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Instruction to Authors
Original Article
Case Report

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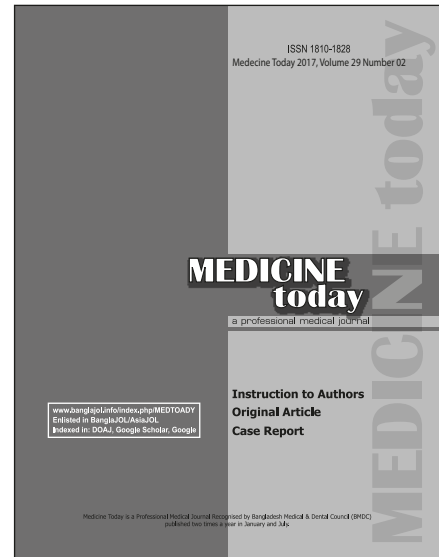
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In the Pre-eclampsia and Normotensive Patient- Lipid Profile Study

Khatun J¹, Amir S²**Abstract**

Pre-eclampsia is associated with substantial risks for the fetus and mother. Disorders of lipoprotein metabolism are reported to be a major cause of hypertension and proteinuria in pre-eclampsia. This was a cross-sectional comparative study carried out in the Department of Obstetrics and Gynecology, Sylhet, M.A.G Osmani Medical College Hospital, Sylhet during December 2013 to May 2014. 50 pre-eclampsia and 50 normotensive pregnant women's serum lipid profile were selected according to inclusion and exclusion criteria. Fasting lipid profile was measured after 10-12 hours overnight fasting. The mean age (25.12 # 3.98 years vs 24.94 # 3.90 years; $p=0.820$), gestational age (36.80 # 0.70 weeks vs 36.9 # 1.1 weeks; $p=0.144$), and BMI (21.43 # 2.09 kg/M² vs 22.02 # 1.73 kg/M², $p=0.131$) were statistically similar in both pre-eclamptic women and the control pregnant women. SBP (163.70 # 11.24 mm of Hg vs 115.10 # 9.39 mm of Hg; $p<0.001$) and DBP (103.6 # 9.4 mm of Hg vs 71.50 # 5.37 mm of Hg $p<0.001$) were significantly higher in pre-eclamptic women than that of normotensive pregnant women. Serum total cholesterol (227.56 # 55.79 mg/dl vs 194.56 # 43.33 mg/dl, $p=0.001$), serum LDL-cholesterol (147.72 # 51.03 mg/dl vs 119.43 # 37.17 mg/dl; $p=0.002$) and serum triglyceride (232.06 # 65.54 mg/dl vs 157.44 # 64.24 mg/dl $p<0.001$) were significantly higher in pre-eclampsia than that of normal pregnancy; while serum HDL-cholesterol (38.96 # 2.93 mg/dl vs 45.82 # 6.11 mg/dl; $p<0.001$) was significantly lower in pre-eclampsia than that of control pregnancy. An abnormal lipid profile has a direct effect on endothelial dysfunction. Early detection of these parameters may help patient by preventing complications in pre-eclampsia.

Keywords: Lipid profile, normotensive, pre-eclampsia.

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Introduction

Pre-eclampsia, defined by presence of both hypertension to the extent of 140/90 mm Hg and proteinuria (300mg/day) induced by pregnancy after 20th week with multiple target organs involvement¹⁻³. Worldwide the incidence of pre-eclampsia ranges between 2 and 10% of pregnancies. There are approximately 3.6 million births per year in Bangladesh. Over 100,000 develop eclampsia per year. Eclampsia causes 16% of maternal mortality on a national basis which is equivalent to about 4500 death in one year⁴. The association of alteration of serum lipid profile in essential hypertension is well documented. An abnormal lipid profile has a direct effect on endothelial dysfunction. The most important feature to toxemia of pregnancy is hypertension which is supposed to be due to vasospastic phenomenon in kidney, uterus, placenta and brain⁵.

Pre-eclampsia is associated with substantial risks for the fetus. These include intrauterine growth restriction, death and prematurity. Early pregnancy dyslipidemia is associated with an increased risk of pre-eclampsia⁷. Women with a history of pre-eclampsia have significant differences in lipid parameters and an increased susceptibility to lipoprotein oxidation when compared with women who had normal pregnancy. Disorders of lipoprotein metabolism are reported to be a major cause of hypertension and proteinuria in pre-eclampsia⁸.

The present study was designed to investigate the alteration in lipid profile (Cholesterol, triglycerides, HDL cholesterol, LDL-cholesterol) in pre-eclamptic women and normotensive pregnant women.

Materials and Methods

This study was a hospital based descriptive type of case-control study, carried out in IPD (inpatient department) of Obstetrics and Gynecology of Sylhet M.A.G Osmani Medical College and Hospital, Sylhet in between December 2013 to May 2014. Total 100 cases (50 cases of pre-eclampsia and 50 normotensive pregnant women were grouped as case and control respectively.) were enrolled in this study. Data was collected by using a preformed questionnaire and check list. Cases were selected according to inclusion and exclusion criteria. Inclusion criteria were patients with pre-eclampsia of aged 15 to 30 years and gestational age of 28-42 weeks, body mass index (BMI) and gestational age matched

normotensive pregnant women. Exclusion criteria were pre-existing dyslipidemia, hypertension, chronic renal failure and diabetes mellitus. Informations (according to questionnaire) were taken from patients. Laboratory measurements: Fasting lipid profile was measured. After data collection all data was entered in master sheet and Statistical analyses were carried out by using the Statistical package for Social Sciences version 16.0.

Results

The most commonly affected age group of pre-eclampsia was 21 to 25 years (58.0%) while in normotensive pregnant women it was 58.0%, There was no significant different of age group between pre-eclampsia and normotensive pregnant women ($\chi^2=1.179$; $p=0.820$) (table-I).

Table-I: Comparison of the age of the patients between pre-eclampsia and normotensive pregnant women.

Age	Study group		p-value
	Group-A (n=50)	Group-B (n=50)	
18-20 years	6 (12.0)	4 (8.0)	p=0.758
21-25 years	25 (56.0)	29 (58.0)	
26-30years	9 (18.0)	12 (24.0)	
31-35 years	7 (14.0)	5 (10.0)	
Mean #SD	25.12±3.98	24.94±3.90	p=0.820

The mean gestational age of the patients in pre-eclamptic group was 36.80±0.70 weeks and in normotensive pregnant women was 36.9±1.1 weeks. There was no significant different of mean gestational age between the groups ($t=-1.486$; $P=0.144$) (table-II).

Table-II: Comparison of the gestational age between pre-eclampsia and normotensive pregnant women.

Gestational age	Study group		p-value
	Group-A (n=50)	Group-B (n=50)	
	28 (56.0)	33 (66.0)	p=0.758
	22 (44.0)	17 (34.0)	
Mean weeks #SD	36.80±0.70	37.04±0.90	p=0.144

The height of the pre-eclamptic women was 153.22±6.11 cm and was 152.04±6.13 cm in the normotensive pregnant women.

The weight of the pre-eclamptic women was 50.24±5.04 kg and was 50.84±4.37 kg in the normotensive pregnant women. Body mass index (BMI) of the pre-eclamptic women was 21.43±2.09 kg/m² and 22.02±1.73 kg/m² in the normotensive pregnant women. There was no significant different in BMI among the three groups ($t=-1.521$; $p=0.131$) (table-III).

Table-III: Comparison of the anthropometric data of the patients between pre-eclampsia and normotensive pregnant women.

Parameter	Study group		p-value
	Group-A (n=50)	Group-B (n=50)	
Height (cm)	153.22±6.11	152.04±6.13	p=0.338
Weight (Kg)	50.24±5.04	50.84±4.37	p=0.526
BMI (Kg/M ²)	21.43±2.09	22.02±1.73	p=0.131

The systolic blood pressure (SBP) of the pre-eclamptic women was 163.70 ± 11.24 mm of Hg and was 115.10 ± 9.39 mm of Hg in the normotensive pregnant women. There was significant difference in systolic blood pressure between group-A and Group-B ($t=23.459$; $p<0.001$).

The diastolic blood pressure (DBP) of the pre-eclamptic women was 103.06 ± 9.4 mm of Hg and was 71.50 ± 5.37 mm of Hg in the normotensive pregnant women. There was significant difference in diastolic blood pressure between group-A and Group-B ($t=27.007$; $p<0.001$)(table-IV).

Table-IV: Comparison of the status of blood pressure of the patients between pre-eclampsia and normotensive pregnant women.

Blood pressure	Study group		p-value
	Group-A (n=50)	Group-B (n=50)	
SBP(mm of Hg)	163.70 ± 11.24	115.10 ± 9.39	p<0.001
DBP (mm of Hg)	100.60 ± 5.41	71.50 ± 5.37	p<0.001

Serum total cholesterol level in the pre-eclamptic women was significantly higher as compared to that of normotensive pregnant women (227.56 ± 55.79 mg/dl vs. 194.56 ± 43. mg/dl ; $t=3.303$; $p=0.001$), Serum HDL-cholesterol level in the pre-eclamptic women was significantly lower than on normotensive pregnant women (38.96 ± 2.93 mg/dl vs. 45.82 ± 6.11 mg/dl; $t=-7.160$; $p<0.001$) Serum LDL- cholesterol level in the pre-eclamptic women was significantly higher as compared to that on normotensive pregnant women(147.72 ± 51.03 mg/dl vs. 119.43 ± 37.17 mg/dl; $t=3.168$; $p<0.002$). Serum triglyceride level in the pre-eclamptic women was significantly higher as compared to that of normotensive pregnant women(232.06 ± 65.54 mg/dl vs. 158.44 ± 64.26 mg/dl; $t=5.671$; $p<0.001$) (table-V).

Table-V: Comparison of the serum lipid level of the patients between pre-eclampsia and normotensive pregnant women.

Blood pressure	Study group		p-value
	Group-A (n=50)	Group-B (n=50)	
Total cholesterol	227.56 ± 55.79	194.56 ± 43.33	p<0.001
HDL- cholesterol	38.96 ± 2.93	45.82 ± 6.11	p<0.001
LDL- cholesterol	147.72 ± 51.03	119.43 ± 37.17	p<0.002
Triglyceride	232.06 ± 65.54	158.44 ± 64.26	p<0.001

Discussion

In this study the mean age of the patients in pre-eclampsia group was 25.12 ± 3.98 years and in normotensive pregnant women was 24.94 ± 3.90 years. There was no significant different of mean age between the groups ($p=0.820$). This result was supported by Abubakar.¹³ In another study de Lima et al.⁹ found the mean age of the pre-eclampsia mother was 23.05±4.7 years ; while Khanam K et al.¹⁴ reported the mean age of the mild

pre-eclampsia mother was 29.7 ± 1.5 years and severe pre-eclamptic mother was 29.2 ± 1.2 years.

In the present study the mean gestational age of the patients in pre-eclamptic group was 36.80 ± 0.70 weeks and in normotensive pregnant women was 36.9 ± 1.1 week. There was no significant difference of mean gestational age between the group ($p=0.144$). This result was in agreement with the result of de Lima et al.⁹ Akhter.¹⁹ also found that the mean age of gestation was 36.0 ± 2.7 in pre-eclamptic or eclamptic patients. Bhowmik et al.¹⁶ found that the mean age of gestation was 34.7 weeks in pre-eclamptic patients.

In this study systolic blood pressure (SBP) of the pre-eclamptic women was 163.70 ± 11.24 mm of Hg and was 115.10 ± 9.39 mm of Hg in the normotensive pregnant women. There was significant difference in systolic blood pressure between pre-eclamptic women and normotensive pregnant women ($p<0.001$). This result was in agreement with the study of Abubakar¹³.

In this study diastolic blood pressure (DBP) of the pre-eclamptic women was 103.6 ± 9.4 mm of Hg in the normotensive pregnant women. There was significant difference in diastolic blood pressure between pre-eclamptic women and normotensive pregnant women ($p<0.001$). This result was in agreement with the study of Abubakar¹³. Similarly Kashinakunti et al.¹⁷ found that diastolic blood pressure was significantly higher in pre-eclamptic mother than the control normal pregnant women.

In this study serum total cholesterol level in the pre-eclamptic women was 227.56 ± 55.79 mg/dl and was 194.56 ± 43.33 mg/dl in the normotensive pregnant women. There was significantly higher serum total cholesterol level in pre-eclamptic than that of control normal pregnancy ($p=0.001$). This result was similar to other studies that serum total cholesterol level was significantly higher in pre-eclamptic than that of control normal pregnancy^{1,6,11,13}.

In the present study serum HDL-cholesterol level in the pre-eclamptic women was 38.96 ± 2.93 mg/dl and was 45.82 ± 6.11 mg/dl in the normotensive pregnant women. Serum HDL-cholesterol level was significantly lower in pre-eclamptic than that of control normal pregnancy ($p<0.001$). This result was similar to other studies that serum HDL-cholesterol level was significantly lower in pre-eclamptic than that of control normal pregnancy^{1,6,10,11,12,18}.

In the current study serum LDL-cholesterol level in the pre-eclamptic women was 147.72 ± 51.03 mg/dl and was 119.43 ± 37.17 mg/dl in the normotensive pregnant women. Serum LDL-cholesterol level significantly higher in pre-eclamptic than that of normal pregnancy. ($p=0.002$).

This result was similar to other studies that serum LDL-Level was significantly higher in pre-eclampsia control normal pregnancy^{1,6,11,14,18,19}.

In our serum triglyceride level in the pre-eclampsia women was 232.06 ± 65.54 mg/dl and was 157.44 ± 64.26 mg/dl in the normotensive pregnant women. Serum triglyceride level was significantly higher in pre-eclampsia than that of normal pregnancy ($p<0.001$). This result was similar to other studies that serum triglyceride level was significantly higher in pre-eclampsia than that of normal pregnancy^{1,6,9,10,11,13,15,17}.

Conclusion

Patient who develop pre-eclampsia have abnormal lipid profile. This abnormal lipid profile is responsible for endothelial dysfunction. This endothelial dysfunction may play a key role the pathophysiology of pre-eclampsia. Early detection of these parameters may help patient by preventing complications and is going to aid in better management of pre-eclampsia.

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Ear Foreign Body: A Study of 148 Cases

Mazumder JA¹, Sarker RI², Delwar AHM³, Kamrunnahar⁴

Abstract

Ear foreign body is a common ENT emergency and a challenge also to otolaryngologist worldwide. Prompt and appropriate management of it can reduce the morbidity. An observational retrospective study of 148 cases of foreign body in the ear done in Comilla Medical College Hospital and two upazilla health complexes (Nangalkot and Chowddagram) of Bangladesh within the period of January 2014 to December 2014 to evaluate the nature, mode of presentation, technique of removal and outcome of it. Data were collected from hospital records including age, sex of patient and mode and time of presentation, nature of foreign body, management outcome and complication, and the result showed that children of under 15 year age group were mostly affected (60%), among them highest incidence were in 5-10 year age group (25%) with male to female ratio 1:1.28. The most common foreign body was the seeds of various vegetables (25.67%) followed by plastic beads (18.24%) and cotton bud (15.54%), the right ear affected more (54%). Almost half of them (47.97%) presented with history of insertion of a foreign body and most of them (91.98%) were removed in OPD or emergency department under direct vision and remaining required general anesthesia. Despite a high proportion of cases managed in the office setting, complication rates were within acceptable level. It is inversely proportional to the skill of the personnel, number of attempts & availability of equipment. Key to successful outcome are prompt help by well-trained doctor and otolaryngological equipment set up.

Keywords: Ear foreign body, ENT, anesthesia, otolaryngological.

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Introduction

Ear foreign body (EFB) is one of the commonest ENT emergencies to otolaryngologist. The victim of EFB is commonly children then adult. If not managed properly it has high potential for morbidity, mortality and huge cost of management^{1,2,3}. Several factors may lead children to insert a foreign body intentionally into their ear including curiosity, the wish to explore the orifices of the body, irritation caused by otalgia, attraction of smell or simply for fun^{4,5}. An adult becomes victim while cleaning ear to remove wax or pain and irritation by a cotton bud, match stick or any other objects leaving a part of it behind. It can introduce accidentally & these are mostly animate. EFB can be classified in many ways like organic / inorganic, animate / inanimate, metallic / non-metallic, hygroscopic / non-hygroscopic, regular / irregular, soft / hard according to their nature. Among the inanimate the most commonly identified EFBs are seed of various vegetables, cotton bud, match stick, stone, piece of paper, beads, foam and feather. Vegetable foreign body tends to swell up and get tightly impacted in ear canal or may even suppurate. Among the animates flying and crawling insects like cockroach, ant, mite, tick are common causing intense irritation and pain. Maggots are found in foul smelling discharging ear where flies are attracted to this and lay eggs which hatch out into larvae called maggot^{7,8}.

Materials and Methods

A retrospective cross-sectional study of 148 cases of foreign body in ear done in Comilla Medical College Hospital and two upazilla health complexes (Nangalkot and chowddagram) of Bangladesh within the period of January 2014 to December 2014. All patients with suggestive history of foreign body entry into the ear were included. Those patients with no suggestive history but were found to have a foreign body were also included. Patients with complications arising out of EFB whose extraction was done at a different center

EFBs were removed in outpatient department or emergency department by Jobsone-Horne probe, crocodile forcep, syringing or sucker machine under direct vision with head light illumination. General anesthesia required for non-cooperative patients and smooth surfaced, deeply placed and hard to remove EFBs. The diagnosis of EFB in each subject was based on history and clinical findings at otoscopy. Data were collected from hospital records including age & sex of patient, date, time & mode of presentation, otoscopic findings, nature of foreign body, time between insertion & presentation, mode of treatment, result & complication were noted in a preform data sheet and a comparative & statistical analysis was done.

Results

Table-I shows peoples of all ages are victim of EFB. Children's of under 15 year age group are mostly affected (60%). Among this high incidence (25%) was observed in 5-10 year age group. Male to female ratio was 1:1.28.

Table-I: Age & sex distribution.

Age in year	Male		Female		Total	
	No	Percentage	No	Percentage	No	Percentage
0-5	11	13.25	11	16.92%	22	14.86%
5-10	20	24.09%	17	26.15%	37	25%
10-15	18	21.69%	11	69.92%	29	19.59%
15-20	16	19.28%	13	20%	29	19.59%
>20	18	21.69%	13	20%	31	20.95%
Total	83	100%	65	100%	148	100%

Table-II shows the most common EFB were seeds of various vegetables (25.67%), beads of various origin standed for second most common (18.24%) followed by cotton bud (15.54%). Other included were broken match stick / wooden wigs (7.43%), paper/ tissue paper (6.76%), rubber, feather, stone and clay/mud constitute for 12.16%. Insects and maggots were found in 4.73% and 2.03% respectively.

Table-II: Nature of foreign body.

Nature of foreign body	Number	Percentage
Vegetable seeds	38	25.67%
Beads	27	18.24%
Cotton bud	23	15.54%
Match/wooden stick	11	7.43%
Paper/ tissue paper	10	6.76%
Rubber/Pencil eraser	7	4.73%
Feather	6	4.05%
Stone	3	2.03%
Clay/mud	2	1.35%
Insect	7	4.73%
Maggot	3	2.03%
Undifferentiated	11	7.43%
Total	148	100%

Table-III: Laterality.

Laterality	Number	Percentage
Right	80	54%
Left	68	46%
Both	00	00%
Total	148	100%

Table-IV shows 47.97% patients presented with history of insertion of a foreign body in ear. Other presenting features were irritation/pain (10.13%), aural discharge (12.16%), deafness (8.11%), foreign body sensation (17.57%) and bleeding (4.05%).

Table-IV: Mode of presentation.

Mode of presentation	Number	Percentage
History of insertion of foreign body	71	47.97%
Foreign body sensation	26	17.57%
Aural discharge	18	12.16%
Irritation/pain	15	10.14%
Deafness	12	8.11%
Bleeding	6	4.05%
Total	148	100%

Table-V shows 91.89% EFB were removed in OPD or emergency department by forceps (65%), suction (30%) and syringing (5%). General anesthesia was required in 8.11% cases.

Table-V: Management.

Technique of removal	Number	Percentage
Direct removal	136	91.89%
General anesthesia	12	8.11%
Total	148	100%

Table-VI shows 54.06% patients attended for treatment within 24 hours of insertion. Others included as 21.62% within 1-7 days, 10.14% within 7-15 days, 5.40% within 15-30 days, 4.05% in more than 30 days and 4.73% patients couldn't say the exact time of insertion.

Table-VI: Time elapsed before presentation.

Time of presentation	no. of patients	Percentage
0-12 hours	45	30.41%
12-24 hours	35	23.65%
01-07 days	32	21.62%
07-15 days	15	10.14%
15-30 days	8	5.40%
>30 days	6	4.05%
Unknown	7	4.73%
Total	148	100%

Discussion

In this series we found 0-15 year age group peoples are mostly victimized (table -I). In our study it is 60% which is supported by Deepti Pandey et al¹¹ where it was 73%. Prayaga N et al⁶ & Ramesh Parajuli et al¹⁵ found under 10 year age group as 20% & 45% respectively. On the other hand Mukara B.K. et al¹² found 2-8 year age group is 78.4%. However, the under 5's is due mainly to curious, restlessness and zeal toward exploration leading to the probing of the various orifices within their body including the ear. Modern day society with increasingly busy and occupied mothers has led to a higher incidence of children not being monitored as close as required. We found male and female affected almost in same proportion (1:1.28) which is also comparable to other reportable studies^{3,9,10,11,12,14,15}. We observed that the incidence is inversely proportional to the age of the patient. Vegetable seeds are most common EFB encountering in this study as 25.67% (n=38) while beads of various origin including toy

were second most common as 18.24% (n=27), (table-II). Cotton bud is another common EFB in all age group specially adults. We found it 15.54% (n=23). Seeds are common EFB as agreed by A.O.A. Ogunleye et al⁹ (18.8%), Ologe FE et al³ (27.5%), DeeptiPandey et al¹¹ (19.5%) and Mukara B.K.¹² (27.9%). Beads were seen commonest EFB by Ologe FE et al³ (19.7%) Mukara B.K. et al¹² (13.5%) and AC Oreh et al¹³ (21.1%). Almost similar result (18.24%) we found in our study. Cotton bud is a common object to be left behind in ear canal while cleaning the ear for removal of wax, discharge or for itching. We found it as 15.54% (n=23). Almost same result showed by Ologe FE et al³ (13.6%), and DeeptiPandey et al¹¹ (12%). But it was found as most common EFB by AC Oreh et al¹³ (37.4%). In our study we found 4 cases (5.92%) of living insects (one cockroach, two flying insect & one ant) in the ear. Saurav Sarker et al¹⁶ found 24 patients (20%) of living EFB. Among them 16.80% were cockroach & beetles and 3.36% were maggots. Deepti Pandey et al¹¹ found insects as 7.3%. Maggot in ear is an ENT emergency associated with foul smelling ear discharge in CSOM or malignancy. We found 2 cases (1.35%) of maggots with CSOM. In the present series we came to know that right ear affected more than left ear (54% versus 46%), (table III). Almost same result was founded by other studies^{10,12,13,14}. Unilateral EFB more frequently affect the right ear than left ear due to preference of right handed individual to insert objects in their right ear.

