaring of alae nasi, cyanosis, apnoea, and progressive respiratory failure. Signs like dullness on percussion, change in breath sound and the presence of rhonchi. Radiology suggests new infiltrate or effusion[2].

As per my knowledge, there are few studies regarding neonatal pneumonia in Bangladesh. So this study was conducted to evaluate the important clinical profile and outcome of neonatal pneumonia among admitted neonates at Jalalabad Ragib-Rabeya Medical College Hospital, a tertiary care hospital, for early recognition and give them treatment accordingly to save their lives.

MATERIALS AND METHODS

This cross-sectional observational study was carried out at Jalalabad Ragib-Rabeya Medical College Hospital from July 2018 to December 2018. Thirty neonates with pneumonia, both term and preterm, admitted to the neonatal ward of the hospital during this period were selected conveniently according to inclusion and exclusion criteria. Before enrolment in the study, the pneumonia was diagnosed both clinically and radiologically. Pneumonia was diagnosed when neonates presented with any of the respiratory symptoms like rapid, noisy or difficult breathing, respiratory rate >60/min, severe chest indrawing, grunting or cyanosis, cough or fever, and poor feeding. The diagnosis of pneumonia was confirmed by a chest X-ray, read by the investigator and a senior radiologist. Radiological findings like nodular or any patchy opacity or sub lobar consolidation were recorded. Neonates with pneumonia having congenital heart disease, congenital malformations of the respiratory or gastro intestinal tract were excluded from the study. After taking written consent from the patient's attendant, details of his history were taken and a physical examination was conducted. The history included name, age, sex, residence, birth weight, gestational age of the neonates and symptoms included fever, cough, difficulties breathing, grunting and poor feeding. Physical examination findings included temperature, heart rate, respiratory rate, chest indrawing, cyanosis, capillary refill time (CRT) and chest examination findings. Finally, the outcome of the patients in terms of discharged with advice, discharged on request or death was recorded. A structured questionnaire was used for recording all the information. The data was then analyzed manually and plotted into graphs and tables.

RESULT

In this study, 30 neonates with pneumonia were enrolled, who were diagnosed with pneumonia clinically and confirmed by chest radiograph. Among them, 27 (90%) neonates were between 0-3 days of age and the remaining 3 (10%) were 4-28 days old (Table-I). Among the study cases, 19 (63.3%) neonates were male and 11 (36.7%) were female (Figure-1). In this study group, 24 (80%) cases had normal birth weight (>2500 gm) and 6 (20%) cases were low birth weight (<2500 gm) neonates (Figure-2).

Table-I: *Age distribution of neonates (n=30)*

Age (In days)	Frequency	Percentage
0-3	27	90
4-28	03	10
Total	30	100

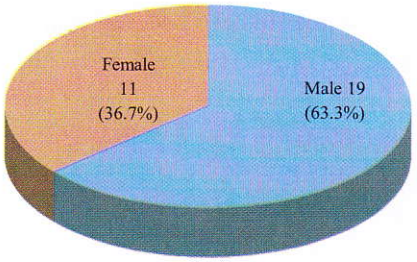

Figure-1: *Sex distribution of study cases (n=30).*

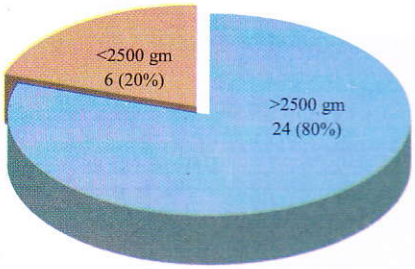

Figure-2: *Study cases according to birth weight (n=30.)*

The most common symptom was difficulty in breathing, present in 30 (100%) cases, followed by poor feeding 17 (56.7%), fever 9 (30%) and cough 3 (10%). The most common physical finding was fast breathing 28 (93.3%) followed by chest indrawing 20 (66.7%), grunting respiration 15 (50%) and cyanosis 3 (10%) among study neonates (Table- II). Among the neonates, 20 (66.7%) had oxygen saturation <90% and 10 (33.3%) neonates had oxygen saturation >90% within 24 hours of hospital admission (Figure-3).

The majority (90%) of the neonates improved after treatment and 10% died. Among the survivors, 56.7% were discharged on request and 33.3% were discharged with advice (Table-III).

Table-II: *Clinical presentation of study cases (n=30)*

Clinical Presentations	Frequency*	Percentage*
Symptoms		
Respiratory distress	30	100
Poor feeding	17	56.7
Fever	9	30
Cough	3	10
Signs		
Fast breathing (>60/min)	28	93.3
Chest indrawing	20	66.7
Grunting	15	50
Cyanosis	3	10

(*More than one presentation was considered in one respondent)

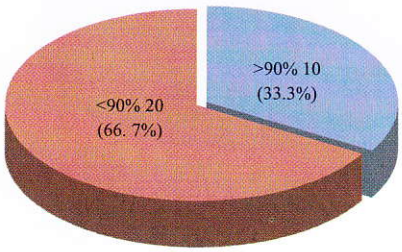

Figure-3: *Oxygen saturation by pulse oxymetre of pneumonia cases on admission (n=30).*

Table-III: *Outcome of study cases (n=30)*

Outcome	Frequency	Percentage
Discharged on request	17	56.7
Discharged with advice	10	33.3
Death	3	10

DISCUSSION

The study on neonatal pneumonia conducted at the neonatal ward of Jalalabad Ragib-Rabeya Medical College Hospital included 30 neonates with pneumonia. Among them, 27 neonates were 0-3 days old and 3 neonates were 4-28 days old. There was a study conducted in Dhaka Shishu Hospital which showed among 50 neonates, 42 (84%) neonates presented between 4-28 days of age and 4 (16%) were 0-3 days old[3]. The findings were dissimilar to the present study. Another study found that, out of 115 neonates, 11 (9.6%) were 0-7 days old, 104 (90.4%) were 8-28 days old and the mean age was 16.2 days[4]. In our study, male neonates 19 (63. 3%) were more affected than female neonates 11 (36.7%), but a study in Dhaka Shishu Hospital showed female neonates 26 (52%) were affected more than males 24 (48%) which was not similar to our study[3]. But another study at Dhaka Medical College hospital showed that, male neonates were more affected by pneumonia than female neonates[4], which was similar to our study.

The current study found that pneumonia was more common (80%) in neonates with a normal birth weight (>2500 gm). In Bangladesh, one study reported that, newborns suffering from pneumonia had a mean birth weight of 2870 gm, which was similar to the present study[5]. However, a study at Dhaka Shishu Hospital found that neonates with low birth weight had more pneumonia than newborns with normal birth weight[3], which was dissimilar to our study.

Diagnosis of neonatal pneumonia is mainly dependent on clinical presentations and physical findings. The symptoms differed widely between individuals with pneumonia[6].

In the current study, all 30 (100%) neonates with pneumonia presented with difficulty in breathing. Other symptoms were poor feeding 17 (56.7%), fever 9 (30%) and cough 3 (10%). Among the signs, fast breathing 28 (93.3%) was the most common, followed by chest indrawing 20 (66.7%), grunting 15 (50%) and cyanosis 3 (10%). The findings of the present study were comparable with a study in Bangladesh in which the presenting features of pneumonia cases were mostly rapid, noisy or difficult breathing (92.17%), lethargy (86.08%), cough (85.22%), cyanosis (26.95%), grunting (20%) and hyperthermia (12.17%)[5]. Another study conducted in Dhaka showed that, majority (88%) of the neonates with pneumonia presented with difficulty in breathing following poor feeding (74%), fast breathing (66%), chest indrawing (60%), grunting (18%), cough (18%), hypothermia (14%) and central cyanosis (14%)[3]. The current study

was comparable with a study in India which reported that respiratory distress was the most common presenting feature of neonatal pneumonia and 68% of respiratory distress was found to be due to pneumonia[7]. Bajad et al. also found that, the common causes of respiratory distress in neonates were hyaline membrane disease (25.43%), followed by birth asphyxia (24.66%), sepsis/pneumonia (23.49%) and meconium aspiration syndrome (7.09%)[8].

Among the study neonates, two thirds had oxygen saturation <90% and the rest one third had oxygen saturation >90% within 24 hours of hospital admission. Duke et al. commented that, using oxygen on the basis of objective evidence of hypoxemia had the potential for a large reduction in neonatal mortality[1].

Overall mortality in our study was 10%, which was lower than in a study conducted by Mathur et al. where the death rate was 32%[9].

CONCLUSION

Neonatal pneumonia was more common in males and normal birth weight newborns. The first three days of life are more vulnerable to developing pneumonia. Symptoms and signs of neonatal pneumonia are mostly non-specific, but respiratory symptoms and poor feeding should raise suspicion of pneumonia. Early detection by physical examinations and investigations and appropriate treatment can minimize morbidity and mortality.

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NOTE

We want to drop a note to thank Dr Dipankar Podder, who was working as an Indoor Medical Officer in the department of paediatrics during this research work. In a road traffic accident, we lost him forever on 18th December 2020. We would like to pay our gratitude to Dr Dipankar Podder for his tremendous support for our research article and pray for his departed soul.

JALALABAD MEDICAL JOURNAL

Original Article

Evaluation of the Indications of Preterm Caesarean Section in a Tertiary Level Hospital

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ABSTRACT

The indication of caesarean section (CS) delivery in preterm pregnancy can be based on a medically indicated CS. A preterm CS can be protective, but can also be associated with high morbidity for both mother and foetus. Therefore, the optimal mode of delivery for preterm babies is controversial. This cross-sectional descriptive study was conducted in the Department of Obstetrics and Gynaecology, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet, during the period from January 2018 to June 2018, to evaluate the indications of preterm CS. Thirty consecutive preterm CS were studied. Cases with multiple pregnancies, other medical disorders, and diabetes mellitus were excluded. The result showed that, majority (90%) of the cases were between 18-35 years of age, mean age was 26.67±4.98 years, and mean gestational age was 34.9±1.4 weeks. Indications of preterm caesarean delivery were severe preeclampsia (30%), previous caesarean section (23.3%), antepartum haemorrhage (placenta previa) (6.7%), malpresentation (6.7%), breech presentation with oligohydramnios (10%), preterm premature rupture of membranes (13.3%), and foetal distress (10%). The study observed that severe preeclampsia and previous caesarean section are the most common indications of preterm caesarean section.