Most of our patients (47.92%;n=71) presented with the history of insertion of a foreign body into the ear (table-IV). This was noticed either by patients himself or parents and they had no symptoms. This result coincides with that of Ologe FE et al³ (64%), Prayaga N et al⁶ (52%) & AC Oreh et al¹³ (56%). Otalgia is another presenting feature which is due to secondary infection or local chemical reaction by foreign body mostly hygroscopic in nature (e.g. seed) or attempt at removal of it. This constitutes 10.14% (n=15) in our study and it is supported by Ologe FE et al³ (17%), & Prayaga N et al⁶ (14%). Though uncommon among the living foreign body flying & crawling insect make patient restless to seek urgent management as they cause severe pain, irritation & great discomfort. 92.89% (n=136) EFB were removed in office setting by aural forcep or Jobson-Horne probe (65%), by sucker machine (30%) and by syringing (5%). 8.11% EFB were removed under general anesthesia (table-V). Most of the EFB,s (60%) were removed by forcep which is almost same to the other studies^{3,10,12}. Ologe FE et al³, Alberto Chinski et al¹⁰, and Mukara B.K. et al¹² showed it as 73%, 52% & 63.5% respectively. We required syringing in small amount of cases (5%; n=8). Among these 03 for round and smooth surfaced foreign body, 03 for paddy & 02 for living insect. But the result of syringing was too high in some series^{9,10,12}. It was 68.62% by Alberto Chinski et al¹⁰, 35% by Mukara B.K.

et al¹² and 28.6% by A.O.A. Ogunleye et al⁹. We observed that syringing may rupture the tympanic membrane, injury to middle ear cavity, make patient discomfort to remove and is not applicable to children. In case of syringing direction of water flow, force of water, location of foreign body & skillness of medical attendant should be appropriate. Therefore we recommend it to avoid as per as possible.

In 54.06% cases patient attended for treatment within 24 hours of insertion (table- VI). Similar result also found by A.O.A. Ogunleye et al⁹ (54.5%), DeeptiPandey et al¹¹ (71%) and 88% by Alberto Chinski et al¹⁰. The cause of early presentation may be that parents become worried when their children insert a foreign body in the ear. Another cause of early presentation we found that of originated by seeds of vegetables. Seeds are likely to produce ear canal obstruction, discharge, mucosal erosion, ulceration due to its hygroscopic nature within short time. The cause of delayed presentation may as patient is unaware of foreign body and some foreign body may remain in ear canal for long time asymptotically specially those are inert in nature and there may be minimal interference with ear function. Older children may conceal their discomfort for fear of punishment by parents. It is also noted that frequency is inversely proportional to the time between insertion and presentation. In our study we found that¹³ cases(8.73%) to develop complication. During removal of EFB we found 9 cases (6.08%) had lacerated injury in canal wall and 02 cases (1.35%) had perforation of tympanic membrane. During follow up period 02 cases (1.35%) presented with CSOM. The incidence of same complication was mentioned as 17.9% by A.O.A. Ogunleye⁹ and 24.5% by Ologe FE³. Complications were mostly associated with the deeply impacted large, slippery and difficult to grasp foreign body and non cooperative patient. It is also associated with the previous attempt at removal by unskilled hand.

Conclusion

Despite a high proportion of cases managed in the office setting, complication rates were within acceptable level. It is inversely proportional to the skill of the personnel, number of attempts & availability of equipments. Key to successful outcome are prompt help by well trained doctor and otolaryngological SS equipment set up. Syringing of ear should be done by an expert otolaryngologist if necessary and it is better to avoid as per as possible.

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Pedicled Extended Lateral Arm Fasciocutaneous Flap: Our Experience in BIRDEM

Islam MR¹, Deb AK², Ibrahim FB³, Anwar R⁴, Islam MA⁵, Akand MMU⁶**Abstract**

The aim of this study is to assess the outcome of Pedicled extended Lateral arm flaps (PELAF) for coverage of defects of the hand and forearm. 09 patients were included in this study from January, 2005 to February 2009. Patients with hand defects with or without extension up to the forearm, resurfaced with this flap, were reviewed for this case series. Eight flaps were cross arm, i.e. for defects in the contra lateral hand and 01 was used to cover the cubital fossa of the same limb. Ages of the patients ranged from 23-46 years, 01 female and 08 male. 08 patients were diabetic while 01 was non diabetic. Nine cases were managed by extended lateral arm flap or a standard lateral forearm flap. Post-operative periods of all the patients were uneventful. Then pedicle was divided after 3 weeks for the cross arm flap group. For patients with wounds on the hand, wrist and forearm pedicled lateral and extended lateral arm flap provides an excellent thin, supple and reliable option for coverage. Cross Lateral arm flap is one of the few local options available with good colour and contour match and requires no sacrifice of major blood vessel.

Keywords: *Pedicled extended Lateral arm flaps, hand defects, cross arm flap*

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Introduction

Complex injuries in the hand and forearm with exposed important structures such as bone, tendon, blood vessels, and nerves often require a thin pliable flap with good colour match and consistent blood supply¹. Further aspects for an adequate indication are a relatively short operation time, a constant vessel anatomy and low donor site morbidity. The goal is an optimal reconstruction of form, function and aesthetics.

This case series describes usefulness of cross lateral arm flap for coverage of hand defects with or without extension into the forearm. Numerous variations of the flap were described, as a fascial flap^{2,3,4} or partly using a combination of different tissue components as the osteofasciocutaneous flap (with distal humerus corticalis^{5,6,7}), sensate flap (posterior brachial cutaneous nerve^{8,6,9}), musculotendofasciocutaneous flap 5 using triceps muscle components¹⁰ but we did not find any reference of a cross arm flap in our literature search. The lateral arm flap can also be extended distal to the lateral epicondyle of the elbow⁸. With its variability in applications, the lateral arm flap is an excellent option for defect coverage of small and medium sizes on the hand and forearm. The axis of the flap is marked from the deltoid insertion to the lateral epicondyle. Dimension - Standard flap 15 × 8 cm, extended flap can be quite long however 30X7 cm (6) (30 × 8cm in our series). We have extended into the forearm for about upto 10 cm at the direction of radial styloid. This flap based on profunda brachi (radial collateral) artery in the arm and its anterior branch in the forearm. The donor defect can be primarily closed.

Materials and Methods

This was a retrospective study, carried out in BIRDEM General Hospital from January 2005 to February 2009, 9 patients, 1 female and 8 male, with hand wound with or

without extension into the forearm were included in the study. Patients with life threatening conditions and septicemia were excluded.

Neurovascular Anatomy of flap:

Posterior radial collateral artery, the artery of lateral arm flap, arises from radial collateral artery which in turn is branch of profunda brachii. It runs through the intermuscular septum between triceps posteriorly and brachialis and brachioradialis anteriorly supplying the overlying skin through numerous septocutaneous perforators. At the elbow, it takes a superficial course to join olecranon vascular network which is fed additionally by ulnar collateral arteries from proximally and the radial and ulnar recurrent arteries from distally. Lower lateral coetaneous nerve of arm and posterior coetaneous nerve of forearm lie along pedicle of the flap.

Surgical technique:

Flap was designed along an axis extending from the point of deltoid insertion in the arm to lateral epicondyle with the elbow flexed at 90 degrees and rested on the chest wall; the extended flap was designed by extending the axis further down the fore arm towards the radial styloid (figure-1) confirming course of vessel by hand held Doppler.



Figure-1: Flap image.

Anterior and posterior markings were made by pinch test so as to close donor site primarily, preferably. Dissection was performed in tourniquet control with patient supine and arm flexed on abdominal wall. Posterior incision was made first, flap elevated subfascially till inter-muscular septum reached, vessels identified and perforators found running in the septum. Then distal and anterior incisions were made and fascia separated from brachialis and brachioradialis up to inter-muscular septum.

Donor Site Defect, because the width of the lateral arm flap has a maximum of 8 cm, the donor site usually can be closed primarily. In our patients split skin grafting was necessary in those cases where a wide extended flap was used. No patient felt impaired by the donor site morbidity, this reflects the complexity of the surgical procedure in the patients mind and the primary closure of the donor site as well as the satisfaction with the overall result. Because of the donor site scar, Graham et al.¹¹ prefer the flap in male patients, but describe an excessive hair growth in the recipient site.

The posterior antebrachial cutaneous nerve often cannot be preserved during preparation of the lateral arm flap. Therefore, in more than 50% of the patients, a hypaesthesia on the forearm skin remains¹². Only a few patients consider this as impairment⁷.

Results

All PELAF survived completely two cases had some epidermal loss which healed conservative management. The largest flap dimension was 30X10 cm and smallest was 10X3.5 cm. In four cases the donor site was closed primarily in other 5 cases it was a combination of closure and split thickness skin grafting (table II).

Table II: Cases.

Case	Age/sex	Injured site	Defect size in cm	Flap dimension in cm	Donor site	Complications
01	24/M	Dorsum and wrist	15x9	16x10	Closure & graft	None
02	35/M	Over wrist joint	13x9	14x9.5	Closure & graft	Superficial loss
03	38/M	Ulnar side of dorsum and palmar surface	9x5	10x6	Primary closure	None
04	23/M	Cubital fossa	20x9	22x10	Closure & graft	None
05	46/M	forearm	29x9	30x10	Closure & graft	Some graft loss
06	32/F	Middle finger	9x3	10x3.5	Primary closure	None
07	28/M	Dorsum wrist and forearm	22x5	23x6	Primary closure	None
08	27/M	Wrist and forearm	18x6	19x7	Closure & graft	None
09	33/M	Palmer surface	12x7	13x8	Primary closure	None

Ages of the patients ranged from 23-46 years, average 31.8 years, and (table-I) 01 female and 08 male patients were included in the study. 08 patients were diabetic while 01 was non diabetic.

Table I: Age distribution of Cases.

Age in years	21 - 30	31 - 40	41 - 50
Number of patients	03	05	01

The cases were managed by extended lateral arm flap. Eight flaps were used to resurface wounds in the opposite limb while one was used to cover the cubital fossa of the same limb. Figure 2a,b and c shows one such case managed by our unit.



Figure: 2 a



Figure: 2 b



Figure: 2 c

Discussion

Various options are available for coverage of hand defects. Skin grafts can resurface superficial defects without exposure of vital structures. However, they are prone to further contracture and need prolonged immobilization¹¹. Among local flaps, radial forearm flap can be rotated 90-180 degrees; however this procedure involves sacrificing a major artery that can lead to cold sensitivity of the hand¹³. Proximally based interosseous artery flap is suitable for smaller defects but involves tedious dissection of fragile and anatomically variable vessels¹⁴. Ulnar artery forearm flap involves sacrificing the ulnar artery which is a dominant vessel in 80% of cases¹⁵. Brachioradialis muscle flap is suited for small defects and should not be sacrificed in the absence of elbow flexors. Lateral arm flap was described by Song and colleagues in 1982¹³, however reverse flap based on radial recurrent was described in a case series of two patients by Maruyama and Takeuchi in 1986¹⁴. Culbertson et al. in 1987 described another lateral arm flap based on recurrent interosseous artery¹⁸ there are several advantages to this flap. It has a consistent axial pedicle, with relatively easy dissection. There is no associated functional impairment and no major vessel is sacrificed. Flap is harvested in supine position and does not require intra-operative repositioning. Finally it has multiple design variations like V-Y advancement, rotation advancement and complete island flap. Though there are many reports of usefulness of reverse lateral arm flap for elbow coverage. Flap has been used to cover elbow defects due to high voltage electrical injury⁴, olecranon bursitis⁵, avulsion injury⁵, post burn antecubital contractures¹² and posterior elbow defects¹⁷ we did not find any literature regarding its use as a cross-arm flap, while the groin flap and abdominal-chest flaps are a popular choice for hand defects, they require positioning of the hands in anatomically difficult positions and result in bulky flaps that require defatting.

Conclusion

Standard Lateral arm flap and extended lateral arm flap has a reliable anatomy and should always be considered for defects of the hands and fingers as it provides a thin pliable flap with constant blood supply without sacrificing any

major arteries or leaving behind an unacceptable donor site defect. The only down side is the position of the hand in case of cross arm flap.

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Prevalence and Common Risk Factors of Rickets among the Children below 15 Years

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Abstract

This cross sectional study was done in different upazillas of Sylhet district during July 2009 to June 2011 to find out the prevalence & common risk factors of rickets below 15 years in Sylhet district. The children under 15 years of age were selected from villages/slums by multistage random sampling. After recognition of at least one feature of rickets, the cases were sent to SOMCH or Upazilla Health Complex. They were examined by investigator and suspected cases were selected for further investigation. After radiological and biochemical examination the final cases were analyzed. In this study the prevalence of rickets in Sylhet district is 0.097%. Male children were more affected than female. In this study regarding feeding habit rice was the stable food which was eaten more than one time by all the rachitic children. Only twenty five percent of children drank milk once a day. The prevalence of rickets in Sylhet district was 0.097% which was almost similar to other parts of Bangladesh. Common risk factors for developing rickets are low socio-economic condition and carbohydrate rich dietary habit.

Keywords: Prevalence of rickets, Risk factors of rickets.

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Introduction

Rickets is a disease of growing bone of children occurs only before fusion of the epiphysis¹. It was first reported in Europe in the mid 1600s and was recognized as an important health problem in Bangladesh in 1991 after a devastating cyclone². A national Rickets survey was conducted in Bangladesh in 2008 to measure the overall national prevalence of rickets among Bangladeshi children aged 1-15 year³. Rickets was found in every division with the highest prevalence reported in Chittagong division³. Helen Keller International (HKI) conducted surveys in 28 upazillas of Bangladesh in 2000 and 2004. Rickets was identified in over half of these upazillas with the highest prevalence in Chittagong and Sylhet divisions respectively⁴. The aim of the present survey was to determine the reason of high prevalence of rickets in Sylhet district and to find out the factors responsible for rickets.

Materials and Methods

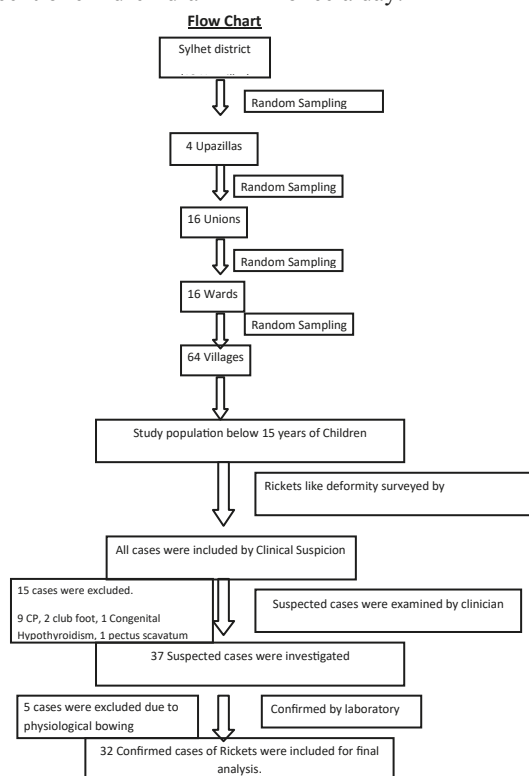
This is a cross sectional study. The children under 15 years of age were selected from villages/slums by multistage random sampling. These children were surveyed to find out any feature of rickets. The cases were seen by an expert and suspected cases were further investigated both radiologically and biochemically. Every 5th house hold was visited for identification of cases. The 1st one was selected randomly by lottery. The schools, madrasas and mosques of study areas were also visited for searching cases. For the study purpose 4 Health Inspectors (HI), one from each upazilla and 16 Health Assistants (HA), four from each upazilla of the study areas were selected and trained by workshop about the features of rickets and the use of questionnaires. After recognition of at least one feature of rickets, the cases were sent to SOMCH or Upazilla Health Complex. They were examined by investigator and suspected cases were selected for further investigations. 64 villages from four upazillas were randomly selected. A total of 52 cases presenting the features of rickets were primarily selected by the field workers. Bow legs, knock knee, windswept deformity, rachitic rosary, Harrison sulcus, swelling of the lower end of the long bones, box like head were the inclusion criteria for initial diagnosis. X-ray of both wrist joints was done and blood samples were collected for biochemical study.

Already diagnosed cases of rickets by physician and under treatment of rickets were also included. 15 patients were excluded from the study after initial assessment by physician. Among them 9 patients were excluded for cerebral palsies, 2 patients for club foot, 2 patients for JRA, 1 patient for congenital hypothyroidism and 1 patient for pectus excavatum with no other features of rickets. Five patients were presenting with bow legs but no radiological and biochemical evidence of rickets. Finally 32 confirmed cases were analyzed. After radiological and biochemical examination the final cases were analyzed. Data were collected by using a preformed structured questionnaires. Data were processed and analysed by using SPSS-16.

Results

In this study the prevalence of rickets in Sylhet district is 0.097%. Male children were more affected than female. The educational statuses of most parents were primary or below primary level.

Regarding economical status 68.75% of parents had <5000 tk per month, 21.8% have 5000-10000 tk per month and 9.37% parents had monthly income above tk 10,000. Study revealed that 43.75% had 5 or more sibs and 21.8% had less than 3 sibs. Forty six percent of affected children lived in rural area and 38% in the slum. Exposure to sunlight for more than 60 minutes per day was more than 84% of affected children. In this study regarding feeding habit rice was the stable food which was eaten more than one time by all the rachitic children. Only twenty five percent of children drank milk once a day.



The prevalence in Sylhet Sadar, Beanibazar, Biswananth and Gowainghat are 0.10%, 0.07%, 0.08% & 0.13% respectively (table-I).

Table-I: Prevalence of rickets in four specified upazillas of Sylhet district from July 2009-June 2011.

Upazilla	Total number of population	No of rickets (%)	Prevalence
Sylhet Sada	9280	9 (28.12)	0.10%
Beanibazar	7171	5 (15.6)	0.07%
Biswanath	8245	7 (21.87)	0.08%
Gowainghat	8180	11 (34.37)	0.13%
	32,876	32 (100)	0.097%

Among the study cases under 5 children was 87.5%. The next highest rate was 6-10 years. Regarding sex male were more affected (71.8%) than female child (table-II).

Table-II: Prevalence of rickets by age and sex of the children.

Indicators	Prevalence	Percentage
Age (years)		
0-5	28	87.5
6-10	4	12.5
11-15	0	0
Sex		
Male	23	71.8%
Female	9	28%

Rickets was more in rural area. Forty six percent of affected children lived in rural area and the second highest was in the slum area (figure-1).

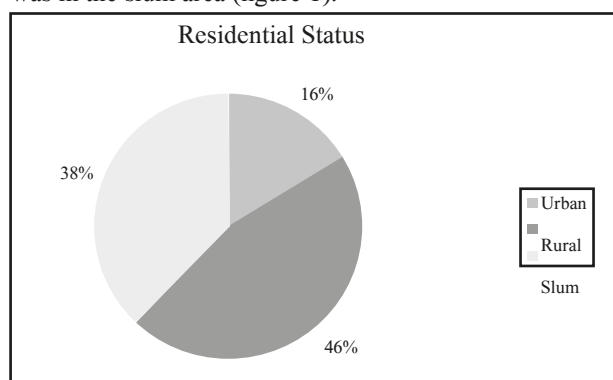


Figure -1: Residential Status.

Educational statuses of most parents were primary level (figure-2).

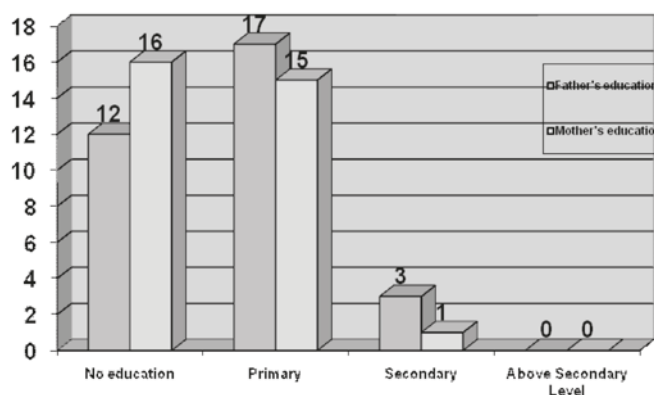


Figure -2: Parenteral education.

The monthly income of 68.75% parents had <5000 Tk per month, 21.8% had 5000-10000 Tk per month and 9.37% parents had above Tk 10000 (table-III).

Table-III: Family income.

Family income/month	Prevalence	Percentage (%)
< 5000 Tk	22	68.75%
5000 -10,000 Tk	7	21.8%
>10,000 Tk	3	9.37%
Total	32	100%

Fourteen (43.75%) families had 5 or more sibs and 21.8% had less than 3 sibs (table-IV).

Table-IV: Total number of sibs in the family.

Number of sibs	Prevalence	Percentage (%)
1	4	12.5
2	3	9.3
3	7	21.8
4	4	12.5
5	8	25
>5	6	18.75

Twenty seven children (83.37%) out of 32 were exposed to sunlight for more than 60 minutes/day. Two (6.25%) patients were exposed to sunlight for less than 30 minutes/day (figure-3).