Keywords: *Preterm delivery, Caesarean delivery.*

[Jalalabad Med J 2020; 17(2): 51-54]

INTRODUCTION

Preterm pregnancy is described as the time period of pregnancy from the age of viability of the foetus (In the UK, as 24 completed weeks of gestational age from the date of the last menstrual cycle or 22 completed weeks from the date of conception if that is accurately known) until the completion of 37 weeks of gestation[1]. Preterm delivery constitutes a large number of deliveries worldwide and is a significant cause of perinatal morbidity and mortality[2]. The survival of the preterm infant is known to be related to birth weight and gestational age. Gestational age, although at times not accurately available, is generally a better predictor of maturation and chance of survival than birth weight. A preterm caesarean section is a caesarean delivery performed between the age of viability and 36 weeks of gestation[3].

The optimal mode of delivery for preterm babies is controversial. Data from prospective randomized studies is very limited due to recruitment difficulties[4,5]. In practice, however, the rate of elective caesarean deliveries in preterm babies has markedly increased over the last decades. This further strengthens the need to try and determine whether this practice of elective

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caesarean deliveries is justified for a possibly better outcome for the infants, in the face of potential serious morbidities among the mothers[6].

Evidence that CS delivery benefits the preterm infant is lacking. A Cochrane review of six randomized controlled trials, including 122 women, compared the policy of elective or selective CS in spontaneous preterm delivery at 24-36 weeks. Lower rates of low APGAR scores, intracranial pathology, perinatal deaths, and intubations were observed in the elective CS group, but the differences were not statistically significant. The review concluded that it remains unclear whether CS benefits infants[4]. Even though scientific evidence supporting CS for extremely preterm deliveries is scarce, the CS rate tends to increase over time, underlining the importance of assessing the maternal risks.

Although the most appropriate delivery mode for preterm foetuses is still controversial, caesarean birth is usually recommended for preterm babies at high risk, low birth body weight labours such as preeclampsia, foetal distress, placenta previa with antepartum haemorrhage, placenta abruption, or malpresentation[7].

Increased maternal morbidity has been reported in association with CS for preterm delivery. The Cochrane review cited showed that an elective versus a selective caesarean delivery policy gave a risk ratio of 6.2 (95% CI: 1.3-30.1) for increased maternal morbidity defined as a 'major maternal complication'[4].

An extensive review of existing literature from the developing world showed no studies evaluating the causes of preterm caesarean section. Hence, the study was aimed at evaluating the causes of preterm caesarean section.

MATERIALS AND METHODS

This cross-sectional descriptive study was conducted in the Department of Obstetrics and Gynaecology, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet, during the period from January 2018 to June 2018. Thirty consecutive preterm caesarean sections were studied. Preterm caesarean sections refer to those performed between 28 and 36 weeks of gestation. Cases with multiple pregnancies, pregnancy with other medical disorders like essential hypertension and diabetes mellitus (Fasting blood sugar >126 mg/dl) as they may have an effect on the results of the study were excluded. Informed consent and demographic profiles were taken from patients to include their data in this research work. The gestational ages of the pregnancies were determined using Naegele's rule and ultrasonography. Initially, all the patients presenting with preterm labour pains were tocolysed and given antenatal steroid cover to ensure foetal lung maturity. All the caesarean sections were transverse lower segment caesarean sections under spinal or epidural anaesthesia and the abdominal incision was Pfannestiel in all cases. A research questionnaire for recording data on sociodemographic characteristics, gestational age at delivery, indications for caesarean section and anaesthetic techniques were recorded. Data entry and analysis were carried out using the statistical package for social sciences (SPSS) version 22.

RESULTS

The mean age of the mothers for preterm caesarean sections was 26.67±4.98 years (Range 18-37 years), while the mean gestational age was 34.9±1.4 weeks (Range 18-36 weeks) (Table-I and Table-II). Primiparous was 22 (73.3%) and mulitiparous was 8 (26.7%) (Figure-1). Indications for preterm caesarean delivery were severe preeclampsia (30%), previous caesarean section (23.3%), antepartum haemorrhage (Placenta previa) (6.7%), malpresentation (6.7%), breech presentation with oligohydramnios (10%), preterm premature rupture of membranes (13.3%), and foetal distress (10%) (Table-III).

Table-I: *Age of mothers for preterm caesarean sections (n=30).*

Maternal Age (In years)	Frequency	Percentage
18-25	14	46.7
26-35	13	43.3
≥35	3	10
Mean ± SD	26.67 ± 4.98	

Table-II: *Gestational age for preterm caesarean sections (n=30).*

Maternal Age (In years)	Frequency	Percentage
<30	0	0
30-32	3	10
33- 34	7	23.3
35-36	20	66.7
Mean	34.90 ± 1.4	

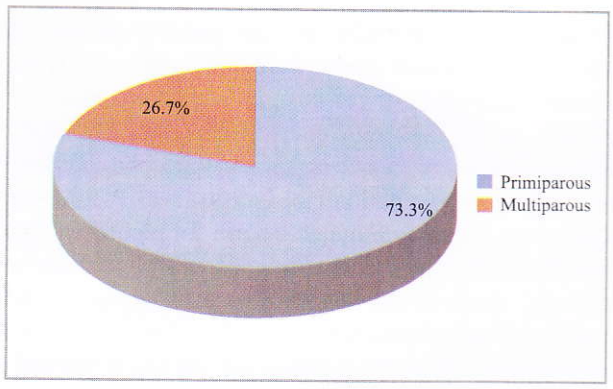

Figure-1: *Parity of mothers for preterm caesarean sections (n=30).*

Table-III: *Indications for the caesarean section in preterm delivery (n=30).*

Indication	Frequency	Percentage
Severe preeclampsia	9	30
Previous caesarean section	7	23.3
Preterm premature rupture of membranes	4	13.3
Breech with oligohydramnios	3	10
Foetal distress	3	10
Malpresentation	2	6. 7
Antepartum haemorrhage	2	6. 7