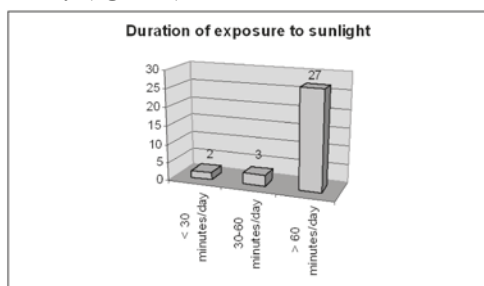


Figure-3: Prevalence of rickets in relation to sunlight exposure.

Food frequency for children in the last 24 hours showed that rice was the stable food of almost all of the rachitic children. Forty three percent of rachitic children ate leafy vegetables at least once a day and 28% children ate more than once a day. About half of the rachitic children ate small fish once a day and only nineteen percent of children ate small fish more than once a day. Only twenty five percent of children drank milk once a day and 15% of children drank milk more than once a day (figure-4).

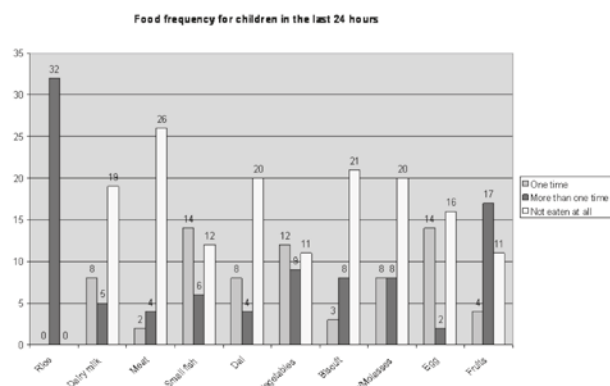


Figure-4: Food frequency for children in the last 24 hours.

Discussion

Rickets is an emerging public health problem in Bangladesh. An International conference on rickets was jointly organized by Social Assistant and Rehabilitation for Vulnerable (SARPV) in January, 2006 claimed that there were 5 million rickets in Bangladesh⁵. According to that study 10.3% of under 14 years children were rachitic in Bangladesh. A national survey was conducted in 6 division of Bangladesh in 2008 where the prevalence of rickets was 0.99%. The highest prevalence was in Chittagong (2.19), then the second highest in Sylhet division (0.28%)³. This study was done to find out rickets among 32,876 children of 1-15 years from randomly selected 64 villages of four upazillas in Sylhet district. The prevalence of rickets is 0.097%. The result is lower than that of the national survey conducted in 2008. But it is still more than that of Khulna and Rajshahi where the prevalence is 0.07%³. A nation wide survey of lower limb rickets in Bangladesh was done by National Surveillance Project where the highest prevalence was reported in Cox's-Bazar upazilla (1.66%). In Sylhet division the highest prevalence was reported in Fenchuganj upazilla (0.66%). The causes of such high prevalence of rickets in those sunny areas might not be due to vitamin D deficiency, probably due to Calcium deficiency⁶. In this study sixty seven percent of the respondents had a monthly income less than Tk 5,000 followed by 21.8% had income between Tk 5000-10,000. This was similar to the national study of 2008. Rickets in low socioeconomic group was due to not promoting calcium rich food in children's diet³. Study revealed that 43.75% had 5 or more sibs and 21.8% had less than 3 sibs. This was similar to the Chakaria food system study where rickets were more prone to larger family size. Households with rachitic children in Chakaria had more children, more pregnant and lactating women which causes Calcium under nutrition⁷. In this study regarding feeding habit rice is the stable food which was eaten more than one time by all the rachitic children. Forty three percent of rachitic children ate leafy vegetables at least once a day and 28% children ate more than once a day. About half of the rachitic children ate small fish once a day and only nineteen percent of children ate small fish more than once a day. Only twenty five percent of children drank milk once a day and 15% of children drank milk more than once a day. The result is similar with that of the nation wide study by ICDDR, B where milk intake was very low by the rachitic children. In that study only 9% of children drank milk once a day and 5% of children drank milk more than once a day³. In this study educational statuses of the parents of rachitic children were either primary or below primary level. Illiteracy was a contributory factor of rickets due to lack of knowledge of the mothers of rachitic children as they had no idea about rickets and Calcium rich food³. Among the study cases under 5 children was 87.5% which

was similar to the study done by Bangladesh Rural Advancement Committee (BRAC) in 2003. Regarding sex, male children (71.8%) were prone to suffer from rickets. This was similar to the national study where 61% were male child³. A study in Pakistan suggested that there was an association between rickets and pneumonia where males were more affected than females with 1.9:1 male to female ratio⁸. A study in India suggested that female children were more prone to develop rickets as the male children receive precedence in the diet and female children were less exposed to outside environment⁹. Regarding the residential status 84% of rachitic children lived in rural and slum area where only 16% lived in urban area. The result was similar as the national study. Illiteracy, ignorance and poor socioeconomic condition were responsible for rickets³. In this study eighty four percent of children were exposed to sunlight more than 60 minutes/day where nine percent children were exposed to sunlight between 30-60 minutes/day. A study suggested that approximately thirty minutes of skin exposure to sunlight could provide all the needs of vitamin D to the human body¹⁰. A study in Karachi found that children living in high rise building were more vulnerable to rickets due to inadequate exposure to sunlight¹. In this study regarding feeding habit rice is the staple food which was eaten more than one time by all the rachitic children. Forty three percent of rachitic children ate leafy vegetables at least once a day and 28% children ate more than once a day. About half of the rachitic children ate small fish once a day and only nineteen percent of children ate small fish more than once a day. Only twenty five percent of children drank milk once a day and 15% of children drank milk more than once a day. The result is similar with that of the nation wide study by ICDDR, B where milk intake was very low by the rachitic children. In that study only 9% of children drank milk once a day and 5% of children drank milk more than once a day³.

Conclusion

The prevalence of rickets in Sylhet district is 0.097% which is almost similar to other parts of Bangladesh. Common risk factors for developing rickets are low

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Comparison between Outcome of Wedge Excision of Perforation Site and Trimming of Perforation Margin Followed by Primary Repair in the Management of Ileal Perforation

Ullah MA¹, Rahman S²

Abstract

The aim of this study is to compare between the outcome of wedge excision of perforation site and trimming of perforation margin followed by primary repair in the management of ileal perforation in selected patients. This is an observational study with data from department of Surgery, Sir Salimullah Medical College and Mitford Hospital during February, 2007 to July, 2010. The study included 108 patients of ileal perforation of 15-67 years of age. All patients were treated by primary repair after either wedge excision of perforation site (Group I) or trimming of perforation margin (Group II). Perforation due to typhoid is common in both groups. Abdominal pain, fever, abdominal distention, constipation and vomiting were more frequent in both groups of patients. Signs of peritonitis were observed almost all the patients. Pneumoperitoneum was found 77.8% in group I and 66.7% in group II in X-ray. In ultrasonography ascitis and distended bowel loop was found 44.4% in group I and 66.7% in group II. Typhoid, tuberculosis, nonspecific ulcer and chronic nonspecific ulcer were found in histopathology. Post-operative complications were more in group II. Anastomotic leakage was found 18.5% in group I and 38.9% in group II. Prolonged ileus was observed 16.7% in group I and 33.3% in group II. Anastomotic leakage and Prolonged ileus difference were statistically significant ($p < 0.05$). The mean duration of hospital stay was significantly ($p < 0.05$) higher in group II, where the mean($\pm$ SD) duration of hospital stay was 14.2 ± 7.2 days in group I and 18.1 ± 8.9 days in group II. Mortality was observed 9.3% only in group II. So Wedge excision followed by primary repair is better in terms of post operative mortality and morbidity in the management of ileal perforation in selected patients.

Keywords: Ileal Perforation, primary repair, trimming, wedge excision.

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Introduction

Perforation of terminal ileum is a fairly common surgical emergency in the tropics. It is reported to constitute the fifth commonest cause of abdominal emergencies due to high incidence of enteric fever and tuberculosis in this region. The etiological factors in ileal perforation are numerous and varied in tropical countries like Bangladesh. Typhoid enteritis has been reported to be the commonest cause of ileal perforation. Other causes are also encountered which includes-Tuberculosis, Crohn's disease and Ascariasis. In developed countries these perforations are reported to be mostly because of foreign bodies, radiotherapy, drugs, Crohn's disease, malignancies and congenital malformations¹. Perforation of terminal ileum is a cause for obscure peritonitis, heralded by exacerbation of abdominal pain associated with tenderness, rigidity and guarding, most pronounced over right iliac fossa. However for many patients in a severe toxic state, there may be obscured clinical features with resultant delays in diagnosis and adequate surgical intervention². Despite the availability of modern diagnostic facilities and advances in treatment regimen, this condition is still associated with a high mortality and unavoidable morbidity¹. It is now universally accepted that the treatment of typhoid perforation must be surgical. Adequate resuscitation, correction of electrolyte disturbance, appropriate antibiotic therapy and surgery have proven to be essential for a successful outcome³. At present every patient diagnosed to have ileal perforation is universally recommended to be treated surgically after adequate resuscitation, but how to correct the pathology is a question yet to be answered for universal acceptance¹. There is no uniformity of opinions as to the extent of surgery that should be undertaken⁴. So there is still confusion and controversy over the diagnosis and

optimal surgical treatment of ileal perforation². Bitar and Tapley in their review have advised "doing as much as necessary but as little as possible", the intention being a swift effective operation designed to halt the contamination and remove the existing collection⁵. Several surgical options are available and most appropriate operative procedure should be chosen judiciously depending upon the general condition of the patient, the site of perforation, the number of perforations and the degree of peritoneal soiling. The alternatives are closure of the perforation after freshening the edges (trimming), wedge resection of the ulcer area and closure, resection of bowel with or without anastomosis (exteriorization), closure of the perforation and side to side ileotransverse anastomosis, ileostomy where the perforated bowel is exteriorized after refashioning the edges. Thorough peritoneal lavage is essential⁶. Ileal perforation due to typhoid enteritis is one of the commonly met surgical emergencies in our country. It occurs mostly in our country due to lack of safe drinking water, poor sewage disposal, illiteracy inappropriate and inadequate treatment and it is usually associated with high mortality and morbidity as medical facilities are not readily available here⁷. There are various types of post operative sequels like wound infection (32.0%), wound dehiscence (12.0%), fecal fistula (6.0%), residual intra abdominal abscess (12.0%), septicaemia (4.0%), respiratory complication (32.0%) and cardiac failure due to pulmonary oedema (4.0%). All these complications especially most grave one; leakage and fecal fistula is directly related to the surgical technique applied to deal with the perforation⁸.

Materials and Methods

This was an observational study conducted in Department of Surgery, Sir Salimullah Medical College and Mitford Hospital, Dhaka, during the period of February 2007 to July 2010. It included the patients who attended the all surgical wards of SSMC and Mitford Hospital as a case of ileal perforation which were treated by primary repair after trimming of perforation margin or wedge excision. Purposive sampling technique was done. After patients selection the surgical method was decided randomly by lottery method. The sample size was 108 cases. Clinically ileal perforation of different causes and those who were treated by primary repair after trimming of perforation margin or wedge excision of perforation site were included in the study. Patients with diffuse peritonitis due to duodenal ulcer perforation, jejunal perforation or that due to burst appendix, colonic perforation and any other causes than ileal perforation, death during resuscitation and operation and patients who were unsuitable for primary repair e.g. late cases, gross edema of intestinal wall, patient with very poor general condition, distal obstruction or adhesion, multiple perforation were excluded from the study. Informed consent was taken from all patients participating in the study. Ethical clearance was obtained from ethical review committee.

Patient unwilling to participate in the study was however got appropriate treatment without any reservation. Socio demographic variables were collected from all the patients by a thorough history. Detailed examination was done. Intravenous line was established to administer intravenous fluids-electrolytes and antibiotics and other medications. Naso-gastric tubes were inserted in all these patients. To assess renal function, hydration status the patients were catheterized by passing Foley's catheter and urinary output was recorded and monitored. Combination chemotherapy was administered. In all these cases base line investigations like X-Ray abdomen A/P view including diaphragms, blood profile, blood grouping, Random blood sugar, serum electrolytes and serum creatinine level was done. Ultrasonography of whole abdomen was done where no gas shadow was found in X-Ray abdomen A/P view for confirming the free fluid in the peritoneum. Widal test was done preoperatively when there is a high index of suspicion of typhoid fever. Other wise it was done postoperatively when typical operating findings was noted. After proper resuscitation, the patients were subjected to exploratory laparotomy under General anesthesia by mid line incision. Operative findings was recorded. The type of surgical procedure was decided by the surgeon on the basis of operative findings like state of peritoneal soiling, gut wall edema, number of perforation, distal obstruction or adhesion and those treated by surgical methods other than trimming or wedge excision on ground of exclusion criteria was excluded from study. Surgery was done by experienced resident. In case of trimming, margin of the perforation were freshened by circumferential excision of tissue up to a healthy margin is achieved for safe primary repair. In wedge (V) excision a "V" shaped wedge of tissue including perforation in the centre and 2 cm of ileal tissue from each margin in the ante mesenteric border and the apex of the wedge were on the mesenteric border. Primary repair was done by 3.0 vicryl single layer interrupted suture. Thorough peritoneal toileting was done and abdominal drain was kept. Postoperatively the patients were followed up to observed the post operative mortality and morbidity. The clinical history of the patients, physical examination findings, relevant investigations findings, operation note, treatment, post-operative morbidity, mortality with histo-pathological examination report was recorded on a preformed data sheet. The data collected were transferred to the master tabulation sheet after proper checking, verifying and editing as per the specific objectives and key variables. Analysis of the data was done with the SPSS/PC (ver. 15.0) program of computer on the basis of different variables. Tables were made and statistical procedures were applied. Values were express as frequency, percentage and mean $\pm$ (SD) standard deviation. Statistical significance of difference between two groups were evaluated by using chi-square and unpaired 't-test'. P value <0.05 was considered as statistical significance.

Results

Post-operative fever was observed 30(55.6%) in group I and 33(61.1%) in group II and the difference was statistically significant ($p<0.05$) in chi square test (table-I).

Table I: Post-operative fever of the study patients (n=108).

Post-operative fever	Group I (n=54)		Group II (n=54)		P value
	n	%	n	%	
Present	30	55.6	33	61.1	0.005 ^S
Absent	24	44.4	21	38.9	

S= significant

P value reached from chi square test

Wound infection was observed 28 (51.9%) in group I and 39 (72.2%) in group II and the difference was statistically significant ($p<0.05$) in chi square test (table-II).

Table II: Wound infection of the study patients (n=108).

Wound infection	Group I (n=54)		Group II (n=54)		P value
	n	%	n	%	
Yes	28	51.9	39	72.2	0.029 ^S
No	26	48.1	15	27.8	

S= significant

P value reached from chi square test

Burst abdomen was found 22 (40.7%) and 28 (51.9%) in group I and group II respectively and the difference was statistically significant ($p<0.05$) in chi square test (table-III).

Table III: Burst abdomen status of the study patients (n=108).

Burst abdomen	Group I (n=54)		Group II (n=54)		P value
	n	%	n	%	
Present	22	40.7	28	51.9	0.029 ^S
Absent	32	59.3	26	48.1	

S= significant

P value reached from chi square test

Anastomotic leakage was found 10 (18.5%) and 21 (38.9%) in group I and group II respectively and the difference was statistically significant ($p<0.05$) in chi square test (table-IV).

Table IV: Anastomotic leakage status of the study patients (n=108).

Anastomotic leakage	Group I (n=54)		Group II (n=54)		P value
	n	%	n	%	
Yes	10	18.5	21	38.9	0.019 ^S
No	44	81.5	33	61.1	

S= significant

P value reached from chi square test

The mean ($\pm$ SD) duration of hospital stay was 14.2 ± 7.2 days varied from 5 to 26 days and 18.1 ± 8.9 days varied from 9 to 38 days in group I and group II respectively. The mean duration of hospital stay difference was statistically significant ($p<0.05$) between two groups in unpaired t-test (table-V).

Table V: Duration of hospital stay of the study patients (n=108).

Post-operative fever	Group I (n=54)		Group II (n=54)		P value
	Mean	$\pm$ SD	Mean	$\pm$ SD	
Hospital stay (days)	14.2	± 7.2	18.1	± 8.9	0.016 ^S
Range	(5	-26)	(9	-38)	

S= significant

P value reached from unpaired't' test Death was not found in group I and 5(9.3%) found in group II and the difference was statistically significant ($p<0.05$) in fisher exact test(table-VI).

Table VI: Distribution of mortality of the study patients (n=108).

Death	Group I (n=54)		Group II (n=54)		P value
	n	%	n	%	
Yes	0	0.0	5	9.3	0.028 ^S
No	54	100.0	49	90.7	

S= significant

P value reached from fisher exact test

Discussion

This observational study was carried out with an aim to compare between the outcome of wedge excision of perforation site and trimming of perforation margin followed by primary repair in the management of ileal perforation as well as to highlight the clinical features of frequently occurring ileal perforations; find out the underlying diseases as confirmed by laboratory investigations including histopathological examination of tissue from the lesions and to point out the management outcome of the disease.

A total of 108 patients having ileal perforation treated by primary repair after trimming of perforation margin or wedge excision age ranging from 15 to 67 years were included in the study, in the Department of Surgery, Sir Salimullah Medical College and Mitford Hospital during February 2007 to July 2010.

The post-operative fever was significantly ($p<0.05$) more in group II patients in this study. More than a half (55.6%) of the group I patients and 61.1% of group II patients had post-operative fever. Wound infection was observed 51.9% in group I and 72.2% in group II. Wound infection was significantly ($p<0.05$) higher in group II. A respiratory complication was observed 44.4% in group I and 50.0% in group II, which is not significant ($p>0.05$). Burst abdomen was found 59.3% and 64.8% in group I and group II respectively, which was significantly ($p<0.05$) higher in group II. These are comparable with Khundker⁹, Hossain¹⁰, Eggleston et al.¹¹ and Hoarder¹², where wound infection was 82.29%, 86.58%, 37.18%, 29.71%. The respiratory complications in those series were 89.28%, 28.0%, 30.76%, 66.6% respectively.

In this series Anastomotic leakage was found 18.5% and 38.9% in group I and group II respectively. The Anastomotic leakage was significantly ($p<0.05$) higher in group II. The incidences anastomotic leakages were found 13.88%, 0.0%, 6.1% and 0.0% by Khundker⁹, Hossain¹⁰, Eggleston et al¹¹ and Hoarder¹², respectively. All these results support the present study. The mean duration of hospital stay difference was significantly ($p<0.05$) higher in group II. The mean ($\pm$ SD) duration of hospital stay was 14.2 ± 7.2 days varied from 5 to 26 days and 18.1 ± 8.9 days varied from 9 to 38 days in group I and group II respectively. Death was found only in group II, that was 9.3% of the patients in group II, which differ significantly ($p<0.05$) between two groups. Rahman¹ et al have reported that the kind of surgical procedure does not appear to reduce the mortality associated with enteric perforation. Mortality according to the authors is related to toxemia, septic shock and multiple organ failure and therefore uncontrollable factors make the evaluation of any surgical procedure for this condition difficult. Atamanalp et al¹³ obtained in their study that ileostomy group had the highest mortality (7/9) followed by primary closure (2/7) with no mortality in wedge resection/resection anastomosis group.

By primary repair of perforation after wedge excision of perforation site, in this series, the mortality had been reduced but over all morbidity has not been reduced considerably. In statistical analysis it was proved that wedge excision followed by primary repair is safer than trimming followed by primary repair.

Conclusion

In the management of typhoid ulcer perforation urgent resuscitative measure followed by definitive surgery can reduce the risk of both morbidity and mortality. As the chance of re-perforation and other complications are more in trimming of perforation margin followed by primary repair, so wedge excision followed by primary repair is the procedure of choice in the management of ileal perforation in selected patients. The aim of surgery is to resect out the affected part of ileum with at least two cm healthy margin on each side and repair. The peritoneal contamination should be cleared off by thorough peritoneal toileting by normal saline. Abdomen should be closed with one or two drain in the peritoneal cavity. The post operative wound infection can be minimized by use of appropriate antibiotics. Respiratory complications can be reduced by routine breathing exercise and early mobilization. As the disease is associated with hyper catabolism, so parenteral nutrition supply should be continued until the patient is able to take oral feedings. The mortality pattern shows that this disease is deadly and is better prevented than treated. This can only be achieved by drawing serious attention of the health care workers to the prevention of the disease by health education, maintenance of personal hygiene, providing sanitation and clean drinking water for all the people of this region. By primary repair of perforation after wedge excision of perforation site, in this series, the mortality had been reduced but over all morbidity has not

been reduced considerably. In statistical analysis it was proved that wedge excision followed by primary repair is safer than trimming followed by primary repair.

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Premature Ejaculation and Chronic Bacterial Prostatitis

Islam MS¹**Abstract**

Premature ejaculation (PE) is regarded as the most common male sexual disorder. Previous studies reported that prostatic inflammation was highly prevalent in PE. However, the effect of antibiotic treatment of cases with PE and chronic prostatitis has not been extensively investigated. To examine the effect of antibiotic treatment in delaying ejaculation in patients with PE and chronic prostatitis. The study was carried out in my private chamber and at General Hospital N.Gong from June 2014 to December 2016. The study was performed with prior permission and the confidentiality was maintained. A total of 135 consecutive men attending of secondary premature ejaculation (SPE) were included in this study. Sequential microbiologic specimens were obtained from urine and prostatic fluids. Antibiotics were given for one month according to the results of their culture and sensitivity test. All patients were instructed to follow up in General Hospital N.Gong/Private chamber monthly for at least 4 months. At the end of the 4-month follow-up, another prostatic secretion analysis was performed. Based on expressed prostatic secretion culture and white blood cell (WBC) count, 84 (62.2%) were having chronic bacterial prostatitis. The remaining 51 (37.8%) patients had negative WBC count. Of the 84 patients with secondary premature ejaculation (SPE) and chronic bacterial prostatitis, 20 patients were left untreated and considered as a control group. All 64 patients with PE and chronic prostatitis continued the 1-month treatment duration. Following 1-month antibiotic treatment, all 64 patients with initially positive cultures had sterile final cultures ($P < 0.05$). Fifty one (79.68%) patients showed increases in their ejaculatory latency time and reported good control of their ejaculation and were considered treatment responsive. None of the control group patients experienced any improvement either in their prostatic infection condition or in their ejaculation time. The follow-up of treatment-responsive patients ($N = 51$) revealed no recurrence of PE with negative prostatic culture. Successful eradication of causative organisms in patients with PE and chronic prostatitis may lead to marked improvement in intravaginal ejaculatory latency time and ejaculatory control.

Keywords: Premature ejaculation; Prostatitis; Antibiotics

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Introduction

Premature ejaculation (PE) is regarded as the most common male sexual disorder, affecting 30-40% of sexually active men^{1,2} and perhaps as many as 75% of men at some points in their lives³.

Regrettably, there is no universal agreement on how to define or to diagnose PE.

The term PE is subject to several definitions according to the approach used. In the psychological approach, consensus on a definition of PE has never been reached because of conflicting ideas on the essence of the syndrome⁴. Another way to define PE is by quantitative measures such as the duration of ejaculatory latency or the number of thrusts before ejaculation. Definitions according to the time before ejaculation varied from 1 to 7 minutes after vaginal intromission^{4,5}. These cutoff points were not derived by objective measurements but were subjectively chosen by the various investigators. Equally subjective cutoff points were proposed for the number of thrusts as a criterion for PE, namely, ejaculation within 8-15 thrusts⁴. Recently, the International Committee of the First Consultation on ED (erectile dysfunction) suggested strict criteria for definition of PE⁶.

Treatment of PE with behavioral therapy^{4,7} and pharmacotherapy with different drugs such as tricyclic antidepressants and selective serotonin reuptake inhibitors (SSRIs) is widely used⁸. However, behavioral approaches and pharmacologic agents are both symptomatic therapies that may or may not help elucidate the causes of this sexual dysfunction⁹.

Psychological causes are commonly suspected as an etiology of PE¹⁰. On the other hand, organic causes, such as chronic prostatitis, have been also suggested as important causes of PE¹⁰. Screponi et al. investigated the prevalence of chronic prostatitis in patients with PE and reported that prostatic inflammation was found in 56.5% and chronic bacterial prostatitis in 47.8%

of the subjects with PE, respectively⁹. These interesting findings were further confirmed that prostatic inflammation was found in 62 % and chronic bacterial prostatitis in 52% of the 153 men with PE¹¹.

Lue et al. proposed an algorithm for the treatment of PE incorporating several management options¹². Men with lifelong PE should be managed with pharmacotherapy, while men with PE secondary to ED, other sexual dysfunction, or genitourinary infection should receive appropriate etiology-specific treatment. Concomitant behavioral therapy should be offered with the presence of evident contributing psychological factors¹². The effect of antibiotic treatment of cases with PE and chronic prostatitis has not been extensively investigated.

In this study, we aimed to examine, through a pilot study, the effect of antibiotic treatment in delaying ejaculation in patients with PE and chronic bacterial prostatitis (National Institute of Health [NIH] category II).

Methods and Measures

A total of 135 consecutive heterosexual men with a mean age of 39.2 ± 7.0 years with a range of 28-64 years attending in my private chamber and General Hospital in Narayangong and complaining of PE (all secondary type) were included in this study. Diagnosis of PE was based on the criteria set by the second consultation on sexual dysfunctions¹². This comprises three essential criteria: (i) brief ejaculatory latency; (ii) loss of control; and (iii) psychological distress in the patients and/or partner. Intravaginal ejaculatory latency time (IELT) of 2 minutes or less may qualify a man for the diagnosis, which should include consistent inability to delay or control ejaculation, and marked distress about the condition.

Patients included in the study were complaining of PE for at least 6 months while having regular sexual activity with a female partner. Prior to inclusion in the study, all patients were asked to record their intravaginal ejaculatory latency time (IELT) for 1 month. All patients had IELT of 2 minutes or less, timed with a watch. None of the patients had any major psychiatric or somatic disorder, consumed any drug that can affect sexual function, or used antibiotics during the previous 3 weeks of the study. None of the patients had ED according to the Sexual Health Inventory for Men¹³. Written informed consent was obtained before inclusion in this study.

General and local urogenital examinations were performed in all subjects. Sequential microbiologic specimens were obtained according to the standardized Meares and Stamey protocol¹⁴. Urethral and midstream bladder urine, and expressed prostatic secretions (EPS) were collected, examined microscopically, and cultured. Prostatic inflammation was diagnosed if 10 or more white blood cells (WBCs) per high power field (HPF) were present in the expressed prostatic secretions (EPS)⁹.

Chronic nonbacterial prostatitis/chronic pelvic pain syndrome (NIH category III) was defined by the evidence of prostatic inflammation but negative cultures of urine and prostatic fluids. Prostatic infection was defined by a 10-fold greater colony count in the EPS than in the urethral urine sample¹⁵.

In cases without a positive culture, antibiotic selection was guided by prostatic penetration, response to previous therapy and patient allergies and side effects. If interim cultures showed resistance to the chosen antibiotics, these were changed.

Antibiotics were given for 1 month¹⁶ according to the results of their culture and sensitivity test. To classify treatment responders from nonresponders, patients with an intravaginal ejaculatory latency time (IELT) of more than 2 minutes and who responded positively (Yes) to a direct question by one of the investigators "Do you feel that you have good control over your ejaculation during sexual intercourse?" were classified as treatment responsive, regardless of prostatic infection condition. Patients not fulfilling the aforementioned criteria were classified as treatment nonresponsive. Following cessation of antibiotic treatment, all patients were instructed to continue recording their IELT and visit General hospital/private chamber monthly for at least 4 months for the follow-up and detection of any recurrence. At the end of the 4-month follow-up, an EPS analysis was performed.

Statistical comparison of continuous variables was conducted by an unpaired t-test and of category variables by the chi-squared test. Statistical significance was set at an alpha of 0.05.

Results

The demographic characteristics of all subjects included in the study. None of the 135 patients complained of symptoms suggestive of chronic prostatitis. Only six patients gave the history of medical treatment of PE in the form of SSRIs, with unsatisfactory results (table-I).

Table-I: Patients' demographics (N = 135).

Age (years)	28-64 (mean 39.2 ± 7)
Marital status	All married
Education level	
Primary schooling	(27/135) 20%
High school degree	(76/135) 56.3%
University graduate	(32/135) 23.7%
General medical disorder (e.g., diabetes) or psychiatric disorder	N/A
Erectile dysfunction	N/A
Duration of complaint (mean $\pm$ SD, months)	13.2 ± 2.7
Symptoms suggestive of chronic prostatitis	N/A

N/A= Not available

Based on EPS culture and WBC count, 84 (62.2%) out of 135 patients were having chronic bacterial prostatitis. The remaining 51 (35.2%) patients had negative WBC count. Most of the 84 patients with positive cultures with Gram-negative bacteria, with the most common being coagulase negative (table-II).

Table-II: Prevalence of prostatitis in all patients (N = 135).

	WBC < 10/HPF	WBC ≥ 10/HPF	Culture-positive (urine and prostate)	Culture-negative (urine and prostate)	Organism
Patient number	51	84*			
					Escherichia coli 41 (48.8 %)
					Enterococci 25 (29.76%)
					Pseudomonas aeruginosa 18 (21.42%)

*P < 0.05; inflammation vs. no inflammation; culture-positive vs. culture-negative.

WBC = white blood cells; HPF = high power field.

At this stage of the study, we randomly selected 20 out of the 84 patients with PE and chronic prostatitis and considered them as a control group. Therefore, only 64 out of 84 patients with PE and chronic prostatitis were further treated with antibiotics, while the control group patients were left untreated. Antibiotics chosen on the basis of sensitivities included quinolones (53 patients), doxycycline (6 patients), and cephalosporin (5 patients). All 64 patients continued the 1-month treatment duration. There was no significant difference between the two groups (patient and control) regarding demographic data and prostatic culture results (table-III).

Table-III: Patient and control group results.

	Patient (N = 74)*	Control (N = 20)
Age (mean ± SD, years)	40.2 ± 6.3	38.3 ± 2.9
Duration of complaint (mean ± SD, months)	14.1 ± 2.3	12.8 ± 2.1
Sexual intercourse (mean ± SD)	(41/34) 48.8%	(9/20) 45%
Prostatic culture	TR (N = 62) (25/84) 29.76%	NR (N = 12) (5/20) 25%
Escherichia coli	1.1 ± 0.2 (18/84) 21.42%	1.4 ± 0.1 (6/20) 30%
Enterococci	2.9 ± 0.3**	N/A ± 0.1 No treatment

*P > 0.05; **P < 0.05, vs. baseline.

TR = treatment responsive; NR = treatment nonresponsive; N/A = not available; IELT = intravaginal ejaculatory latency time.

Following 1-month antibiotic treatment, all patients with initially positive cultures had sterile final cultures. Fifty one (79.68%) patients showed increase in their IELT (table-III) and reported good control of their ejaculation and thus were considered treatment responsive. The remaining 13 (20.32%) patients did not show improvement and were thus considered treatment nonresponsive. All six patients with a previously failed response to SSRI showed improvement following antibiotics intake. On the other hand, a prostatic culture analysis of the control group patients (N = 20) showed persistence of infection. None of the control group patients experienced any delay in their ejaculation time (IELT ≤ 2 minutes) or good ejaculation control.

The 4-month follow-up of treatment responsive patients (N = 51) revealed no recurrence of PE with negative prostatic culture. Side effects related to antibiotics treatment were limited to headache (two patients) and mild gastrointestinal disturbance (four patients). Patients with negative EPS (N = 51) and antibiotic nonresponsiveness (N = 12) were further referred for psychosexual assessment with pharmacological treatment e.g. SSRIs considered.

Discussion

Premature ejaculation is a highly prevalent disorder; however, accurate population-based data are not available. Even though it is usually associated with fewer nuisances than ED, this disorder may be highly upsetting in some instances¹². The etiology of PE is uncertain in most cases, and likely includes a combination of organic and psychogenic factors. PE has been associated with low serum testosterone¹⁷ and seminal plasma magnesium levels¹⁸, hyperthyroxinemia¹⁹, major neurological disorders, and short frenum of prepuce, penile hypersensitivity and reflex hyperexcitability²⁰⁻²². Recently, two studies reported a higher than normal prevalence of PE in patients with chronic prostatitis^{9,11}.

Initial studies examining the effect of antibiotics in improving PE reported successful outcomes^{23,24}. Our study demonstrated a highly positive effect of the use of culture-specific antibiotics in treatment of patients with PE and chronic bacterial prostatitis. The mechanism behind this dramatic effect of antibiotics on ejaculation time is not entirely clear. It is thought that prostatitis can fester in mild form for years without obvious or clear symptoms except for PE²⁵. Sensory impairment occurring before orgasm is considered one of the pathogenetic mechanisms of PE²⁶. Gospodinoff²⁷ indicated that 64% of men complaining of PE were classified as having neurophysiologic PE. Prostatic inflammation may contribute to this concept by altering the sensation and modulating the ejaculatory reflex.

Chronic prostatitis in all our patients with PE was bacterial together with absence of prostatitis symptoms. This finding appears to be both interesting and challenging, and requires further clarification. First, Schaeffer et al. reported poor correlation between inflammation and infection of prostate on one side and the severity of prostatitis symptoms on the other side in 278 patients with chronic prostatitis²⁸. Furthermore, none of the Chronic Prostatitis Symptom Index (CPSI) measures, including subset for pain, urinary symptoms, and quality of life, were different for WBC subgroups. They concluded that the overall rank correlation between WBC and urinary symptoms was nonsignificant and weak. Another argument against the association of inflammation and symptoms is that category IIIB patients have symptoms but no inflammation, and conversely category IV patients have inflammation but no symptoms²⁸. Second, whether the type of organism-bacterial or nonbacterial-has an effect on the development of PE is still to be investigated.

Interestingly, a 1-month antibiotic treatment of our patients with PE and chronic bacterial prostatitis resulted in marked improvement in both ejaculation time and prostatic infection. Metz and Pryor suggested that a long period may elapse from prostatitis infection and appearance of prostatitis related symptoms²⁵. It is thus

reasonable to deduce that microorganisms causing chronic prostatitis may have a relatively long incubation period. We hypothesize that the high success rate of our short course of antibiotics in treating chronic prostatitis may be related to an apparently "early" interference during the pathogenesis of chronic prostatitis. This is also evidenced by the lack of prostatitis related symptoms in all treated patients. The lack of any improvement in ejaculation time or prostatic infection in the control group patients clearly demonstrates the beneficial effect of antibiotics in cases of PE and chronic bacterial prostatitis.

Several management options are available for PE following initial assessment and diagnosis¹². Behavioral therapy may augment pharmacotherapy to enhance relapse prevention. Pharmacological treatments for PE include use of SSRIs (e.g., paroxetine, sertraline, fluoxetine), topical local anesthetics (e.g. lidocaine), and phosphodiesterase type 5 (PDE-5) inhibitors (e.g., sildenafil). However, none of these drugs have received regulatory approval for treatment of PE, although clinical trial data support their use in individual cases. Interestingly, Lue et al.¹² suggested that, specifically, men with PE with other sexual dysfunction or genitourinary infection should receive appropriate etiology-specific treatment. Our results do strengthen that genitourinary infection may be an important contributor to the development of PE. Unfortunately, assessment of prostatic infection is not currently a routine measure during evaluation of men with PE. However, our results suggest that the presence of prostatic infection should be considered and preferably, managed in cases of PE.

The absence of short-term recurrence of either prostatitis or PE in all 64 successfully treated patients adds to the advantages of antibiotics in the treatment of PE with chronic bacterial prostatitis. On the other hand, around 16% of PE patients with chronic prostatitis showed, in spite of infection clearance, no improvement of their ejaculatory complaint. It is assumed that other nonorganic factors may have contributed to these patients' PE condition.

An evident limitation in PE studies involving drug therapy is the lack of standardized and validated measurement to classify responders from nonresponders. In this study, we overcame this problem by using the criteria set by the second consultation on sexual dysfunctions as determinants of treatment response¹². However, the need for a valid and reliable diagnostic questionnaire to accurately define PE and assess its severity is indeed obvious.

We did not include transrectal ultrasonography (TRUS) of the prostate as a chronic prostatitis assessment tool because it is considered optional²⁹. Furthermore, the identification of prostatic calcifications and the heterogeneity seen in TRUS in some prostatitis patients

will lead to unnecessary prostate biopsies²⁹. Pelvic imaging using ultrasound or computed tomography scan, or magnetic resonance imaging in selected patients can identify potentially treatable pelvic pathology³⁰.

Conclusion

Successful eradication of causative organisms of chronic bacterial prostatitis can lead to marked improvement in intravaginal ejaculatory latency time (IELT) and ejaculatory control in patients with PE. Further studies examining the effect of combination pharmacotherapy in delaying ejaculation time in patients with PE and chronic prostatitis are indeed encouraged.

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Comparative Study on Methotrexate alone Versus Combination Therapy with Methotrexate Plus Chloroquine Plus Low Dose Prednisolone in the Treatment of Rheumatoid Arthritis

Islam AKMM¹, Haq SA², Yeasmin M³

Abstract

Rheumatoid Arthritis (RA) has significant contributor to the global burden of disease and affects people in all communities across the world. It is a chronic inflammatory disease of the locomotors system that leads to substantial disability, loss of productivity and increased mortality. The Study was conducted among the RA patients based on broad objective of exploring the efficacy and adverse effects of triple combination therapy. This was an open, randomized, prospective study which followed qualitative research method. A total 61 patients were included in the trail. All subjects were randomly selected to combination therapy and MTX group. One patient from each group stopped the drugs due to adverse effects. Finally 59 patients completed the trail. 33 belonged to combination therapy group and 26 to MTX. Combination therapy is the best and easiest than others modifying anti-rheumatic drug used. Combination therapy with Methotrexate, Chloroquine and low dose Prednisolone is better than Methotrexate alone.

Keywords: Rheumatoid Arthritis, Treatment, Methotrexate, Combination, Chloroquine & Prednisolone.

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Introduction

R/A is a chronic inflammatory disease of the locomotors system that leads to substantial disability, loss of productivity and increased mortality (Tugwell P 1995¹).

It is the commonest form of inflammatory arthritis and affects about 1-3%, of the population (Wordswrth P et al 1966²). Nearly 90% of patients with aggressive disease will become clinically disabled within 20 years.

The severity of RA emphasizes the need for an effective management plan. In the past the treatment of RA has been developed on the premise that the prognosis of the disease is generally good. Treatment was based on NSAID and disease modifying agents such as sulfasalazine and Methotrexate. But this approach has limited success in preventing joint destruction or improving long term outcome. In fact, up to 90% of patients with aggressive synovitis develop evidence of bone erosions within two years of diagnosis despite treatment (Sharp JF et al. 1991³).

It was argued that introduction of slow acting anti-rheumatic drugs before the onset of articular damage retard the radiographic progression and joint damage in RA patients (Weinblatt, 1993⁴). It was also observed that there was a considerable overlap in toxicity between NSAIDs and SAARDs. These inferences lead to invention of therapeutic approach for RA that involved Institution of SAARDS early in course of the disease.

A realization soon followed that the outcome of treatment with these agents was far from satisfactory. Short term remission rates are acceptable but not high. Short term remission rates are acceptable but not high. Break through relapses are common. Meaningful remission of RA is found to occur in less than 2% of patients taking different SAARDs at the end of three years (Haq SA, 2000⁵). Considering the limitations of the currently available therapeutic options, attempts are continuing to recognize the ways in which these drugs are administered.

A combination of azathioprine plus methotrexate was compared with methotrexate alone and azathioprine alone in a series of patients who failed to respond to a single SAARD other than azathioprine or methotrexate. Both the combination and methotrexate alone proved superior to azathioprine alone, but the combination was not superior to MTX alone (Willkens RF et al. 1995⁶). The combinations of MTX, Sulfasalazine and Chloroquine was well tolerated and induced remission in substantial proportion of cases with sever RA patient who received multiple ineffectual courses of single slow acting drugs (Odell JR et al. 1996⁷).

Bolonga C also reported that the association of MTX and Corticosteroids seems to bring about a greater improvement in the different clinical activity parameter of RA than MTX alone, without significant increase in the frequency of side effects (Bolonga C et al. 1996⁸). A combination of Chloroquine with MTX appears to reduce significantly the hepatic toxicity of MTX (Khraishi-MM et al. 1996⁹). Kirwan reported that patients treated with Corticosteroids have an overall improvement in general well-being and functional capacity along with a reduction in radiographic progression (Kirwan JR, 1998¹⁰).

In a survey of 207 rheumatologist by O'Dell and Case, 95-1%, respondents indicated that they used combination therapies to treat their patients (Jain R et al. 1992¹¹) and they reported that combination therapy is cost effective and more potential.

So the present study has been designed to see efficacy and toxicity of combination therapy with MTX, Chloroquine and low dose Prednisolone in the Treatment of RA & compare with that of MTX.

Hypothesis: Combination therapy with MTX, Chloroquine and low dose Prednisolone is better than MTX alone.

Objectives: To establish the effects on short term outcome of the disease with adverse effects of triple combination therapy with MTX, Chloroquine and low dose Prednisolone versus MTX alone.

Materials and Methods

This was an open, randomized, Prospective study which followed qualitative research method. Here all subjects were randomly selected in two groups. Combination therapy is even number and MTX group is odd number in random table respectively. The present study was conducted in the Rheumatology wing of the department of medicine, Bangladesh Bangabandhu Sheikh Moji Medical University, Dhaka. Bangladesh from September 1999 to September 2000 including a 6 months follow up. 61 Samples (RA Patients) were purposively selected to conduct the study. After collecting data were checked thoroughly for constancy and completeness. Data were checked to exclude any error or inconsistency.

All analysis was done by appropriate statistical methods using spss are software for windows. All ethical issues, which were related the research involved with human subject were followed according to the guideline of ethical review committee.

Results

All Subjects (61 Patients) were randomly selected to Combination Therapy and MTX group. One Patient from each group left the study. Finally 59 Patients Completed the study. 33 belonged to combination therapy group and 26 to MTX group. The age of the patient ranged from 16-70 years. 45 were female and 14 were male patients.

The two groups were nearly identical with respect to demography, clinical and laboratory parameters and sex ratio 3.06:1 (table-1).

Table I: Comparison of baseline characteristics of the two groups of patients.

Parameters	Combination group (Mean±SD)	MTX group (Mean±SD)	P value
Age (yr) M±SD	37.09±10.67	33.81±10.88	NS
Sex (F/M)	27/6	18/8	NS
Duration of illness (months)	36.42±20.96	39.65±28.36	NS
Morning stiffness (minutes)	123.82±56.50	117.69±47.94	NS
No. of involved joint	20.12±5.43	20.04±5.79	NS
No. swollen joints	10.64±4.08	9.42±2.85	NS
Joint swelling index	31.18±10.98	32.00±8.00	NS
No. tender joint	18.58±5.58	18.58±4.64	NS
Tenderness Index	44.55±16.29	41.31±12.72	NS
Patients assessment of Pain (VAS)	9.18±2.04	8.69±1.83	NS
Patients assessment of disease activity	3.94±2.22	4.00±1.06	NS
Physicians assessment disease activity	3.67±1.02	3.88±0.22	NS
Functional class	2.52±0.62	2.54±0.65	NS
NSAID score	12.88±4.85	12.11±4.28	NS
ESR	71.06±41.07	75.96±38.89	NS
Hb%	10.45±1.23	9.82±2.13	NS
ALT	30.56±26.29	24.62±8.93	NS
Blood sugar	5.53±0.93	5.31±0.81	NS
Bone mass density	Radius- 0.43±0.08	0.42±0.03	NS
	Ulna- 0.38±0.09	0.40±0.03	NS
	Distal- 0.39±0.08	0.40±0.07	NS

The differences between the two group was not statistically significant (table II).

Table II: Changes in disease activity indices in two group.