DISCUSSION

Caesarean section appeared to be associated with an increased risk of neonatal mortality among infants of low risk term pregnancies, but the most extremely preterm infants might provide survival benefit[8]. The caesarean section rate in 2005 was recorded at 33% among infants between 34-36 weeks of gestation and 40% among 32-33 week infants[9]. In the current study, the mean age of the mothers for preterm caesarean sections was 26.67±4.98 years. This result correlated with studies by Tasneem et al.[8] and Nwafor et al[3]. Our study revealed that, the mean gestational age for preterm caesarean section was 34.90±1.4 weeks. This result was also consistent with the studies of Nwafor et al.[3] and Tasneem et al[8].

In this study, primiparous was 73.3% and mulitiparous was 26.7%. This result was supported by the study of Nwafor et al[3]. Indications of preterm CS in the present study were severe preeclampsia (30%), previous caesarean section (23.3%), ante-partum haemorrhage (Placenta previa) (6.7%), mal-presentation (6.7%), breech presentation with oligohydramnios (10%), preterm premature rupture of membranes (13.3%), and foetal distress (10%). In this regard, Nwafor et al.[3] found indications of CS in preterm caesarean section were hypertensive diseases (42.8%), mal-presentation with preterm rupture of membranes (6.8%), previous caesarean section (14.8%), ante-partum haemorrhage (20.8%), oligohydramnios (10.1%) and mal-presentation with preterm labour (4.7%). Nearly similar indications of caesarean section in preterm pregnancy were reported in the study by Wazed et al[1].

An important study limitation was the cross-sectional nature of the study. Another limitation was the single-centre study. Furthermore, the sample size was small and obstetrical outcome was not recorded in this study.

CONCLUSION

The study observed that severe preeclampsia and previous caesarean section are the most common indications of preterm caesarean section. However, further study involving multicentre and large samples is warranted.

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JALALABAD MEDICAL JOURNAL

Case Report

An Intraosseous Capillary Haemangioma of the Right Foot: A Case Report

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ABSTRACT

Primary intraosseous haemangioma is an uncommon bone tumour that accounts for approximately 1% of all primary bone tumours. The majority of cases are seen in the cranium and vertebrae, either as solitary or as multiple lesions. It is rarely found on foot. Furthermore, it is especially uncommon to be located at this site. We describe here a case of a 20-year old male who presented with an osteolytic lesion on the fifth metatarsal of the right foot. He received a surgical excision. Microscopically, the tumour was composed of lobules of capillary sized vascular channels with occasional dilated crescent-shaped openings at the periphery.

Keywords: *Intraosseous haemangioma, Foot, Metatarsal, Capillary haemangioma.*

[Jalalabad Med J 2020; 17(2): 55-58]

INTRODUCTION

Intraosseous haemangioma is an uncommon benign vascular tumour. It accounts for about 1% of all primary osseous tumors[1]. These rare, slow-growing tumours exhibit female predominance, with a male female ratio of 1:2[2]. These tumours are most commonly observed in the skull (80%) and spine (30-50%), with the involvement of long and flat bones being very rare[3,4,5,6]. Intraosseous haemangioma in long bones is usually located in the diaphyseal and diaphysio-metaphyseal regions[2].

Here we report a case of intraosseous haemangioma in a 20 year old male with an initial presentation of an osteolytic lesion in the right fifth metatarsal bone. We described the clinical, radiological, and histological details of the case, as well as the outcome of the surgical treatment.

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CASE REPORT

A 20 year old male patient was admitted to the department of Orthopaedics, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet, with complaints of pain in the right foot for eight years. On examination, a localized swelling was noted, which was ill defined, firm, located at the lateral aspect of the junction of the mid and fore foot, with normal local temperature and mild tenderness. There was no restriction to movement of the joint. Blood tests showed high C-reactive protein (10 mg/dL) with a normal blood picture. The Mountox test and Immunochromatographic test (ICT) for *Mycobacterium Tuberculosis* were found to be negative.

The plain radiographs of the right foot showed an osteolytic lesion at the fifth metatarsal bone with cortical destruction (Figure-1). Magnetic resonance imaging (MRI) was advised, but the patient refused. With the possibility of a tumour like bone lesion or osteomyelitis, surgical intervention was planned.

After exploration, the lesion was found to be granular and beaded, which was friable with a few cortical destructions (Figure-2). Gentamicine beads were given in the lesion and the intraosseous content was sent for histopathological study. The tumour was composed of lobules of capillary sized vascular channels with foci of dystrophic calcification with fibrosis and histopathologically, the section showed soft tissue and it revealed capillary haemangioma (Figure-3 and Figure-4). An immunohistochemical study was performed on paraffin embedded tissue. These tumour cells were immunoreactive for both vascular markers, CD34 and CD31 (Figure-5). The diagnosis of intraosseous capillary haemangioma was confirmed. The patient was followed up at every 15-day interval for two months.

Figure-1: Preoperative X-ray of the foot.

Figure-2: *Per-operative findings.*

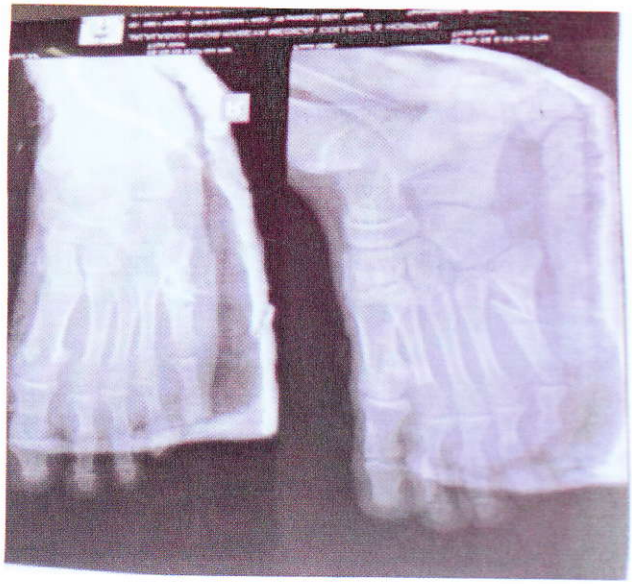

Figure-3: *Post operative X-ray.*


DEPARTMENT OF PATHOLOGY
JALALABAD RAGIB-RABEYA MEDICAL COLLEGE
HISTOPATHOLOGY REPORT

Figure-1: *Histopathological report.*

Figure-2: *Immunohistochemistry report.*

DISCUSSION

Intraosseous haemangioma constitutes less than 1% of all primary bone neoplasm. Approximately 75% occur in the calvarium or vertebrae, with long bones, short tubular bones and ribs constituting the rest[1]. It is rarely found in the feet. None of the 108 intraosseous haemangioma in Ngan KW's series was found in a foot[7]. Of the total 153 cases in a large series of tumours of the foot and ankle reported by Chou LB et al. in 2009, only six cases were diagnosed as haemangioma[8]. Furthermore, it comprised approximately 1.2% of all intraosseous neoplasm found in the feet. Since then, only limited cases have been described in English medical literature. From a radiological point of view, the classic corduroy sign and sunburst patterns of vertebral and skull haemangioma are uncommon in extremity sites. The extremity site lesions might have a classic coarse trabecular bone pattern or soap bubble appearance, but a permeative pattern of irregular bone destruction can also be seen. Due to the diversity of radiological patterns produced by the skeletal haemangioma, a correct preoperative diagnosis was rarely made[2], which supported our case, as radiologically we were confused about whether it was infective or growth or anything else.

In 2005, Ngan et al. reported a case of intraosseous capillary haemangioma in the 4th metatarsal bone in a child, which was the 1st case in children where they confirmed the diagnosis on frozen section biopsy and also with immunohistochemistry[7]. These aspects also supported our case. The most common histological pattern of intraosseous haemangioma was the cavernous type, although capillary or mixed patterns of growth might also be seen. This case was not a pyogenic granuloma since no inflammatory cell infiltrates were seen. Another differential diagnosis was Kaposi form haemangioendothelioma, a borderline vascular tumour which had the features of both capillary haemangioma and Kaposi's sarcoma. However, the Kaposi like area that is composed of spindle cells with a slit like pattern and hyaline globules was not evident in our case. The bland looking tumour cells were easily distinguished from those in intermediate and high-grade vascular tumours, such as epitheliod haemangioendothelioma and angiosarcoma. Intraosseous haemangioma of the foot could be either asymptomatic or painful. Symptomatic haemangioma usually requires further management. Surgical excision or vascular ablative treatment was then justified[7].

CONCLUSION

Encountering an osteolytic bone lesion of the foot, intraosseous haemangioma should always be considered among the differential diagnosis as stated above. Diagnosis can be established by having a high degree of suspicion coupled with preoperative magnetic resonance imaging (MRI) and intraoperative frozen section studies. Immunohistochemistry is to be done to delineate the benign nature of this lessoin.

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Miscellaneous

Campus News

Postgraduate Training Recognized by BCPS

A high powered inspection team consisting of nine members from the Bangladesh College of Physicians and Surgeons (BCPS) Dhaka, headed by Professor Md. Monimul Haque, visited Jalalabad Ragib-Rabeya Medical College and Hospital on 3rd March 2014. On the recommendations of the inspection team, the council of the Bangladesh College of Physicians and Surgeons (BCPS) has extended the tenure of recognition of training imparted to the departments of Medicine, Surgery, Paediatrics, Obstetrics & Gynaecology, Physical Medicine & Rehabilitation, Dermatology & Venerology and Cardiology to the resident doctors provisionally for a period of five years. The council has granted recognition to the department of Radiology & Imaging for imparting training to resident doctors provisionally for a period of five years with effect from 06-6-2013. The training will be accepted for appearing in the FCPS, MD, MS Part-II and diploma examinations in these specialties. The postgraduate training imparted to the departments of Ophthalmology, Otolaryngology, Psychiatry, Pathology (Histopathology) and Orthopaedic Surgery was recognized by the Bangladesh College of Physicians and Surgeons (BCPS) earlier and to be continued.