Parameters	Combination therapy group (Mean±SD)		MTX group (Mean±SD)		P value
	Pre-treatment	Post-treatment	Pre-treatment	Post-treatment	
Morning stiffness (min)	123.82±56.50	32.79±18.47	117.69±47.94	31.00±18.44	NS
No. of involved joint	20.12±5.73	8.42±2.97	20.04±5.79	8.58±2.69	NS
No. swollen joints	10.64±4.08	2.24±1.56	9.42±2.85	2.73±0.92	NS
Joint swelling index	31.18±10.98	6.15±4.54	32.00±8.00	6.85±3.11	NS
No. tender joint	18.58±5.58	1.97±2.58	18.58±4.64	4.46±1.88	NS
Tenderness Index	44.55±6.29	13.76±19.32	41.31±12.72	7.31±2.88	NS
Patients assessment of Pain (VAS)	9.18±2.04	3.13±2.82	8.69±1.83	3.46±1.68	NS
Patients assessment of disease activity	3.94±1.22	1.97±1.13	4.00±1.06	2.69±1.05	p<7.05
Physician's assessment of disease activity	3.67±1.02	1.73±1.13	3.88±0.99	2.42±0.99	p<0.5
Functional class	2.52±0.62	1.36±0.70	2.54±0.65	1.58±0.81	NS
NSAID score	12.88±4.85	6.06±3.43	12.11±4.28	7.88±2.89	NS
ESR	71.06±41.07	28.39±29.51	75.96±38.89	26.92±21.78	NS
Hb%	10.45±1.23	11.94±1.10	9.82±7.13	11.12±1.13	NS

In both group Patients Complained Some Common side effects. But Rash Itching Urination as sitar side effects of MTX alone group, So Triple therapy group has less effects than MTX group (table III).

Table III: Adverse effects observed in triple therapy and MTX group.

Adverse effects	Combination group (n=34)	MTX group (n=27)
Nausea/ anorexia	25	24
Dizziness	5	3
Headache	1	1
Pain in abdomen heart burn	1	
Vomiting		1
Muscle cramps and myalgia	1	
Distaste		
Itching		1
Burning in extremities and urine		1
Diarrhea	1	1
Sleep disturbance		1
Moon face/ weight gain	1	
Withdrawn from treatment:		
Rash	0	1
Hypertension	1	0

WHO/ILAR response criteria was followed to measure the outcome of treatment. In combination therapy the response rate was maximum in 23 patients (69.70%) out of 33 cases and in MTX group 11 patients (42.30%) out of 26 cases (table IV).

Table IV: Outcome of Treatment group by WHO/ILAR response criteria.

Groups	Respondent	Respondent	Respondent
Combined group (n=33)	23	69.70	>0.05
MTX group (n=26)	11	42.30	

Chi-square test with (yates correction) $p=0.065$ ($p>0.05$)

Discussion

Methotrexate is a well known established, widely prescribed disease modifying anti-rheumatic drug (DMARD) used for rheumatoid arthritis and considered as the good standard treatment of rheumatoid arthritis.

Forequent failure of treatment to halt the disease progression has encouraged rheumatologists to explore the possibility of other modes of treatment. Such alternative approaches (Willkens RF et al. 1992¹²) are (1) use of second line agents (2) use of new drugs such as cyclosporine (3) use of biologic agents and (4) combined use of drugs with proven efficacy. Combination therapy is the easiest of these alternatives. Because rheumatologists have experiences with multiple drugs regimens (Willkens RF et al. 1992¹²).

The present study partly fulfilled this approach. The present study was a randomized controlled prospective open clinical trail to see the efficacy and toxicity of combination therapy with MTX plus chloroquine plus low dose prednisolone on the activities of RA in comparison with MTX alone an established disease modifying agent. In the present study, there were 46 female and 15 male with a ratio of 3.06:1. This ratio can be compared with the sex ratio of 2.83:1 in the series of Willkens et al. 1992¹². In this seriest, the average age of patients of combination therapy was 37.09 ± 10.67 years and in the MTX group 33.81 ± 10.88 yrs. In the study of Isalm MN et al. 2000, age was 39.74 ± 11.08 in (SSZ+MTX group) and 32.35 ± 14.79 in MTX group and 50 years in MTX group and 55 in combined group in the series of Williams et al. 1992 and 56 in combined group and 54 in the MTX group in the sutdy of Willkens RF et al. 1992. Age of patients in the present study closure to Islam MN et al. 2000¹³ study as well as Williams et. al. 1992 study¹⁴. In the present study mean duration of disease was 56.42 ± 20.96 months in combined group and 59.65 ± 28.36 months in MTX group. It was 57.72 months in (SSZ+MTX group) and 61 months in MTX group in Islam MN et. al. 2000 and 8 years in Willkens et al. 1992. Duration of illness in the present study close to Islam MN et al. 2000 but away from Willkens et al. 1992. The discrepancy could be due to long survival in western population.

Prior to analysis different characteristics in both groups were compared to find out whether they had any statistically significant difference. The mean age, duration of illness, number of swollen joints, joint swelling index, joint pain, patients global assessment of disease activity, physicians global assessment of disease activity and ESR varied numerically between the two groups, but the differences were not statistically significant as in the study of Lopez Mendez et.al. 1991¹⁵.

When we compared combined group with that of MTX alone, in respect to the response of treatment after 6 months, most of the clinical and laboratory parameters did not show statistically significant difference between the two groups. These findings were consistent with the findings of Islam MN et al. 2000¹³, Williams HJ et al. 1992¹⁴ Nisar M et al. 1994¹⁶ and Bunch TW et al. 1984¹⁷.

In combined groups, 25 patients showed gastrointestinal side effects like nausea, anorexia and in MTX group 24 patients showed gastrointestinal upset. There was no marked difference in respect of toxicity in both groups. These findings were consistent with Willkens RF et al. 1995⁶ and Nisar M et. al. 1994¹⁶.

We followed WHO/ILAR (Furst DE et.al. 1994¹⁸) response criteria and found that 23 (69.7%) patients were responded in combined group in comparison to 11 (42.30%) patients responded in the MTX group. The difference was no statistically significant $P>0.05$.

The actual Present situations of RA Patients Management in Bangladesh are not so pleasurable. The RA is mainly managed by MTX and disease modifying anti-rheumatic drug (DMARD). These are effective in the treatment of RA. But complete remission of RA is rare. So now the high time to think about alternative management of RA like as triple therapy with MTX, Chlorquine and low dose prednisolone.

Conclusion

The efficacy and tolerability of combination therapy with MTX plus chloroquine and low dose prednisolone was compared with the those of MTX in an open, random, controlled, prospective clinical trial. 61 patients were included in the study. 59 patients completed the trial with a 6 months follow up. 33 patients completed the trial in the combined group and 26 patients in the MTX group alone. One patient from each group dropped out due to adverse effects of drug. Statistically significant improvement was observed in almost all clinical and laboratory parameters in both groups. Compared with the MTX group, the combination therapy though did not show higher efficacy over MTX group alone but higher response rate (69.70%) was observed on the WHO/ILAR response criteria and 42.30% in MTX group. Combination therapy was tolerable and short term side effects were almost equal in two groups. Most common side effects observed were nausea and anorexia followed by dizziness in both groups.

From the present study it may be concluded that-

- Combination therapy does not reveal superior efficacy over single drug treatment ($P>0.05$).
- Combination therapy did not demonstrate higher toxicity than monotherapy in a short-term clinical trial which is to be proved by long term study and follow up.
- Higher response in combination group says long term follow up for definite conclusion about its efficacy.

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A Study on Factors Influencing Acne among the Medical Students of Bangladesh

Saizuddin M¹, Hasan MS², Sen SK³, Alfazzaman M⁴, Rahman MM⁵, Rahman MMM⁶, Rahman MM⁷**Abstract**

It was across sectional study to explore the factors responsible for Acne among the undergraduate medical students in Z.H. Sikder Women's Medical College, Dhaka. In this study, it revealed that 34.38% of respondents were suffering from acne where habit of smoking (32%), using of cosmetics (36%), taking of fast food (82%) & taking of less water (36%) & premenstrual flare up (66%) are responsible for aggravating & influencing factors for acne. This study further shown that majority (83.63%) of the respondents are suffering from acne in face, 58.18% in pimple stage, 60.00% in grade IV & 38.18% in grade III. BMI has no influence for the causation of acne as it occurs most (66.45%) in the group where BMI is within normal range from 20-24. Among the respondents, scar present in 36% & hyper pigmentation in 24% as they did not maintain personal hygiene properly.

Keywords: Acne, Awareness, Perception, Personal hygiene, Fast food etc.

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Introduction

Acne vulgaris is a chronic disorder of sebaceous glands mainly affecting the adolescent's population (85%). It is an inflammatory disease of pilosebaceous units; characterized by seborrhea; open and closed comedones; papules and in more severe cases nodules, pseudo cysts and scarring¹. Its prevalence among medical students varies from 56% to 62% among a group of Portuguese medical students². There are some wrong beliefs & misconceptions about acne not only in the general population but also among the medical students. A French study on acne in adolescents concluded that gender, excess weight, eating dairy products & physical activities did not influence acne, at the same time frequent washing could improve acne. Eating chocolate & snacks, smoking cigarettes, sweating, not washing, touching/squeezing spots, eating fatty food, using make-up, pollution & menstruation were thought to worsen acne. The majority (80.8%) did not believe acne is a disease but 69.3% agreed that it should be treated by physician³. Green & Sinclair in their study on medical graduates of University of Melbourne, Australia found that 67% students identified stress, 25% claimed poor hygiene and 41% incriminated diet⁴. Another study in Turkey indicated that there is an urgent need for education about etiopathogenesis, potential complications and importance of effective treatment for acne due to the deficient knowledge and wrong beliefs despite high prevalence⁵. Similar results were also found in Riyadh, Saudi Arabia⁶. Also, Acne is associated with psychological burden, patients experience with depression, anxiety, increase suicidal tendency and low self-esteem and impact on quality of life due to involvement of cosmetically important areas². Acne vulgaris has some social bad effect. It causes disfigurement of the face which may lead to delay in marriage & suffer from psychological problems which may disturb in social harmony.

Materials and Methods

This descriptive type of cross sectional study was conducted to explore the knowledge, beliefs and perceptions, the clinical presentations of acne vulgaris and to find out influential factors among the female medical students of third year, fourth year & final year undergraduate students of Z. H. Sikder Women's Medical College, Dhaka attending the dermatology departmental postings were included in this study with a sample size of 320 by using random sampling method. Data were collected from both acne and non-acne sufferers by trained volunteers by interviewing the female medical students using pre-designed, pre-tested, semi-structured interviewer administered questionnaire & check list in English. The study period was from January/15 to December/16. A detailed history of Acne and clinical examination was carried out for each student including medical and family history, information about the extent and site of involvement, aggravating factors like use of cosmetics, potent topical steroid, drug intake, dietary history, stress, nature of menstruation, premenstrual flare up, sun exposure, seasonal variation were obtained. Clinical assessment of each student including types of lesions, area of distribution and grading of acne were done. Only the students were included in this study after obtaining verbal consent.

Acne vulgaris was graded by using a simple grading system as follows⁷.

Grade 1 - comedones, occasional papules

Grade 2 - papules, comedones, few pustules

Grade 3 - predominant pustules, nodules, abscess

Grade 4 - mainly cysts, abscess, widespread scarring

Height and weight measurement were also taken. Body mass index was graded as 1= < 20, grade II =20 -24, grade III=25 - 29 and grade IV= ≥ 30⁸. Gynecological history of student was noted. Hormonal imbalances were assessed with obesity, alopecia, hirsute and menstrual irregularity. Stress was evaluated through a subjective assessment of its association with aggravation of acne.

Results

320 students were taken part in this study. The prevalence rate of acne among the participated medical students was 34.38% (table-I). The mean age of the students was 22 years, varied from 18 - 25 years.

Table-I: The prevalence of acne among respondents.

Number of participants	Affected with acne (%)	Not affected with acne (%)
320	110 (34.38)	210 (65.62)

Table-II: Distribution of respondents with acne according to BMI (n=110).

Sl. No.	BMI	Frequency
01	< 20	22 (20%)
02	20 - 24	72 (65.45%)
03	25 - 29	10 (9.09%)
04	≥ 30	06 (5.45%)
Total		110

Table-III: Clinical lesions of acne among respondents (n=110).

Sl. No.	Clinical types	Number of students with acne
01	Papules	64 (58.18)
02	Comedones	32 (29.09)
03	Pustules	20 (4.59)
04	Nodules	10 (0.90)
05	Cysts	08 (0.90)
06	Abscess	06 (5.45)
07	Scarring	06 (5.45)

Table-IV: Sites of the acne lesions (n=110).

Sites of acne lesions	Number of students
Face	92 (83.63%)
Forehead	10 (09.09%)
Chest	04 (03.64%)
Back	04 (03.64%)

Table-V: Clinical stage of acne among respondents (n=110).

Clinical grading	Number of students with acne
Grade 1	42 (38.18%)
Grade 2	16 (14.54%)
Grade 3	08 (7.27%)
Grade 4	44 (60.00%)

Table-VI: Factors aggravating / influencing acne (n= 110).

Variables	Students with acne
Use of cosmetics	36 (32.73%)
Use of topical steroid	18 (16.36%)
Intake of steroid	12 (10.90%)
Premenstrual flare up	66 (60.00%)
Taking of fast food	82 (74.54%)
Habit of smoking	12 (10.90%)
Taking of less water	32 (29.09%)

Pie chart for complications of acne (Figure-1).

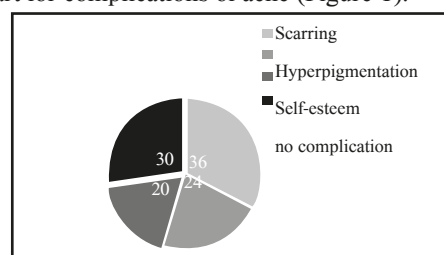


Figure-1: Complications of acne

Discussion

In this study, the prevalence of acne vulgaris among medical students was 34.38%, it is less to prevalence among Portuguese medical students varied from 56% to 62%² & also less to medical students of Sindh, Pakistan (55.9%) A study on KAP on Acne of the medical students

believed it to be relieved by frequent face washing and that they should seek treatment & as to the cause, 21.7% students believed that here dietary factors and 20.1% thought environmental factors are the major cause of acne. In diet, soft drinks (29.2%) were considered the major exacerbating factor. The most significant emotional impact of acne on medical students was embarrassment (26.2%)⁹. Green & Sinclair in their study on medical graduates of University of Melbourne, Australia found that 67% students identified stress, 25% claimed poor hygiene and 41% incriminated diet¹⁰. Another study of aged from 14-16 years in United Kingdom revealed that washing of face frequently would help acne, 79% incriminated poor hygiene and 11% greasy food to be the causative factors of acne¹¹.

In our study it revealed that habit of smoking (32%), using of cosmetics (36%), taking of fast food (82%) & taking of less water (36%) & premenstrual flare up (66%) are responsible for aggravating & influencing factors for acne. It further shown that majority (83.63%) of the respondents are suffering from acne in face, 58.18% in pimple stage, 60.00% in grade IV & 38.18% in grade III. BMI has no influence for the causation acne as it occurs most (66.45%) in the group where BMI is within normal range from 20-24. Among the respondents, scar present in 36% & hyper pigmentation in 24% as they did not maintain personal hygiene properly.

From the study of prevalence of acne among the medical students of our sample compared to the study of Green & Sinclair in their study on medical graduates of University of Melbourne and KAP on Acne of the medical students of Sindh, Pakistan revealed that in our country the prevalence of acne among Medical Students are less than the above mentioned countries.

Conclusion

Motivational interventions to be placed for overcoming the misconception & belief about of acne.

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Correlation of ECG Changes with Coronary Angiographic Findings in Acute Inferior Myocardial Infarction

Mamun KSA¹, Awal A², Murshed AKMM³

Abstract

The determination of infarct related artery in acute inferior myocardial infarction is extremely important for the prediction the amount of myocardium at risk and guide decisions regarding urgency of revascularization. Urgent decision may facilitate management and prevention of complication. Our objective was to Identification of the infarct related artery involving either right coronary artery (RCA) or left circumflex artery (LCX) in acute inferior wall myocardial infarction using electrocardiographic criteria and comparing with angiographic finding.

This prospective, observational study was done in Chittagong Medical College Hospital from June 2013 to May 2014. A total of 112 Patients with acute inferior myocardial infarction were included in this study. The electrocardiogram of these patients evaluated for ST segment elevation in lead III exceeding that in lead II (i.e. a ratio of ST elevation in lead III/elevation in lead II > 1) and S/R wave ratio > 0.33 plus ST segment depression > 1 mm in lead aVL as a prediction for right coronary artery occlusion. If criteria are negative, LCX obstruction is likely. Coronary angiogram was done within 2-6 weeks in cath lab, department of cardiology, CMCH to identify the culprit artery. The infarct related artery (IRA) was identified from total occlusion or significant stenosis (> 70%) of the RCA or LCX or their major branches, or from arteriographic evidence of intraluminal thrombosis. To minimize the chance of misclassifying the culprit artery, patients with significant stenosis of both the RCA and the LCX were excluded from the study. The study population consisted of 112 patients (94 male and 18 female) with a mean $\pm$ SD age of 51 ± 8.6 years. On coronary angiography, the culprit artery was shown to be the RCA in 92 patients and the LCX in 20 patients. It was evident that the degree of ST segment elevation in lead III was significantly higher in right coronary artery group (92 patients) vs left circumflex group (20 patients) 3.16 ± 1.14 mm vs 1.35 ± 0.24 mm ($p < 0.001$) respectively. While its comparable in lead II 2.18 ± 0.95 mm vs 1.7 ± 0.34 mm ($p > 0.05$). In respect to leads AVL, we found that deeper ST segment depression was in right coronary artery group as compared to left circumflex group

1.11 ± 0.25 mm vs 0.2 ± 0.34 mm ($p < 0.001$). ECG parameters for implicating the RCA were a higher ST elevation in lead III than lead II (specificity 98%, sensitivity 97%) and an S/R wave ratio > 0.33 plus ST segment depression > 1 mm in lead aVL (specificity 96%, sensitivity 95%). Absence of these criteria was associated with LCX occlusion (specificity 100%, sensitivity 85%). It is possible to predict the culprit artery whether right coronary artery or left circumflex by examining the surface electrocardiography in patients with acute inferior myocardial infarction.

Keywords: RCA-Right coronary artery, LCX- Left circumflex artery, SD- Standard deviation, IRA-infarct related artery, CMCH- Chittagong Medical College Hospital.

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Introduction

Coronary heart disease is a worldwide health epidemic. Worldwide 30 percent of all deaths can be attributed to cardiovascular disease of which more than half are caused by coronary heart disease. Globally of those dying from cardiovascular disease, 80 percent are in developing countries¹. By 2020, cardiovascular disease will causes one of every three deaths worldwide. Coronary heart disease is the leading cause of cardiovascular disease.

Every minute an American dies of coronary artery disease. About 38 per cent of people experience an acute coronary event². Acute myocardial infarction (AMI) is one of the most common presentations of CAD.

In acute Inferior Myocardial Infarction, the infarct related artery is usually the right coronary artery (RCA) and less often the left circumflex coronary artery (LCX)³. The incidence of mortality and complications are high in patients of acute inferior wall MI with right ventricular involvement. In the presence of complications (hypotension, bradycardia, right heart failure, shock and arrhythmias etc.), Right Coronary artery (RCA) is generally the infarct related artery⁴.

The ECG is non invasive, affordable, easily available and essentially without any known adverse effects. ECG is generally used to diagnose myocardial infarction. However, it can also be used to predict the culprit artery in patients with myocardial infarction. Early prediction of infarct related artery by ECG can recognize the amount of myocardium at risk and guide decisions regarding urgency of revascularization. Urgent decision may facilitate management and prevention of complication.

In Electrocardiographic (ECG), the standard lead III is oriented to the right inferior segment, whereas lead II is oriented principally to the left inferior segment and also to the inferior region of the left lateral part of the superior wall of the ventricle. Consequently, lead III is more influenced by right coronary artery related AMI and lead II by Left Circumflex artery (LCX) related AMI³. ST segment elevation more in lead III than lead II (ratio >1) and S/R wave ratio >0.033 plus ST depression >1 in lead aVL is suggestive Right Coronary Artery and absence of those criteria is suggestive Left Circumflex Artery involvement³.

Although coronary angiography is the "gold standard" for determining the infarct-related artery in acute myocardial infarction, the ECG can be a useful tool in identifying which artery is involved at the first point of care. We can confirm the ECG prediction by angiogram.

In many Centers of our country, early intervention is not possible. By examining ECG, we can predict the infarct related artery and upcoming complications. For these groups, we can refer them to a center where early revascularization facility is present.

Most of the patients of greater Noakhali, Hilltract, Cox's Bazar and Chittagong district seek treatment in Chittagong Medical College Hospital as a tertiary care hospital. This study will be done in this hospital of these selected people. So study can be represented a larger population of Bangladesh.

Materials and Methods

Patients

It was a prospective, observational study. The study population consisted of patients with a diagnosis of acute inferior myocardial infarctions, who were admitted to coronary care unit, Department of Cardiology of Chittagong Medical College Hospital between June 2013 and

May 2014 and who subsequently underwent coronary angiography within 2-6 weeks. A total of 112 Patients with acute inferior myocardial infarction were included in this study. A patient with acute inferior myocardial infarction was recognized first from history, examination and ECG. Other history was taken from the patients regarding the age, sex, hypertension, diabetes, smoking and others risk factors.

A diagnosis of inferior wall AMI was made on the basis of: chest pain lasting > 30 min; ST-segment elevation > 1 mm in at least two of the three inferior leads (II, III and aVF); and elevation or fall of Troponin-I. Patients with a history of previous AMI or double wall AMI, dependent on pacemaker, prior coronary artery bypass surgery or percutaneous transluminal coronary angioplasty showing ECG evidence of bundle branch block or left ventricular hypertrophy were excluded from the study. All patients gave informed written consent and the Medical Faculty of Chittagong University Ethics Committee approved the study.