Programmes

- **Orientation of Students of the 26th Batch** of Jalalabad Ragib-Rabeya Medical College was arranged on 5th January 2020 on the college campus. Prof. Md. Murshed Ahmed Chowdhury, honorable Vice Chancellor, Sylhet Medical University, Sylhet, graced the occasion as the chief guest. Danobir Dr. Syed Ragib Ali, Founder Chairman of the Governing Body of the institute was present on the occasion as a guest of honour. Prof. Md. Moynul Haque, Dean, Basic Sciences and Para-clinical Sciences, Sylhet Medical University and Principal Sylhet MAG Osmani Medical College, Prof. AKM Daud, Vice Principal, JRRMC; Prof. Md. Tarek Azad, Director Hospital, Prof. Shamima Akhter Chairman Cultural Committee, Mr. Abdul Hye, Treasurer, Ragib-Rabeya Foundation and Member of the Governing Body of Jalalabad Ragib-Rabeya Medical College and Mrs Sadika Jannat Cowdhury, Member of the Governing Body of Jalalabad Ragib-Rabeya Medical College were present as special guests. The programme was presided over by the Principal of the college Prof. Md. Abed Hossain. All the students of the 26th batch along with their guardians and senior teachers of the institution were present on the occasion.
- **The Saraswati Puja,** the Most Important Event for Students of Sanatan Religion was held on college campus on 29th January 2020 like every year. The event was celebrated gorgeously in a religious mood. Danobir Dr. Syed Ragib Ali, Founder Chairman of the Governing Body of the institute visited the Puja Mondop in the morning. A well organized cultural programme by the students of the college was held in the evening. All the teachers, students and staff of the college attended the programme.
- **The prize giving ceremony of Artistic Aesthetic 3.0:** inter medical photography exhibition 2020 was held in Jalalabad Ragib-Rabeya Medical College campus on 13th February 2020 followed by a two-days photography exhibition with the participation of the photographic society of 35 medical colleges. Danobir Dr. Syed Ragib Ali, Founder Chairman of the Governing Body of the institute was present there as the chief guest. The program was presided by Prof. Shamima Akhter, the Chairman of cultural committee and photography club of the college. Prof. Md. Abed Hossain, honorable Principal, Jalalabad Ragib-Rabeya Medical College, Prof. Md. Tarek Azad, Director of Hospital and Prof. A. K. M. Daud, Vice Principal, JRRMC were present and delivered their speeches. All the teachers and students of the college attended the programme.
- **Bosonto Boron** was celebrated on Pohela Falgun 1426, 13th February 2020 on the college campus. A vibrant cultural festival was organized by the cultural committee of this college on this occasion. Danobir Dr. Syed Ragib Ali, the Founder Chairman of the Governing Body, graced the occasion as the chief guest. Prof. Md. Abed Hossain, The Honorable Principal, Jalalabad Ragib-Rabeya Medical College, Vice Principal Prof. AKM

Daud, Director of the Hospital Prof. Md. Tarek Azad and Chairman of the cultural committee Prof. Shamima Akhter were present as special guests. The teachers and students of this institution were present and enjoyed the celebration.

- **The Mural of the Father of the Nation, Bangabandhu Sheikh Mujibur Rahman** was established in the acedemic building of Jalalabad Ragib-Rabeya Medical College on 22nd February 2020. Prof. Md. Murshed Ahmed Chowdhury, Honorable Vice Chancellor, Sylhet Medical University, Sylhet, inaugurated the mural. Prof. Md. Abed Hossain, honorable Principal, Jalalabad Ragib-Rabeya Medical College, Vice Principal Prof. AKM Daud, Director of the Hospital Prof. Md. Tarek Azad and the senior teachers and students of this institution were present on the occasion.
- **Shahid Dibosh and International Mother Language Day** was observed on 21st February 2020 with a huge rally up to Sylhet Central Shahid Minar in the early hours of the day.
- **A Friendly Cricket Tournament** was held on 1st March 2020 on the college campus for the celebration of "Mujib Barsha". Prof. Md. Abed Hossain, Principal, Jalalabad Ragib-Rabeya Medical College was present on the occasion as the chief guest. Prof. A. K. M. Daud, Vice Principal and Chairman of the sports committee, JRRMC, Director of Hospital Prof. Md. Tarek Azad, Prof Shamima Akhter and Prof Mosharaf Hossain delivered their speeches as special guests.
- **A cultural programme** was held in the evening on 1st March 2020 in the lecture gallery of the college for the celebration of "Mujib Barsha". Prof. Md. Abed Hossain, Principal, Jalalabad Ragib-Rabeya Medical College was present on the occasion as the chief guest. Prof. A. K. M. Daud, Vice Principal and Chairman of the sports committee, JRRMC and Deputy Director of Hospital Dr. Arman Ahmed Shiplu as special guests. Chairman of the cultural committee Prof Shamima Akhter presided over the programme.
- **A Condolence Meeting** was held in the lecture gallery-I on 3rd March 2020 in remembrance of Dr. Rumana Isalm, associate professor of gynaecology and obstretics, Jalalabad Ragib-Rabeya Medical College. The Principal Prof. Md. Abed Hossain presided over the condolence meeting. All the teachers, students and staff of Jalalabad Ragib-Rabeya Medical College and Hospital were present at the meeting.
- **A Friendly Cricket Tournament** among the present and former students of the medical college was held on 3rd March 2020 on the college campus for the celebration of "Mujib Barsha". Prof. Md. Abed Hossain, Principal, Jalalabad Ragib-Rabeya Medical College was present on the occasion as the chief guest. Prof. A. K. M. Daud, Vice Principal and Chairman of sports committee, JRRMC and Director of Hospital Prof. Md. Tarek Azad were present as special guests.
- **International Women's Day** was celebrated on 8th March 2020 with a colorful, huge rally on the college campus. For the occasion, around nine hundred patients were served in the outdoor of Jalalabad Ragib-Rabeya Medical College Hospital, as well as visual inspection with acetic acid (VIA) tests to detect carcinoma cervix of females were done for the whole month in the department of Gynaecology and Obstetrics with free of cost by the donation of all the female doctors of the institute.
- **World Kidney Day** was celebrated on 12th March 2020 with a rally on the college campus, organized by the department of Nephrology of the college. Prof. Md. Abed Hossain, Principal, Jalalabad Ragib-Rabeya Medical College, Prof. A. K. M. Daud, Vice Principal, Dr. Abdul Latif Associate Professor and head of Nephrology and other senior teachers and doctors were present at the programme.
- **The Remembrance of the Nepali Students**, the Air Crash Victims, was held by the flaming light of candles on the evening of 12th March 2020, two years after the accident on the campus.
- **The Leaflets Distribution Programme** for public awareness about mental health, organized by the department of Psychiatry, was inaugurated on 16th March 2020 on the occasion of "Mujib Barsha". Prof. Md. Abed Hossain, Principal, Jalalabad Ragib-Rabeya Medical College was present on the occasion as the chief guest. Prof. A. K. M. Daud, Vice Principal and Director of Hospital Prof. Md. Tarek Azad were present as special guests. The senior teachers of the institution were present on the occasion.
- **The Birth Centenary of the Father of the Nation, Bangabandhu Sheikh Mujibur Rahman**, was celebrated on 17th March 2020 with different activities like placing wreaths on the mural of Bangabandhu, discussion meeting and rally in the Jalalabad Ragib-Rabeya Medical College campus. Prof. Md. Abed Hossain, Principal, Jalalabad Ragib-Rabeya Medical College was present on the occasion as the chief guest. Prof. A. K. M. Daud, Vice Principal and Director of Hospital Prof. Md. Tarek Azad were present as special guests. All the teachers of the institution were present on the occasion.

- **Personal Protective Equipment (PPE)** started to be distributed among the hospital staff including doctors, in the Jalalabad Ragib-Rabeya Medical College Hospital on 23rd March, 2020. The program was arranged by the "Corona Virus Infection Prevention Coordination Committee" of Jalalabad Ragib-Rabeya Medical College. Prof. Md. Abed Hossain, Principal, Jalalabad Ragib-Rabeya Medical College, along with Prof. A. K. M. Daud, Vice Principal and Director of Hospital Prof. Md. Tarek Azad distributed these PPE among the hospital staff.
- **Personal protective equipment (PPE) and KN95 Masks** were donated to Jalalabad Ragib-Rabeya Medical College Hospital on behalf of different organizations between the periods of March 2020 and June 2020. Dr Jaber Ahmed Chowdhury, Dr Ahmed Sirajum Munir Rahil, Dr Hanif, Dr Ishtiak, Dr Md Abdul Goffar Khan (Adil), Dr Parimal Kishor Deb (Tapos), Dr Asma Begum (Liza), Nida, daughter of Prof Cyrus Sakiba and her friend Sarah Ali, Mr Shafiul Alam Nadel, Kazi Farms, Kamran Asma Health Care Centre and the Optimist handed over these equipments to the hospital authority. Prof. Md. Abed Hossain, Principal, Jalalabad Ragib-Rabeya Medical College, expressed his gratitude to the donors on behalf of hospital authority.

Death news:

- **Prof Nazim Uddin Ahmed**, former head of the department and professor of pharmacology, Jalalabad Ragib-Rabeya Medical College, has passed away. Prof. Md. Abed Hossain, Principal, Jalalabad Ragib-Rabeya Medical College expressed deep condolences on his death.
- **Dr. Rumana Isalm**, associate professor of gynaecology and obstretics, Jalalabad Ragib-Rabeya Medical College, died on 27th February 2020. Danobir Dr. Syed Ragib Ali, the Founder Chairman of the Governing Body of the institute, expressed deep condolences for her early death. Prof. Md. Abed Hossain, Principal, Jalalabad Ragib-Rabeya Medical College expressed deep condolences on her death on behalf of all the teachers, students, and staff of the institute.

Seminars:

The following seminars were held at Jalalabad Ragib-Rabeya Medical College from January to June 2018:

1. A seminar on **"Painless Normal Delivery with Epidural Analgesia"** was organized by the department of Obstetrics and Gynaecology on 27th February 2020.
2. A seminar on **"Corona Virus Disease-19 (COVID-19) an update and overview"** was organized jointly by the department of Medicine and the department of Microbiology on 21st March 2020.

Workshops:

A workshop on **"TB Networking Meeting with Graduate Private Practitioners"**, arranged by BRAC Sylhet Urban, was held at Jalalabad Ragib-Rabeya Medical College on 2nd February 2020. Prof Md Tarek Azad, Director of the hospital, and Dr Md Zakaria Mahmud, senior consultant, Chest Disease Hospital, Sylhet, were present as resource person in the workshop.

Instructions for Author(s)

Manuscripts on clinical, review, experimental and historical topics pertinent to medical sciences are accepted for the publication in this journal. The papers are accepted for the publication with an understanding that they are solely submitted for this journal. The statements, comments or opinions expressed in the papers are exclusively of author(s), not of editor(s) or publisher. The manuscripts are to be prepared as described in following instructions. 3 (three) hard copies are to be submitted. Letters about potentially acceptable manuscripts will be sent after review process is complete. No manuscripts will be returned if not accepted for publication. In addition an electronic/digital version of the manuscript composed in MS word 98/2000 should be submitted in a diskette.