ECG

Standard Twelve leads electrocardiography were recorded at a paper speed 25 mm/s with amplitude of 10mm/mv, any STsegment deviation from isoelectric line (T-P segment) was measured to nearest 0.5mm at 80 m sec after the J point. Serial ECGs performed on admission, within 6 h of the onset of chest pain. The following ECG changes were assessed: ST-segment elevation in lead III exceeding that in lead II, defined as a ratio of ST elevation in lead III/elevation in lead II > 1 (Criterion A); ST-segment depression in lead aVL, defined as > 1 mm deviation from the isoelectric line; an S/R wave ratio in lead aVL > 0.33 (Criterion B).



Figure-1: ECG showing criteria A and B positive.

Criteria A: ST elevation in Lead III more than in Lead II and Criteria B: ST-segment depression in lead aVL, defined as > 1 mm deviation from the isoelectric line; an S/R wave ratio in lead aVL > 0.33.

Prediction of the infarct related artery involving either right coronary artery (RCA) or left circumflex artery (LCX) by ECG criterion A and criterion B and comparing with angiographic finding.

Coronary Angiography

The coronary angiography was done by percutaneous Judkin's technique via femoral route in cath lab,

department of cardiology, CMCH to identify the culprit artery. Coronary angiography was performed between 2 week and 6 weeks after the infarction. Coronary angiography films were reviewed by two investigators who were blinded to the ECG findings. The infarct related artery was identified from total occlusion or significant stenosis (> 70%) of the RCA or LCX or their major branches, or from arteriographic evidence of intraluminal thrombosis.



Figure-2: CAG of RCA **Figure-3: CAG of RCA involvement.**

involvement.

To minimize the chance of misclassifying the culprit artery, patients with significant stenosis of both the RCA and the LCX, Significant lesion in LAD and any Ectatic vessels were excluded from the study.

Statistical Analysis

The statistical significance for observed differences was assessed by student T test, test of proportions, correlation was established by Spearman's correlation coefficient test & analysis of variance used to compare differences between variables. P value < 0.05 was considered statistically significant, P value < 0.001 was considered statistically extremely significant, P value > 0.05 was considered statistically not significant.

Results and Observations

The study population involved 112 patients (94 males and 18 female) with a mean $\pm$ SD age of 51.79 ± 8.68 years with the diagnosis of acute inferior myocardial infarction.

The ECG findings were classified according to two patterns of changes: criterion A consisted of ST segment elevation in lead III exceeding that in lead II (i.e. a ratio of ST elevation in lead III/elevation in lead II > 1 and criterion B consisted of ST segment depression in lead aVL more than or equal to 1 mm and S/R wave ratio > 0.33 (fig.-1).

It was evident that the degree of ST segment elevation in lead III was significantly higher in right coronary artery group (92 patients) vs left circumflex group (20 patients) 3.16 ± 1.14 mm vs 1.35 ± 0.24 mm ($p < 0.001$) respectively. While its comparable in lead II 2.18 ± 0.95 mm vs 1.7 ± 0.34 mm ($p > 0.05$) (table-I). In respect to leads AVL, we found that deeper ST segment depression was in right coronary artery group as compared to left circumflex group 1.11 ± 0.25 mm vs 0.2 ± 0.34 mm ($p < 0.001$).

Table-I: Electrocardiograph findings in relation to culprit artery. (N=112)

Electrocardiographic finding	Right coronary artery (n=92) mean $\pm$ (SD)	Left circumflex artery (n=20) mean $\pm$ (SD)	P. value
ST segment elevation in mm II	2.18 $\pm$ (0.95)	1.7 $\pm$ (0.34)	> 0.05 ^{NS}
ST segment elevation in mm III	3.16 $\pm$ (1.14)	1.35 $\pm$ (0.24)	> <0.001 ^S
ST segment depression in mm AVL	1.11 $\pm$ (0.25)	0.2 $\pm$ (0.34)	> <0.001 ^S

Correlation was established by t- test, Significant =^S, Non Significant =^{NS}, N= Number of study population, n= Number in each group, mm = millimeter, < =less than, >=more than, SD=Standard deviation, II= Lead II, III=Lead-III, AVL= Lead AVL

On coronary angiography, the culprit artery was found to be the RCA in 82.1% (92) patients and the LCX in 17.85% (20) patients out of 112 patients.

Identification of infarct related artery between electrocardiogram (ECG) findings and the culprit artery demonstrated by angiography in 112 patients with acute myocardial infarction. Correlation of electrocardiogram (ECG) changes with angiographic findings shown in table-II.

Table-II: Correlation of electrocardiogram (ECG) changes with angiographic findings. (N-112)

ECG Finding	RCA (n=92)		LCX (n=20)		P. value
	Number (n)	Percent (%)	Number (n)	Percent(%)	
Criteria A positive	90	97	1	5	<0.001 ^S
Criteria B positive	88	95	1	5	<0.001 ^S
Criteria A and B both positive	88	95	0	0	<0.001 ^S
Criteria A and B both negative	0	0	18	90	<0.001 ^S

Correlation was established by Spearman's correlation coefficient test, Significant =^S, Non Significant =^{NS}, RCA=right coronary artery, LCX=left circumflex artery, N= Number of study population, < =less than, >=more than, n= Number in each group, % = percentage,

Criterion A= ST segment elevation in lead III exceeding that in lead II (i.e. a ratio of ST elevation in lead III/elevation in lead II > 1).

Criteria B= ST segment depression in lead aVL more than or equal to 1 mm. and S/R wave ratio > 0.33.

The sensitivity, specificity and positive and negative predictive values of the two ECG criteria and their combinations are shown in table-III. The results did not change with variation in the obstruction site along the coronary artery (proximal versus distal; data not shown).

Table-III: Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of the electrocardiogram (ECG) criteria, alone and in combination. (N=112)

ECG Finding	Infarct Related Artery	Sensitivity %	Specificity %	PPV %	NPV %
Criteria A positive	RCA	97	98	98	90
Criteria B positive	RCA	95	96	98	82
Criteria A and B both positive	RCA	95	100	100	83
Criteria A and B both negative	RCA	0	11	0	100
	LCX	85	100	100	50

RCA: Right coronary artery; LCX: Left circumflex artery, PPV= Positive predictive value, NPV= Negative predictive value, N= Number of study population, n= Number in each group, %= Percentage, Criterion A= ST segment elevation in lead III exceeding that in lead II (i.e. a ratio of ST elevation in lead III/elevation in lead II > 1).

Criteria B= ST segment depression in lead aVL more than or equal to 1 mm. and S/R wave ratio > 0.33.

Table- III shown that ST segment elevation in lead III more than lead II was sensitive 96% and specific 93% for right coronary artery occlusion and also ST segment depression in lead aVL more than lead I was also sensitive 97% and specific 90% for right coronary artery occlusion group.

We found that, in patients with inferior wall AMI, both criterion A and criterion B were sensitive and specific markers for RCA but not for LCX obstruction. If both criteria are negative, LCX obstruction is likely.

Discussion

In present study we compared various ECG criteria for diagnosis of infarct related artery in inferior wall MI with angiographic findings as gold standard. Among the 112

patients with acute inferior MI, We found the culprit lesion was in the RCA in 92 patients and in the LCX in 20 patients, a ratio of 4.6:1.

Other studies of patients with acute inferior MI have found RCA to LCX ratios ranging from 2.2:1 to 7.0:1 and averaging 3.9:1^{5,6,7,8}. Thus, the RCA is much more likely than the LCX to contain the culprit lesion in patients with acute inferior MI.

Rarely, acute inferior MI may result from occlusion of the recurrent LAD branch which is the terminal portion of a "wrap-around" LAD, but this was not the case in any of patients in this study. Occasional studies also have included a few patients with normal coronary arteriographic findings and others in whom the culprit lesion could not be identified. The patients with normal angiography and in whom culprit lesion couldn't be identified have been excluded.

Previous studies have already described various ECG signs to identify the infarct-related artery. For instance (1) ST-segment depression in lead I > 0.5 mm (2) ratio of ST-segment elevation in II/III < 1 (3) ratio of ST-segment depression in V3/ST-segment elevation in III < 0.5 (4) ST-segment elevation in V4R. (5) ST-segment depression in aVL $> I$ (6) T-wave magnitude in III $> II$ ⁹ predict RCA occlusion. By contrast (1) ST-segment isoelectric or elevation in lead I (2) ratio of ST-segment elevation in II/III > 1 (3) ratio of ST-segment depression in V3/ST-segment elevation in III > 1.25 predicts LCX occlusion. Fiol and colleagues developed an algorithm, which was able to predict proximal RCA and distal RCA and LCX occlusion with high accuracy¹⁰.

Further Radhakrishnan and colleagues had shown that the amount of ST-segment depression in lead aVR, also to be an accurate predictor of involved artery in inferior MI¹¹. ST-segment elevation in lead III ≥ 2.5 mm and the ratio of ST-segment in V2/V3 ≥ 1 are very specific signs for RCA occlusion¹².

In the present study it was found that ST segment elevation in lead III exceeding that in lead II, that is a ratio of elevation in lead III/elevation in lead II > 1 (criterion A), had a high specificity and sensitivity for RCA occlusion. ECG (Criteria A) giving a sensitivity of 95%, a specificity of 96%, a positive predictive value of 98% and a negative predictive value of 82% for RCA involvement.

These result is consistent with research done by Radhakrishnan Naair, D. Luke Glancy shows a sensitivity of 96%, a specificity of 40%, a positive predictive value of 89% and a negative predictive value of 67% for RCA involvement¹³.

These results suggest that a ratio of ST elevation in lead III/ ST elevation in lead II > 1 is an important predictor of RCA occlusion, a finding consistent with that of previous studies as Zimetbaum and colleagues, who had showed

that a higher ST segment elevation in lead III than in lead II was only seen in RCA occlusion, and Chia BL, Yip JW, Tan HC, Lim YT reported that ST segment elevation in lead III greater than that in lead II was valuable in predicting RCA occlusion.

Similar criteria to predict the RCA occlusion in acute inferior wall MI was also confirmed by Yokousoglu and colleagues with a positive predictive value of 78.9%, sensitivity of 89.4% and specificity of 50%. Our study showed similar results.

In addition, it was found that ST depression ≥ 1 mm in lead aVL (criterion B) was of value in predicting RCA occlusion. Criterion B was positive in of patients with RCA lesion, giving a sensitivity of 97%, a specificity of 98%, a positive predictive value of 98% and a negative predictive value of 90% for RCA involvement.

These results suggest that an S/R wave ratio > 0.33 plus ST depression ≥ 1 mm in lead aVL is also a useful predictor of RCA occlusion. Again, this finding is in agreement with previous studies. Bailey and colleagues¹⁴, reported that ST segment depression in lead I and aVL was only observed during RCA occlusion. Birnbaum et al.¹⁵ reported that ST segment depression in lead aVL was a sensitive early ECG sign of RCA occlusion. Berry and colleagues also showed that ST depression in both aVL and V1 was a marker of RCA occlusion in acute inferior wall MI. Fiol Mikual and colleagues showed that the sum of ST depression in I and aVL compared to criteria based on ST depression in aVL was more specific for RCA. Similar results were obtained in our study.

Similarly Huey and colleagues¹⁶ demonstrated ST depression in lead I in 22% of their LCX patients and 59% of their RCA patients, whereas Kontos and colleagues¹⁷ reported this finding in 28% of their LCX patients and 58% of their RCA patients. Shu-Fen Wung and colleagues¹⁸ have shown that ST-segment elevation in the right ventricular leads and inferior leads occurred more often during occlusion of the right coronary artery than during occlusion of the circumflex artery. They further concluded that ST-segment depression in lead aVL is highly suggestive of right coronary occlusion, whereas ST-segment elevation in posterior leads without depression of the ST segment in lead aVL is highly sensitive and specific for occlusion of the left circumflex artery.

Most studies carried out so far have considered only one ECG criteria. The main aim of this study was to evaluate the value of combining criterion A and criteria B for predicting RCA involvement, as well as their value when both negative for predicting LCX involvement.

The use of combined criteria gave a high specificity and sensitivity for both RCA and LCX occlusions. Both criterion A and criterion B were positive in 88 patients (95%) with RCA occlusion but only 0(0%) patients with

LCX had this finding, giving a sensitivity of 95%, a specificity of 100%, a positive predictive value of 100% and a negative predictive value of 83% for RCA involvement.

Both criteria were negative in 18 patients (90%) with LCX occlusion but only zero patients with RCA had this finding, giving a sensitivity of 85% and a specificity of 100% for LCX involvement. In addition E. Bayram and colleagues¹⁹ had suggested that a ratio of ST elevation in lead III/ST elevation in lead II > 1, and an S/R wave ratio > 0.33 plus ST depression > 1 mm in lead aVL, are specific and sensitive markers of RCA occlusion.

Conclusion

It is possible to predict the culprit artery whether right coronary artery or left circumflex by examining the surface electrocardiography in patients with acute inferior myocardial infarction. A higher ST segment elevation in lead III than in lead II and deeper ST segment depression in AVL are highly sensitive and specific markers for right coronary artery related acute inferior wall myocardial infarction.

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Prevalence and Determinants of Smoking among Young Age Male Patients Coming at OPD in Selected Hospital

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Abstract

Smoking is now recognized as a major public health problem in the developing world. Bangladesh is one of the largest populated developing country. Here public health crisis is in danger among youngsters. The study was conducted among the young age male patients in selected hospital based on broad objective of exploring the prevalence and determinants of smoking behavior of young age male patients. A cross sectional descriptive study was conducted on prevalence of young age patients in selected hospital. The quantitative investigation was undertaken to fulfill the objectives of the study by collecting information using questionnaire. Findings of the study showed that 35.33% of respondents have smoking habit. We also found that about 86.79% smoking habit respondents start smoking when they were 14-17 years old. The study tried to find out current adolescent smoking trend in rural area of developing country. In our study we know that most of the smoker started smoking at their adolescent period & it is a high prevalence. There is a significant association between smoking and other risky behavior like Cannabis, Yaaba, Alcohol etc. So urgently our Govt. need to implement public health interventions, with special attention to the determinants of smoking in this age group.

Keywords: Young age, Smoking, Prevalence and Determinants.

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Introduction

Operational Definition

Prevalence: The ratio (for a given time period) of the number of occurrences of a disease or event to the number

of units at risk in the population.

Determinant: Determinant is also used, being a variable associated with either increased or decreased risk.

Smoking: As a person who regularly smoked at least one cigarette or bidi per week.

The decline of tobacco smoking observed in developed countries, however, is not evident in many developing countries including Bangladesh. Despite the high level of poverty in Bangladesh, smoking rates are relatively high and smoking prevalence is the highest among the poorest. There are around 1.3 billion smokers worldwide (WHO, 2004)¹ and Asia, Australia, are the largest tobacco consumers (2715 billion cigarettes per year) [WHO, 2004]¹. Prevalence of smoking declines proportionally as income increases. Up till now, very little is known about the pattern and prevalence of smoking in general and specifically among the young adults, who are the target of the ever expanding tobacco market. In developed countries, most smokers start at a younger age; almost 80% initiate their smoking at teens. In developing countries, it happens by late adolescence, but it is observed that the age of initiation is becoming lower. Smoking is the major single known cause of non-communicable diseases, such as cancer and cardiovascular diseases. Most people try their first cigarette and become daily smokers as adolescents (Giovino, 2002)². People who start smoking before 15 years of age have double the risk of developing lung cancer than those who start after the age of 20 years (Kuper et al 2002)³. Smoking is a risk factor for mortality from several medical causes. Cigarette smoking and exposure to tobacco smoke are associated with premature death, economic losses to society, and a substantial burden on the health-care system. Smoking is the primary causal factor for at least 30% of all cancer deaths, for nearly 80% of deaths from chronic obstructive pulmonary disease (COPD), and for early cardiovascular disease and deaths. Smoking harms nearly every organ of human body, causing many diseases and reducing the health in general. (CDC.2004)⁴. Cigarette smoking is associated with a tenfold increase in the risk of dying from chronic obstructive lung disease. About 90% of all deaths from chronic obstructive lung diseases are attributable to cigarette smoking. Cigarette smoking has many adverse reproductive and early childhood effects, including an increased risk for infertility, preterm delivery, stillbirth, low birth weight and sudden infant death syndrome

(SIDS).(CDC-2008)⁴. People with smoking habit are more likely to develop chronic Bronchitis (OR = 6.92, 95% CI 4.22 to 11.36) (Menezes, et al, 1994)⁵.

Secondhand smoke, also known as environmental tobacco smoke (ETS), is a mixture of the smoke given off by the burning end of a cigarette, pipe or cigar and the smoke exhaled from the lungs of smokers. Secondhand smoke increases the risk of coronary heart disease by 30%. This effect is larger than one would expect on the basis of the risks associated with active smoking and the relative doses of tobacco smoke delivered to smokers and nonsmokers. The effects of even brief (minutes to hours) passive smoking are often nearly as large (averaging 80% to 90%) as chronic active smoking (Barnoya and Glantz: 2002)⁶. In some studies, the age of initiation of smoking is found less than 15 years and male sex is more likely to smoke at an earlier age (Sen U. and Basu A., 2000)⁷. The principal predictors of smoking among the adolescents are parental household influence, peer pro-smoking influence and environmental predisposition. The peer group includes sibling and friends. It is also found that age, socio-cultural status, level of education and racial differences all affect smoking initiation by teenagers.

Materials and Methods

A cross sectional descriptive study was conducted on prevalence of young age patients in selected hospital. The quantitative investigation was undertaken to fulfill the objectives of the study by collecting information using questionnaire. The study was conducted at Outdoor Patients Department (OPD) in 250 Bed General Hospital, Patuakhali. The overall duration of the study was 6 months from 1st January 2017 to 30 June 2017. The target population for the study was young age (10 to 20 years) male patients coming at OPD in the selected hospital. The sample size was selected 150 young age male patients. For this study various methods were used to collect data from the respondents that were included: Semi-structured face to face interviews was used with adolescent boys to gather data on background information, the aspect of knowledge, risk factors of smoking. The Pre-testing was done prior conducting the actual main study and necessary adjustment s/correction of the research tools was made. Pervasive sampling method was used to select sample population from the selected hospital. After collection, data were checked thoroughly for consistency and completeness. Data were checked after collection of data to data exclude any error or inconsistency. All analysis was done by appropriate statistical methods by using SPSS software for windows version 11.5. All ethical issues, which were related to the research involved with human subjects, were followed according to the guideline of ethical review committee.

Results

Smoking status of adolescent boys

Figure 1 show that 35.33% adolescent boys have smoking habit and 64.67% of respondents were having no addiction on smoking.

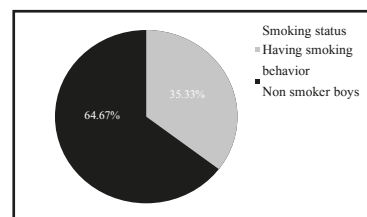


Figure-1: Distribution of the smoking status of Respondents.

This table I shows that most of the respondents of this study were 14-17 years age group and their percentages were 44.7%. Lowest respondents group were 18-19 years age group and their percentages were 14.6%. Other group of this study was 10-14 years ages and their percentages were 40.7% and. Average age of the respondents was 14.31 years and their standard deviation was ± 1.88 .

Table-I: Distribution of the respondents by age.

Age of respondent	Numbers	Percentage
10-13 years	61	40.7%
14-17 years	67	44.7%
18-19 years	22	14.6%
Total	150	
Mean age 14.31,		STD ± 1.88

Age of first smoking by respondents

Figure 2 show that most of the adolescent start smoking when they were 14-17 years old 86.79% were started smoking at this age group and 13.21% were started smoking in early stage at 10-13 age this percent are calculated from 53 respondent out of 150.

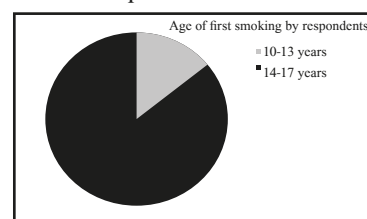


Figure-2: Distribution of respondents by age at first smoking.

Table-II shows that 3.77% respondents who have addiction in smoking starts smoking by inspiration of watching TV/cinema, 50.94 % start smoking due to peers influence, 13.21 % start smoking due to familial smoking environment, 7.55% start smoking to prove that they are mature, 1.3% start smoking due to poor performance in the class. 9.43% start smoking due to follow the senior in their residential area. 13.21% start smoking due to their early maturity to attracting girls.

Table-II: Distribution of the Respondents by causes of smoking.

Causes of smoking	Number	Percent
watching TV/Cinema	2	3.8
peers influence	27	50.9
family influence	7	13.2
To feel mature	4	7.5
poor performance in class	1	1.9
To follow senior in locality	5	9.4
to attract girl	7	13.2
Total	53	100.0

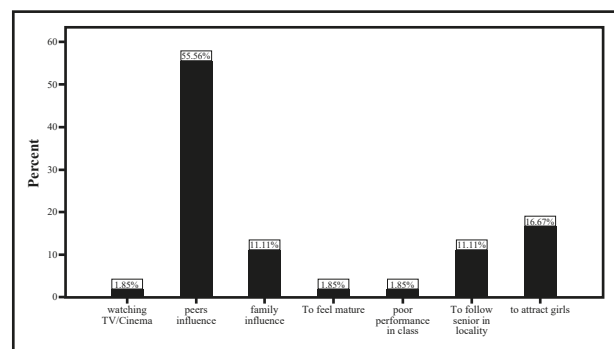
**Figure-3: Distribution of respondents by the causes of smoking.**

Table III shows that 77.9% were student's. 16.1% service holder and 6.0% were business man in their occupation among our total respondents.

Table-III: Distribution of the respondents by Occupation.

Occupation	Numbers	Percentage
Students	116	77.9%
Service	25	16.1%
Business	9	6.0%
Total	150	100.0%

Discussion

Smoking is one of the major health problems in public health sector all over the world specially developing country i.e. Bangladesh. It is not a new problem. It is a hundred years long problem. There were a lot of study was done about smoking and its pattern by various researcher all over the world. We know that most of the smoker starts smoking during their adolescent period. So I did this research about Prevalence and Determinants of Smoking among young age male patients coming at OPD in selected hospital. In this we found the prevalence of current smoking obtains in this study was 35.33% respondents having smoking habit & 64.67% respondents boys out of 150 boys have no smoking habit.