Preparation of manuscripts

Manuscripts should be typewritten, double-spaced throughout (including references and tables) on one side of good quality A4 sized paper, with margins of at least 25 mm. Each component of the manuscript should begin on a new page in the sequence of title or cover page, abstract with key words, text, acknowledgement, references, tables and legends for illustrations.

Title page will contain

a. Concise and informative title of the article
b. Author(s) name, highest academic degree(s).
c. Name of the department(s) and institution(s).
d. Address for correspondence and reprint (please include e-mail address and fax if available).

Abstract and key words

An informative abstract not more than 250 words should briefly describe the objectives, materials and methods, results and conclusion. Number of key words should not more than ten and none that are in the title.

Text should contain Introduction, Materials and Methods, Results and Discussion in sequence.

Introduction

It should briefly disclose the purpose of study. It will help the readers with the problem finding. It should be clear in nature and purpose.

Materials and Methods

Clearly it should include materials, experimental procedures, methods etc. Mention the nomenclature, source of material, equipment with manufacturer's details in parentheses. Describe new methods in sufficient detail indicating their limitation. Established methods should be cited with authentic references. Ethical standards should be followed in reporting experiments done in human subjects. Precisely identify the dosage and route of administration, when drugs or chemicals are used. Measurements and data should be stated in SI unit, or if SI unit does not exist, use an internationally accepted unit. Abbreviations and acronyms should be used for widely used terms and names, which occurs consistently and frequently in the manuscript.

Results

It should be presented in logical sequence in text, tables or illustrations. Duplications of data in the tables or illustrations should be avoided. Emphasize or summarize only important observations.

Discussion

Emphasize the new and important aspects of the study and conclusion derived from them. Detail data written in introduction and other portions of text should not be repeated. The implication of results and their limitations including suggestion for future research should be included in the discussion.

References

Number the references consecutively in order mentioned in the text. Full list of reference should include all authors. Avoid using abstracts as references. References to paper accepted but not yet published should be designated as 'in press' or 'forthcoming'. Authors should obtain written permission to cite such papers as well as verification that they have been accepted for publication. Information from manuscripts submitted but not accepted should be cited as 'unpublished observations' with written permission from the source. Use the styles of example below, which are based on the formats used by US National Library of Medicine (NLM) in the Index Medicus. The title of journals should be abbreviated according to the style used in Index Medicus.

Article in journal

a) List all six authors when six or less

Vega KJ, Pina I, Krevsky B. Heart transplantation in associated with an increased risk for pancreatobiliary disease. Ann Intern Med 1996; 124 (11): 980-3.

As an option, if a journal carries continuous pagination throughout a volume (as many journals do) the month and issue number may be omitted.

b) More than six authors
Parkin DM, Clayton D, Black RJ, Masuyer E, Friedl HP, Ivanov E, et al. Childhood leukaemia in Europe after chernobyl: 5 year follow-up. Br J Cancer 1996; 73:1006-12.
c) No author given
Cancer in South Africa (editorial). S Afr Med J 1948; 84:15
d) Organization as author
The cardiac society of Australia and New Zealand. Clinical exercise stress testing. Safely and performance guidelines. Med J Aust 1990; 146: 267-9.

Books and monographs
a) Personal author(s)
Laurence DR, Bennett PN, Brown MJ. Clinical Pharmacology. 8th ed. New York: Churchill Livingstone; 1997.
b) Editor(s),compiler(s) as author
Norman IJ, Redfern SJ, editors. Mental health care for elderly people. 5th ed. New York: Churchill Livingstone; 1999.
c) Organization as author and publisher
World Health Organization. Ethical criteria for medical drug promotion. Geneva: World Health Organization; 1988.
d) Chapter in a book
Phillips SJ, Whisnant JP. Hypertension and stroke. In: Laragh JH, Brenner BM, editors. Hypertension: pathophysiology, diagnosis and management. 2nd ed. New York: Raven Press; 1995. p 465-9.
e) Dissertation or thesis
Kaplan SJ. Post hospital home health care: the elderly access and utilization (dissertation). St. Louis (MO): Washington Uni; 1995.

Other published material
a) Newspaper article
Lee G. Hospitalization tied to ozone pollution: study estimates 50,000 admissions annually. The Washington post 1996; June 21; sect. A: 3 (col. 5).
b) Dictionary and similar references
Student's medical dictionary. 26th edi. Baltimore: Williams and Wilkins; 1995. Apraxia; p.119-20.

Unpublished material
a. In press
Leshner AI. Molecular mechanisms of cocaine addiction. N Eng J Med (in press) 1997.

Electronic material
a) Journal articles in electronic format
Morse SS. Factors in the emergence of infectious diseases. Emerg Infect Dis [serial online] 1995 Jan-Mar [cited 1996 June 5]; 1(1): [24 screens]. Available from: URL: http://www.cdc.gov/ncidod/EID/eid.htm
b) Monograph in electronic format
CDI, clinical dermatology illustrated [monograph on CD-ROM]. Reeves JRT, Maibach H. CMEA Multimedia group, producers. 2nd ed. Version 2.0. San Diego: CAEA; 1995.
C) Computer files
Haemodynamics III: The ups and downs of haemodynamics [computer program]. Version 2.2. Orlando (FL): Computerized Educational Systems; 1993.

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