We found that most of the adolescent start smoking when they were 14-17 years old 86.79% were started smoking at this age group and 13.21% were started smoking in early stage at 10-13 age group which is seemlier with adolescent smoking age of Indonesia where 10% of smokers had started when aged 10-14 years (Mohammad Y, 2001)⁸ Adolescent who involve child labor was friendlier with smoke. Our study shows that education level of adolescent is one of the influencing factors for smoking. Boys who

are students in secondary level have only 15% prevalence of smoking and adolescent who are illiterate or leaving school before primary level their prevalence of smoking is 80%. Same as education level of parents also close relation in between adolescent smoking. This study found that the causes of smoking were respectively 50.94 % started smoking due to peers influence, 3.77% started smoking by inspiration of watching TV/cinema, 13.21 % started smoking due to familial smoking environment 7.55% start smoking to early maturity, 1.3% started smoking due to poor performance in the class. 9.43% start smoking due to follow the senior in their residential area. 13.21% start smoking due to their early Dating. Another study found that Children from smoking families are more likely to choose smoking friends (Engels et al. 2004)⁹ In our study we found 2% of adolescent smoker start smoking due to poor performance in the class. Simons and his associates found Smoking among adolescents association with problems at school (Simons Morton et al. 1999)¹⁰. No significant association was found between respondents' knowledge of the health risks of smoking and their actual smoking behavior. 100% of the respondents known about the effect of smoking. Smoking is very common among middle-class male teenagers and even more prevalent among youths from nearby rural areas.

Conclusion

The study about prevalence and determinant of young age male patients smoking in selected hospital, tried to find out current adolescent smoking trend in rural area of developing county.

We know that effect and consequence of smoking take a long time to get out come. So generally people ignore the consequence of smoking. As Smoking has social recognition, adolescent was attracting with smoking.

In other study we know that most of the smoker started smoking at their adolescent period. There is still a high prevalence of smoking among adolescents in our covering area. There is a significant association between smoking and other risky behavior like cannabis, ya ba, alcohol etc.

Though the study findings could not be generalized due to sample size and purposively selected study places our study suggests that such factors should be taken into account when designing effective tobacco control programs among Adolescent boys in rural area. This is an effort which has been done to reduce tobacco consumption among Adolescent boys and introduce awareness programs to amend their health risk behavior. There is a need to implement public health interventions, with special attention to the determinants of smoking in this age group.

Acknowledgment

Thanks to Almighty Allah for giving me the opportunity & providing me with sufficient energy and patience to carry on this study. I would like to express my greatest

gratitude & whole hearted respect to Dr. AKM Mazharul Islam & Dr. Md. Mostafizur Rahman for their inspiring guidance, constant supervision, constructive criticism, valuable advice and encouragement in carry out this study. I would like to thank Deputy Director sir of 250 Beded Hospital, Patuakhali & my heartfelt thanks to all the respondents who helped us by providing their valuable opinion and unconditional time in this study. Finally and most importantly, to my family and friends, I appreciate their support and standing by my side always.

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Evaluation of Result of Idiopathic Club Foot/Feet within 1 year of Age by

Rahman M¹, Salim M², Anwar MK³, Khan MAF⁴, Alam MM⁵

Abstract

Clubfoot is the commonest congenital deformity in babies. Around 80% of the cases occur in developing nations. There are many options for treating club foot, Ponseti technique is one of them. This observational study was carried out at Chittagong Medical College Hospital, From July 2014 to December 2015 to evaluate the results of idiopathic club foot / feet within 1 year of age by Ponseti technique. Patients with idiopathic congenital club foot (CTEV) is attended at the outpatient department of CMCH. Among the 35 patients, 1 patients 2.85% required 1 plaster, 2 patients (5.74%) required 2 plaster, 3 patients (8.57%) required 4 plaster, 5 patients (4.28%) required 5 plaster, 16 patients (45.71%) required 6 plaster, 5 patients (14.28%) required 7 plaster cast and 3 patients (8.57%) required 8 plaster cast with or without percutaneous tenotomy. The final score after completion of the management (with or without tenotomy) were 0 of 39 feet (75%) which were normal and 0.5 of 10 feet (19.24%) and score 1 of only 3 feet (5.76%) which were better than moderately abnormal.

Keywords: Club Foot, Tenotomy, Ponseti technique.

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Introduction

There are many options for treating club foot, Ponseti technique is one of them¹. Idiopathic club foot is the most common congenital deformity of the foot. The incidence and prevalence of congenital talipes equinovarus (CTEV) deformity has yet to be determined in our country, but according to western literature it is about 1-2 in 1000 live birth. It may vary from country to country and even in the same country in different sex. The ratio of Male to Female sex is 3 to 1 and 40% of cases are bilateral¹.

The precise cause of idiopathic club foot is unknown, but club foot seems to be a developmental deformity that occurs during the second trimester of pregnancy. The genes responsible for club foot deformity are active starting from the 12th to 20th weeks of foetal life and lasting until three to five years of age. Club foot can be transmitted genetically. If one parent has a club foot, offspring have a 3% to 4% chance of being affected. When both parents club foot, each of their children has a 15% chance of being affected². Many cases are associated with Neuromuscular diseases, chromosomal abnormalities, Mendelian and Nonmendelian Syndromes and in rare cases with extrinsic causes³. In my study we are limiting ourselves to the study of idiopathic congenital club foot deformity, occurring in otherwise normal infants. The pathology, the functional anatomy of club foot, and the structural changes in its ligaments, tendons and muscles, must be well understood to arrive at a sound approach to early non-surgical treatment of this deformity⁴. The congenital club foot is a complex three-dimensional deformity having four components: Equinus, Varus, adductus & cavus⁵.

The goal of treatment is to reduce or eliminate these four deformities, so that patient has a functional, painfree, plantigrade foot, with good mobility and without calluses, does not need to wear modified shoes⁶. The deformity of the foot was known from the time of Hippocrates, the father modern Medicine. He identified the deformities, described its pathoanatomy and had practiced manipulation and strapping by some sorts of bandage. After Hipperates numerous studies have been done on CTEV⁷. Most orthopaedic Surgeon have agreed that the

initial treatment of club foot should be non operative⁸. The method is manipulation & application of a plaster cast at weekly intervals. Other methods of initial treatment are in Physiotherapy, Stretching & adhesive strapping, Denis Browne splints⁹.

Objectives

- To carry out the evaluation of the results of the treatment of congenital club foot by Ponseti technique.
- To improve the quality of life of affected idiopathic club foot, thereby to prevent the future handicapped life.

Materials and Methods

This observational study was carried out at Chittagong Medical College Hospital, From July 2014 to December 2015 to evaluate the results of idiopathic club foot / feet within 1 year of age by Ponseti technique. Patients with idiopathic congenital club foot (CTEV) are attended at the outpatient department of CMCH. Patients with Children under the age of 1 year. Only idiopathic congenital club foot and non rigid and rigid type of foot were included in this study. Patients beyond the age of 1 year with other congenital deformity (Registant rigid type), with skin disease and parents who were not willing to come under this study were excluded in this study. An elaborate history of selected patients age with emphasis of clinical examination, family history, treatment history and any co-existing diseases were ruled out. A data was collected in a sheet designed consisting of variable related to patients, treatment timing & deformity management. Data collection protocol included patient's information, history, clinical examination, management & follow up. The collected data was compiled, tabulated according to key variables. Analysis of different variable was done according to standard statistical method and calculations done by using scientific calculation.

The observational study was conducted in Orthopaedic Ward. 35 (thirty five) patients were selected for the study. 52 (Fifty two) feet were treated and followed up thoroughly.

The purpose of this study was to evaluate our experience and to see the results by Ponseti technique in the management of congenital club foot.

Results

Table I showed out of 35 cases 17 (seventeen) patients (48.57%) were within the age of 0-1 month, 14 (fourteen) patients (40%) were between the age of 1-6 months and 4 (four) patients were between the age of 6 to 12 months.

Table-I: Demographic characteristics of the study population.

Duration of age in months	Numbers	Percentage
0-1	17	48.57
1-6	14	40.0
6-12	4	11.43
Total	35	100

Figure 1 showed there are 23 patients (65.72%) were male and 12 patients (34.28%) were female.

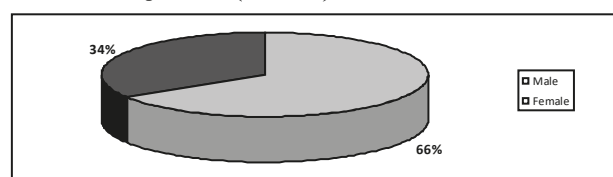


Figure-1: Sex distribution of the study population.

Table II shows ten (28.60%) patients had right sided involvement among the 06 were males and 04 were females. Eight (22.85%) patients had left sided involvement among the 04 were males and 04 were females. Seventeen (48.55%) patients had bilateral involvement among them 13 were males and 04 were females.

Table-II: Distribution of foot involvement.

Foot Involvement	Male	Female	Total
Right	06	04	10(28.60%)
Left	04	04	8(22.85%)
Bilateral	13	04	17(48.55%)
Total	23	12	12

Table III shows out of 52 feet, 22 (42.3%) feet had rigid variety and 30 (57.7%) had non rigid variety.

Table-III: Distribution of type of foot involvement.

Type of foot involvement	Number of Patients	Percentage
Rigid	22	42.3%
Non Rigid	30	57.7%
Total	52	100

Among the 35 patients, 1 patients 2.8% required 1 plaster, 2 patients (5.7%) required 2 plaster, 3 patients (8.6%) required 4 plaster, 5 patients 14.3%) required 5 plaster, 16 patients (45.7%) required 6 plaster, 5 patients (14.3%) required 7 plaster cast and 3 patients (8.6%) required 8 plaster cast with or without percutaneous tenotomy (table IV).

Table-IV: Number of Plaster required for correction of mid foot deformity.

Number of Plaster	Unilateral	Bilateral	Total N (%)
1	01	00	01 (2.8)
2	00	02	02 (5.7)
4	01	02	03 (8.6)
5	02	03	05 (14.3)
6	10	06	16 (45.7)
7	02	03	05 (14.3)
8	02	01	03 (8.6)
Total	18	17	35 (100)

The final score after completion of the management (with or without tenotomy) were 0 of 39 feet (75.0%) which were normal and 0.5 of 10 feet (19.24%) and score 1 of only 3 feet (5.76%) which were better than moderately abnormal (table V).

Table-V: Score wise final result

Score	Number of Patients	Percentage
00	39	75.0%
0.5	10	19.24%
01	03	5.76%
Total	52	100

Six (17.14%) patients had only plaster cast, 27(77.14%) had plaster with tenotomy and 02(5.72%) had PMR (table VI).

Table-VI: Type of treatment required.

Procedure	Rigid	Non Rigid	Total N (%)
Only plaster cast	02	04	6(17.14)
Plaster with tenotomy	14	13	27(77.14)
PMR	02		02(5.72)
Total	18	17	35 (100)

Discussion

Club foot deformity is the commonest congenital anomaly which has been treated in the past by several methods by several Orthopaedic surgeons with variable success. Several surgical options were also tried by several surgeons later, but the results have not proven to be superior and more complication have been reported after surgical intervention. I.V Ponseti has been the pioneer of the manipulation and casting technique and he has practiced and perfected his technique form over 50 years.

In present study observed that out of 35 cases 17 (seventeen) patients (48.57%) were within the age of 0-1 month, 14 (fourteen) patients (40%) were between the age of 1-6 months and 4 (four) patients were between the age of 6 to 12 months. There are 23 patients (65.72%) were male and 12 patients (34.28%) were female. In Rahman et al¹⁰ study, the age distribution of the patients was done. Among 30 cases, the highest numbers are in the age group of below 6 month which is 60%. The second highest numbers of cases (33.4%) are the age group between 6 months to 18 months. The lowest number of cases is the age group between 18 months to 24 months which is only 6.7%. Percentage of the child within the age group 0-6 month is significantly higher than the other age group¹¹. In Rahman et al.¹⁰ study, within 30 cases, the male patients were more frequent than female patients which are 21 (70%) and 9 (30%) respectively. Percentage of male patients was higher than female. In study of Pulak and Swamy¹² observed those total 40 children 80.0% males and 20.0% females.

In this study showed 10 (28.60%) patients had right sided involvement among the 06 were males and 04 were females. Eight (22.85%) patients had left sided involvement among the 04 were males and 04 were females. Seventeen (48.55%) patients had bilateral involvement among them 13 were males and 04 were females. Rahman et al¹⁰ study revealed in 30 clubfoot patients, bilateral involvement of foot was observed in 15 (50%) cases. The unilateral right foot involvement is 10 (33.3%) and left foot involvement is 5 (16.7%). In study of Pulak and Swamy¹² showed fourteen children had bilateral whereas 25 children had unilateral clubfoot.

In this study out of 52 feet, 22(42.3%) feet had rigid variety and 30(57.7%) had non rigid variety. Similar observation was found Rahman et al¹⁰ they showed among all deformed feet (45 in number) 40 (88.9%) feet of

26 patients had rigid variety and 5 (11.1%) feet of 4 patients had non-rigid variety. Percentage of rigid was higher than non rigid variety¹³.

In present study among the 35 patients, 1 patients 2.8% required 1 plaster, 2 patients (5.7%) required 2 plaster, 3 patients (8.6%) required 4 plaster, 5 patients 14.3%) required 5 plaster, 16 patients (45.7%) required 6 plaster, 5 patients (14.3%) required 7 plaster cast and 3 patients (8.6%) required 8 plaster cast with or without percutaneous tenotomy. In Rahman et al.¹⁰ study out of 45 feet 40(88.9%) feet of 26 patients was corrected by plaster with tenotomy and 5 (11.1%) feet of 4 patients by plaster only. Percentage of tenotomy was higher than in comparison to without tenotomy.

In present study observed that the final score after completion of the management (with or without tenotomy) were 0 of 39 feet (75.0%) which were normal and 0.5 of 10 feet (19.24%) and score 1 of only 3 feet (5.76%) which were better than moderately abnormal. Rahman et al¹⁰ out of forty five feet, after correction 36 feet (80%) had final Pirani score 0 which is normal, in 7 feet (15.6%) final Pirani score was 0.5 which is moderately abnormal, in 2 feet (4.4%) final Pirani score was 1 which is severely abnormal. Percentage of final score 0 was higher than in comparison to with final score 0.5 and 1. Pulak and Swamy¹² study observed tenotomy was required in 50 feet (94.3%) and most of these had Pirani scores of more than 5. Six (17.14%) patients had only plaster cast, 27 (77.14%) had plaster with tenotomy and 02 (5.72%) had PMR.

The difficult part of study was maintenance of bracing protocol. The parents reported the initial two or three days were the critical period, during which patients were restless and tries to remove the Dams brown splint. After that the patients were adjusted with splint. I agree with the most of the author that correction of foot also depend on the brace protocol. To ake it compplaits, parents should be taught about the advantage & disadvantage to gain the more success during maintaining phase of the ponseti technique. Another difficult part of the study was follow up. Correction of foot by serial cast with or without tenotomy is the part of total management. In my study, average follow-up period was 6 months. Whenever the correction was done, the parents used to think that the greater and difficult part of the treatment had completed. At this moment if they have some trouble to communicate such as leaving in a distant. Could not make time to visit hospital.

Conclusion

It is concluded that the treatment of congenital club foot (CTEV) by ponseti technique is very effective method with excellent result and negligible morbidity. The method is simple, effective, minimally invasive, inexpensive, ideally and can be performed at outpatient department. As the series was conducted with only 52 feet of patients 35 cases

followed up period was average 6 months, so further prospective study with larger sample and longer follow-up is recommended.

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Pterygium Excision with Autologous Blood Autograft Fixation:

Huda MMU¹, Khaleque SA²

Abstract

A prospective interventional self-control study to see the outcome of suture less and glue free limbal conjunctival autograft for the management of primary and recurrent pterygium was carried out using patient's own blood as a bio-adhesive to secure the graft in position, in the Department of Ophthalmology, 250 bedded General Hospital Jamalpur from 15.09.16 to 30.11.16 and followed up upto July 2017. A total of 48 cases (44 were primary nasal pterygium and 4 were recurrent pterygium) were included in the study. Regarding type of the pterygium, out of 48 patients 3(6.25%) were grade I, 21(43.75%) were grade II, 13(27.08%) were grade III and 11(22.92%) were grade IV. The mean age of the study population was 32±2 years. The male and female distribution was 18 and 30 respectively. All the eyes followed by bandaging for 24-48 hours and were examined for graft dislodgement, recession, edema sub-conjunctival hemorrhage. Out of 48 eyes only 1 (2.1%) had sub-conjunctival hemorrhage, 2 (4.2%) edema and 3 (6.3%) had graft recession after 24 to 48 hrs of operation. All the complications were resolved 1-2 month. There was no recurrence of pterygium. No recurrence, graft loss or granuloma was recorded. No other complication was noted. Suture less and glue free limbal conjunctival autografting following pterygium excision is an effective and safe option for the management of primary pterygium.

Keywords: Complications, pterygium, recurrence, suture free and glue free conjunctival autograft.

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Introduction

Pterygium is a degenerative ocular surface disorder with wing-shaped fibro-vascular growth of the

subconjunctival tissue onto the cornea. It is a common ocular surface disease, but also potentially blinding, so different surgical procedures have been used to prevent it. Recurrence after excision remains a great challenge. Our objective was also to lessen patient discomfort by autologous blood to secure the graft.

The pathogenesis of pterygia is still not completely understood. An overall view of the growth process reveals a multiplicity of factors that are correlated and interrelated¹. Recent evidence implicates anti-apoptotic mechanisms, immunological mechanisms, cytokines, growth factors, extracellular matrix modulators, genetic factors and viral infections, among other possible causative factors^{2,3}. The prevalence rates vary widely (from 2% to 29%)⁴, but generally they are higher in the tropics than at temperate latitudes^{5,6}. It is accepted that pterygium occurs in an equatorial belt delimited by Latitude 40N and S, associating it with ultra-violet light⁶⁻⁸. Prevalence increases geographically towards the equator and is greater in people exposed to outdoor environments⁹. In addition; there are associations with rural regions, increasing age and male gender, which correlate with outdoor work¹⁰.

Early pterygium is usually asymptomatic. Pterygium causes dryness, burning and itching due to irregular wetting of the cornea. Pterygium causes defective vision due to induced astigmatism or direct encroachment onto the visual axis. Lesions larger than 3.5mm onto the cornea are likely to be associated with >1 Diopter astigmatism¹¹. In early pterygium patients can be advised to use lubricants and protective eyewear.

Surgical Techniques

Recurrence is the most common complication of pterygium surgery. Several techniques have been advised to reduce the rate of recurrence. These include bare sclera excision, conjunctival and conjunctival limbal autograft and use of amniotic membrane¹². In addition several adjunctive therapies included the use of Beta irradiation, thiotepa, 5-FU, and mitomycin C has been recommended due to their antifibrotic and anti angiogenic properties. High recurrence rates are weighted against eye threatening postoperative complications. Amniotic membrane transplantation is used for advanced cases with bilateral heads or those who might need glaucoma surgery later¹³.

Kenyon et al introduced the surgical technique of using Conjunctival autograft in the management of primary and recurrent pterygium. Suturing the Conjunctival autograft is a standard surgery. In this method the grafts are stable and recurrence rate is around 15%. Pterygium Extended Removal Followed by Extended Conjunctival Transplant (P.E.R.F.E.C.T) is described by Dr. Hirst¹⁵. He reported only one recurrence in a series of 1000 cases. Suture related problems like post-operative discomfort, chronic inflammation and granuloma formation and long surgical time around 20 to 40 minutes are disadvantages of suturing the auto conjunctival grafts¹⁶.

The use of fibrin glue during pterygium surgery was first described by Cohen et al in 1993¹⁷. This is faster and simpler. Post-operative pain and discomfort are less^{18,19}. Disadvantages with fibrin glue are it is expensive than sutures and is difficult to obtain. Fibrin glue has potential risk of transmission of viral disease and hypersensitivity reactions as it is a blood derivative²⁰. This glue has two components. One consists of fibrinogen mixed with factor XIII and aprotinin. The other component is a thrombin-CaCl₂ solution. All components are prepared from banked and well controlled human blood. Equal amounts of the components are mixed together. Through the action of thrombin, the fibrinopeptides are split to fibrin monomers. These monomers aggregate by cross linking, resulting in a fibrin clot.

The latest approach is fixation of the graft with autologous blood, a technique also known as suture and glue free autologous graft¹⁶. Patients own blood is used as a bio-adhesive or fixative²². Autologous blood is natural, has no extra cost, no associated risk and can overcome post-operative irritation, redness, and foreign body sensation. Surgical time is very less when compared to suturing technique^{21,22}. "Autologous blood is natural, has no extra cost or associated risks, and can overcome the postoperative irritations to a great extent," said Dr. Mitra, who is a consultant at Disha Eye Hospitals in Kolkata, India.

With this approach, after the pterygium and associated conjunctiva are excised, the surgeon allows a thin film of blood clot to form over the bare area. Any active bleeding is stopped by direct tamponade. Next, a thin, Tenon-free conjunctival autograft, with or without inclusion of limbal stem cells, is fashioned. After the graft is aligned, it is placed over the blood film in the bare area, and the edges are held with forceps, usually for three to five minutes, to give adequate time for graft fixation to occur.

Materials and Methods

Type of study was prospective study. The present study was conducted in Department of Ophthalmology, 250 bedded General Hospital Jamalpur. 48 patients of nasal pterygium were included in the group [44 were primary nasal pterygium and 4 were Recurrent pterygium]. All the

patients underwent pterygium excision with suture and glue free autologous graft. Subjects included in the study were from 24 to 70 years of age having pterygium (primary and recurrent) involving any eye. Necessary approval from Institute was obtained beforehand. Written informed consent was taken from each patient. Preoperative ocular examination included refraction and assessment of best-corrected visual acuity, slit lamp biomicroscopy, fundus examination, and photographic documentation of the pterygium. Surgeries were done from 15.09.16 to 30.11.16 and followed up upto July 2017. Wherever Grading of the pterygium was done as

Grade I-ptyergium head up to the limbus

Grade II-head between the limbus and a point midway between limbus and pupillary margin

Grade III-head between a point midway between limbus and pupillary margin and pupillary margin

Grade IV-crossing pupillary margin.

Inclusion criteria were primary nasal pterygium and recurrent pterygium.

Exclusion criteria were temporal pterygium, patients taking oral nonsteroidal anti-inflammatory drug (NSAID) and anticoagulant, active infection or inflammation, symblepharon, past ocular surgery within last 6 months, trauma, systemic diseases such as diabetes mellitus, collagen vascular disease, pregnancy bleeding disorders.

Indications of Surgery

- Pterygium causing foreign body sensation
- Defective vision
- 3 to 4 mm encroachment on the cornea
- Cosmetic intolerance
- Diplopia due to interference with ocular movements

Surgical Technique

All surgical procedures were done under peribulbar anesthesia. All the surgeries were done under a microscope by the same single surgeon using the same technique. Taking all aseptic precautionary, eyelid was then separated by a speculum, and sub-conjunctival and subpterygial 0.5 ml lignocaine solution (xylocaine 2%) was injected. Gentle massage over the lesion was applied by cotton-tipped applicator for few seconds. The neck of the pterygium was then lifted up with the help of fine-toothed forceps, while the head of the pterygium was gently avulsed from the cornea by placing closed tips of a curved corneal scissors or Iris repository underneath the neck of the pterygium mass, keeping the same constant tractional force throughout. Gentle dissection was then carried out in-between the conjunctiva and the sclera with the help of crescent knife, to resect at least 4-5 mm the pterygium mass that included both the superior and inferior border. Neither cautery nor saline irrigation was

used throughout the surgery, except active bleeding, with bi-polar cautery whenever required to check excess hemorrhage. The size of the bare sclera defect was then measured with Castroviejo calipers. Corneal care was taken by applying wet cotton throughout the procedure. Now, approximately 0.5 ml xylocaine 2% was used to balloon up aconjunctival flap. Corneal scissor was used to make a fine film of 0.5 mm oversized, free conjunctival graft, carefully avoiding inclusion of tenon, or making buttonhole within it. The graft was then laid over the bare sclera ensuring same limbus to limbus orientation. We waited for 5 to 10 min for hemostasis to occur. In cases, where the surgeon appreciated the lack of adequate amount of blood at the recipient site, episcleral blood vessel was intentionally punctured to create bleeding. The eye was then patched for 24 h to 48 h with Chloramphenicol ointment. The eye was assessed for symptom, graft adherence, or any complication(s) under slit lamp. Postoperatively, patient was put on topical antibiotic and steroid combination for first 2 weeks thereafter tapered over next 4. Thereafter, an attempted follow-up of cumulative 6 months (at postoperative day 1, 7, 15, 30, 120, and 180) was done to every patient. At each postoperative visit, thorough slit lamp examination, tonometry was done, and any recurrence, complication(s), or any complaints were recorded. The primary outcome measure was the recurrence and the secondary measures were complication(s) and surgical time.

We defined

(1) "recurrence" as the reappearance of fibrovascular growth at the site of previous pterygium excision extending beyond the limbus onto the clear cornea.

(2) "Complication" as any adverse event related to

- (a) the surgery in the intra- and post-operative period,
- (b) the graft itself, or
- (c) the drugs prescribed.

Results

A total of 48 cases were included in the study. The mean age of the study population was 32 ± 2 years. The male and female distribution was 18 and 30 respectively. The detail profile of the study population is shown in table-I.

Table-I: Age and sex distribution of patients

Age Groups (Years)	Total=48 No. of pt.	Male=18 No. of pt.	Female=30 No. of pt.
21-30	7	2	5
31-40	14	6	8
41-50	18	5	13
51-60	8	4	4
61-70	1	1	0

All the patients were examined after 24-48hrs following operation for graft dislodgement, recession, edema sub-conjunctival hemorrhage. Out of 48 eyes only 1 (2.1%) had sub-conjunctival hemorrhage, 2 (4.2%) edema and 3 (6.3%) had graft recession after 24 to 48 hrs of operation (table-II).

All the complications were resolved 1-2 month and 6-8 month follow up follow up. There was no recurrence of pterygium (table-II).

Table -II: Post-operative complications

Follow up	Hge %	Retraction %	Oedema %	Recurrence %	Graft Loss %	granuloma %
1-2 days	2.1	4.2	6.3	0	0	0
1-2 months	0	0	0	0	0	0
6-8 months	0	0	0	0	0	0

No recurrence, graft loss or granuloma was recorded. The mean operation time was 15 ± 1 minutes. Regarding type of the pterygium, out of 48 patients 3(6.25%) were grade I, 21(43.75%) were grade II, 13(27.08%) were grade III and 11(22.92%) were grade IV (table-III).

Table-III: Grade of the pterygium

Grade	No. of patient	% of patient
I	3	6.25
II	21	43.75
III	13	27.08
IV	11	22.92
Total	48	100

Discussion

Pterygium surgery should ideally have a low or no recurrence, minimal complications and be cosmetically acceptable. Conjunctiva auto graft using sutures was a standard procedure. The grafts were stable with acceptable cosmetic results. Suture related problems like post-operative inflammation, granuloma formation, pain, foreign body sensation were present. The presence of sutures may lead to prolonged healing and fibrosis. Subsequent complications such as symblepheron formation, forniceal contracture, ocular motility restriction, diplopia, scleral necrosis and infection are much more difficult to manage and may be sight threatening²³.

Fibrin glue usage is faster and simpler with less post-operative complications. Fibrin glue is expensive and difficult to obtain. Foreign materials or Plasma derived products such as fibrin glue may produce possible hypersensitivity reactions or anaphylaxis in susceptible individuals and transmission of viral diseases²⁰.

Recent introduction of auto graft technique using patient's own blood as bioadhesive substance on the excised bed of the pterygium has gained popularity. The technique has eliminated several disadvantages encountered with earlier methods. It has minimized the surgical time, trauma to the conjunctiva, cost of surgery and recurrence rate. In our series, the operation time was only 14 to 16 minutes and there was no single case of pterygium recurrence after 3 months of surgery though we had 2 cases of graft recession. One case which was operated in our hospital is shown in the figures. Fig-1(a) is the preoperative picture where the patient is having advance nasal Pterygium. Fig-1(b) shows mild congestion but no graft retraction in 1st POD. Fig-1(c) shows good result with no congestion or oedema or graft lost in 10th POD.



Fig-1(a): Pre-operative.

Fig-1(b): 1st POD.Fig-1(c): 10th POD.

The technique is cost effective and easy to perform with less discomfort to patient. There was no other complication observed in our cases.

The result was comparable to other studies with similar techniques²⁴. Sutureless and glue free conjunctival auto graft using blood clot as a bioadhesive is a useful alternative method for graft fixation in pterygium surgery. We found the new procedure of auto grafting free of any untoward complications.

Suture and glue free autologous graft has no extra cost or associated risks and can overcome the post-operative irritation, pain and foreign body sensation to a great extent. The procedure was cosmetically better. The opposition of the lids to the bulbar conjunctiva provides a natural biological dressing and confers a unique wound healing environment²⁰. The main disadvantage of this method is the risk of graft getting lost in the immediate post-operative period. Graft loss is usually seen in first 24 to 48 hours. These complications were associated with larger grafts. This could be due to inadequate excision of the pterygium tissue or leaving too much tenons tissue on the graft¹⁸. Meticulous dissection of the sub-epithelial graft tissue is respected²⁰. This study was performed in a district hospital with huge turnover of cases. Exact learning and easy reproducibility with far greater results is the advantage of this procedure.

Conclusion

Pterygium excision and conjunctival auto graft with autologous blood is a viable and better surgical option for management of primary as well as recurrent pterygium. The feasibility of adherence of graft without glue and sutures is promising. The potential risks associated with the use of fibrin glue and suture related problems can be avoided in this technique. This procedure has excellent outcome. It is cost effective, time saving, easy to perform and safe for the patients with good cosmetic output.

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Two Case reports on Sickle Cell Disease: Presented with Pallor and recurrent Attacks of Bones and Joints Pain

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Abstract

Sickle cell disease is a hereditary hemolytic anaemia due to abnormal haemoglobin. Sickling of RBCs occurs due to abnormal hemoglobin which leads to vaso-occlusive crisis. The highest frequency of sickle cell disease is found in tropical regions, particularly in Sub-Saharan Africa, tribal regions of India and in Middle-East. Though sickle cell disease is not common in our country, recently we have two cases of sickle cell disease presented with fatigue and pallor with bones and joints pains. These cases were diagnosed by electrophoresis of hemoglobin, peripheral smear, Sickling test and relevant investigations. The most significant advance in the therapy of sickle cell anaemia is the introduction of Hydroxyurea to prevent acute chest syndrome, number of pain crisis, repeated transfusions and number of trips to hospital. Hydroxyurea is considered in first case (case no. 1) as he has frequent episodes of acute attack and recover well after blood transfusion. Case no.2 also a good candidate for Hydroxyurea but not given as his acute attack is less frequent and in close contact for further observation and evaluation.

Keywords: Hereditary hemolytic anaemia, acute chest syndrome, nephrotic syndrome, sickle cells.

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Introduction

Sickle cell disease results from a single glutamic acid to valine substitution at position 6 of the beta globin polypeptide chain. Sickling was first discovered by Linus Pauling and colleagues in 1949¹. It is inherited as an autosomal recessive trait². The disease mainly occurs in Africans (25% carry the gene). But is also found in India, the Middle East, and Southern Europe^{3,4}. When haemoglobin S is deoxygenated, the molecules of hemoglobin polymerise to form pseudocrystalline structures known as 'tactoids'. These distort the red cell membrane and produce characteristic sickle shaped cells. The polymerization is reversible when re-oxygenation occurs. The distortion of the red cell membrane, however, may become permanent and the red cell 'irreversibly sickled'. This process may be enhanced or retarded by the presence of other hemoglobins. Thus, the abnormal hemoglobin C variant participates in the polymerization more readily than haemoglobin A, whereas haemoglobin F strongly inhibits polymerisation. These abnormalities provoke unpredictable episodes of microvascular vaso-occlusion and premature RBC destruction (hemolytic anaemia)^{5,6}. Hemolysis occurs because the spleen destroys the abnormal RBC. The rigid adherent cells also clog small capillaries and venules, causing tissue ischaemia, acute pain, and gradual end-organ damage⁷.

This veno-occlusive component usually dominates the clinical course. Prominent manifestations include episodes of ischaemic pain, infarction in the spleen, central nervous system, bones, liver, kidneys and lungs⁸. Most patients with sickle cell syndromes suffer from hemolytic anaemia with hematocrit from 15-30% and significant reticulocytosis. Usually nephrotic syndrome and acute chest syndrome are seen as complications. Acute chest syndrome characterized by fever, chest pain, wheezing, cough, hypoxia and lung infiltrates. lung infiltrates is a lethal complication that affects half of all the patients with

sickle cell anaemia⁹. Repeated acute chest syndrome episodes may also predispose to scarring and pulmonary hypertension¹⁰. It is unclear that the patients with sickle cell disease are more prone to nephrotic syndrome, but the histological picture of membranoproliferative glomerulonephritis accounts for over one half of adult cases¹¹. Patients with sickle cell anaemia adapt well to their low hemoglobin levels and regular blood transfusion is not required¹².

Case report 1:

A 18 years old male with acute onset of pain in bones and joints for last 6 days and recurrent attacks of pallor, weakness and fatigue for last 10 years. On physical examination temperature -101⁰ F, pulse rate - 120 beats/min, respiratory rate - 32 cycles/min, blood pressure - 120/82 mm Hg, pallor present and mild oedema present, Cardiovascular system - normal heart sounds, no murmur, Respiratory system - bilateral crepitations, abdomen - hepatosplenomegaly present. Investigations shows Hb - 5.88 gm %, RBS - 110 mg %, blood urea - 25 mg %, Serum creatinine - 1.2 mg %, 24 hours urinary protein - 1.1 gm %. ECG - sinus tachycardia, Chest X-ray PA view-bilateral infiltrates. Complete hemogram shows moderate microcytic hypochromic anaemia with sickle cells, poikilocytes, target cells, fragmented RBC and no haemoparasites.

Sickling test of case no. 1 done in department of Haematology & BMT Dhaka Medical College Hospital (Fig - 1 & 2):

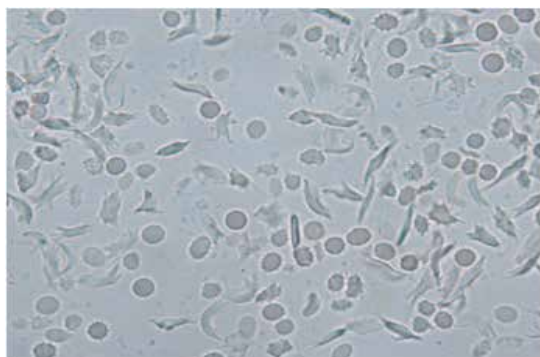


Fig - 1: Sickling test.

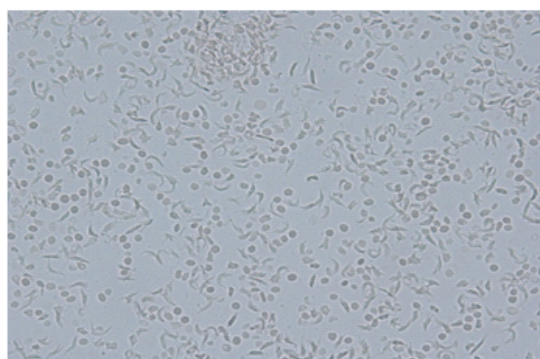


Fig - 2: Sickling test.

Haemoglobin electrophoresis case no. 1 done in department of Haematology & BMT Dhaka Medical College Hospital (Fig - 3): Hb A -28.7%, Hb A2-4.0%, Hb F-19%, Hb S-48.3% on automated Capillarys 2 flex piercing system and Hb A-1.2%, Hb A2-3.4%, Hb F-28.1% HbS/D/ Unknown-67.3% on Hydragel system.

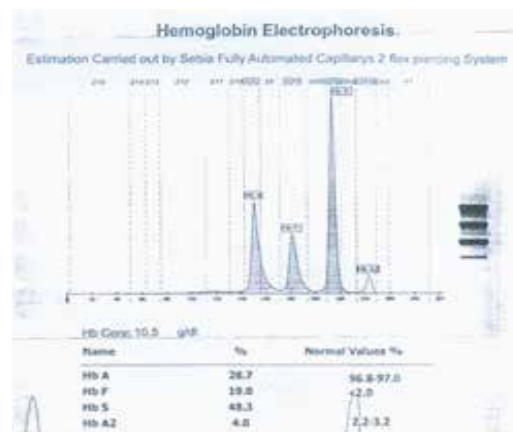


Fig - 3: Haemoglobin electrophoresis.

With the above hemoglobin electrophoresis and haemogram reports, this case is diagnosed as sickle cell disease with hemolytic anaemia and Hand-foot syndrome. This patient treated with diuretics, antibiotics, blood transfusion, analgesics and oxygen inhalation. Patient recovered very quickly and discharged with advice.

Case report 2

A 6 years old boy with recurrent attacks of Pain in bones and joints for last 5 months and Pallor & fatigue for last one year. On examination Temperature 100°F, Heart rate 120/min, Respiratory rate 30/min, BP 110/70 mm Hg, Pallor and mild edema present. Lungs clear, Cardiovascular system -heart sound normal with no murmur, Abdomen-Hepatosplenomegaly present. Investigations shows Hb-6.5%, RBS 105 mg %, Urea 20 mg %, S creatinine 1.1 mg %, Chest X-ray - normal, ECG- sinus tachycardia, USG abdomen- Hepatosplenomegaly, Complete haemogram shows microcytic hypochromic anaemia, anisopoikilocytosis, target cells, with features of haemolysis.

Sickling test of case no. 2 done in department of Haematology & BMT Dhaka Medical College Hospital (Fig - 4 & 5):

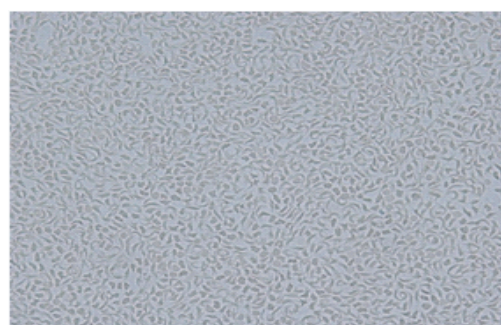


Fig - 4: Sickling test.



Fig - 5: Sickling test.

Haemoglobin electrophoresis case no. 2 done in department of Haematology & BMT Dhaka Medical College Hospital (Fig - 6): HbA2-4.7%, HbF-23.9%, HbS-71.4% on fully automated Capillarys 2flex piercing system.

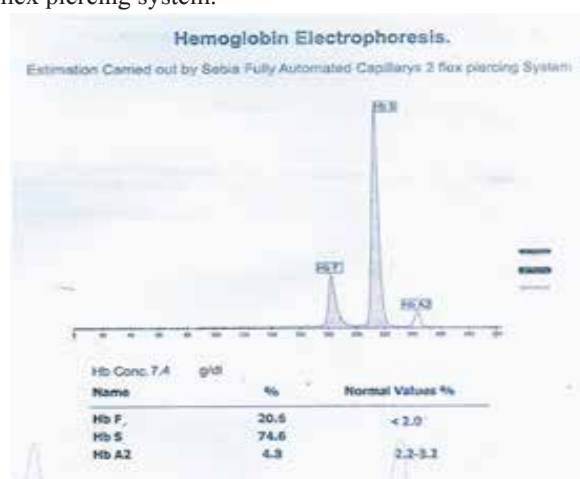


Fig - 6: Haemoglobin electrophoresis.

With above Haemoglobin electrophoresis and haemogram report this case was diagnosed as a case of Sickle cell disease with vaso-conclusive crisis. This patient was treated with oxygen inhalation, IV fluid, blood transfusion, antibiotics, analgesics. With this treatment patient recovered well and discharged.

Discussion

Sickle cell disease is characterized by the pathophysiological feature of chronic haemolytic anaemia, vaso-occlusion resulting in ischemic tissue injury and painful episodes¹³. Vaso-occlusion may result from exercise, stress, dehydration, cold exposure, high altitude, smoking and infections^{14,15}. Among the infections Parvovirus B19 infection is common and may lead to aplastic crisis^{16,17}. The organs of great risk are the spleen, kidney and bone marrow where oxygen tension is low and blood flow is diminished. Sickle cell disease usually presents as vaso-occlusive crisis, acute chest syndrome, hemolytic anaemia, chronic leg ulcer, stroke and nephrotic syndrome¹⁸.

These two patients presented with anaemia and vaso-occlusive crisis. The definitive diagnosis requires hemoglobin electrophoresis to demonstrate the absence of HbA, 2-20% of HbF and the presence of HbS¹⁹. In these cases hemoglobin electrophoresis shows the presence of HbF (19% and 23.9%) and Hb S (48.3% and 71.4%). The peripheral blood smear is characteristically abnormal with irreversibly sickled cells comprising 5-50% of red cells²⁰. Peripheral blood smear from this patient shows sickle cells. Sickle cell patients have a known predisposition to bacterial infection, particularly pneumococcal infection²¹⁻²³. Parvovirus B19 infection in these cases are not evaluated as investigations facilities such as antibody of parvovirus identification or PCR are not available in our hospital and local setup. These patients treated with blood transfusion, antibiotics, analgesics, folic acid, diuretics and oxygen inhalation. Both patients were treated conservatively and response was well. The most significant advance in the therapy of sickle cell anaemia has been the introduction of Hydroxyurea. And Hydroxyurea is given to case no.1 as he is suffering for long time with recurrent attack of Pallor requiring blood transfusion and hospitalization. But hydroxyurea is not given in Case no 2 as his response to treatment was well and have less frequent attacks and are in close observation for follow up²⁴. Hydroxyurea was not given to case 2 as detailed clinical data of previous attacks are lacking from first episode and growth and development of parameter are well. With the above treatment patient recovered well, discharged and review after ten days in the OPD revealed that the patient was healthy. Hence even in vaso-occlusive disorder of sickle cell disease patient's recovery is good with early diagnosis and effective treatment²⁵. Recent advancement in sickle cell disease treatment include anti adhesion therapy, monoclonal antibody and autologous stem cell base therapy, which can be use for treatment of disease or its complications^{26,27}.

Conclusion

SCD is a chronic debilitating disease characterized by recurrent episodes of ischemia - reperfusion injury and is the most common cause of overt stroke in children. Sickle cell infarcts (SCI) occur in approximately one-quarter of children with SCD prior to their 6th birthday and approximately one-third prior to their 14th birthday. The lifetime risk of stroke in a patient with SCD lies between 25% and 30%, with 75% being arterial ischemic strokes while 24% of patients with SCD have suffered at least one episode of stroke by the age of 45. Silent or subtle strokes are common and may occur in up to 50% of patients with SCD. Here case no-1 celebrate his 18th birthday and case no-2 celebrate his 6th birthday without any cerebrovascular events. This make us hopeful for better outcome of these cases.

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এন্ডোস্কোপি আপনি যতটা
কষ্টকর মনে করেন
আসলে তা ততটা
কষ্টকর নয়

থেরাপিউটিক এন্ডোস্কোপি অপারেশনের বিকল্প

বিনা কষ্টে কোন রকম কাটা ছেঁড়া ছাড়াই
এন্ডোস্কোপির মাধ্যমে খাদ্য নালির রক্তক্ষরণ,
খাদ্যনালি থেকে ফরেন বডি (যেমন- পয়সা,
কৃত্রিম দাঁত, হাড় ইত্যাদি) বের করা কিংবা স্টেন্ট
বসানোর মতো জটিল অপারেশনের বিকল্প চিকিৎসা করা যায়



ইআরসিপি'র মাধ্যমে অপারেশন ছাড়াই পিত্তনালীর পাথর অপসারণ,
কৃমি বের করা ও ক্যান্সারে টিউব (Stent) বসাতে নির্ভরযোগ্য প্রতিষ্ঠান



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