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Editorial**"Coronavirus (2019-nCoV) Infection" A New Challenge**

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In the beginning of this year that is in January, 2020 a newly emerging Corona virus infection was detected in China. It was stated that the spread of corona virus started from a seafood market of Wuhan city of Hubei province & rapidly infected general people in that city. Later spread occurred in other cities of China and the authority has sealed off 14 cities of Hubei province which are in the heart of the outbreak.

Subsequently it also affected some other countries creating a public health threat of serious form. As of 28-01-2020, according to WHO & other national authorities of other countries statement in Thailand (8), Lisa (5), Australia (5), Singapore, Taiwan, Malaysia, South Korea (4 each), France, Japan (3 Each), Vietnam (2) and Nepal (1) confirmed cases of Coronavirus infection declared¹. Till 09 february'2020 about 25 countries were found to have located confirmed cases and in China, the situation was 803 deaths and 34800 confirmed cases². There were many more suspected cases and many have been discharged from hospital after recovery. Though initially it was confined to Hubei province but currently almost all cities of China are affected due to rapid spread. China has taken measures to control the situation like restrictions of movements, building two new hospitals on urgent basis for treatment of corona virus infected people. BBC reports that according to China health authority, the abilities of virus spread is getting stronger & the number of infection rising rapidly.

WHO declared "**Global Emergency**" on 30th January, 2020 after an emergency meeting in its head quarter in Geneva. WHO Chief Mr. Tedros Adanm Gabri-sues told that beside the situation in China, more important is what is happening in other countries particularly countries with weaker health system where the virus can spread very rapidly³.

Coronaviruses (CoV) are a large group of viruses & commonly found in birds and animals such as cattle, camels, cats, bats. Occasionally may be transmitted to human & then human to human transmission occurs. Among many strains of virus, 7 strains are found to be involved in human transmission.

Currently **Novel (new) Coronavirus named "2019-nCoV"** is in the outbreak that is detected first in Wuhan city. 2019-nCoV is a betacoronavirus, like MERs and SARs, all of which have their origins in bats⁴.

Common signs of infection are flu like including respiratory symptoms, cough, fever, running nose, breathing difficulties etc. In more severe cases it may cause Pneumonia, kidney failure & even death. Severe form usually occurs in older persons, COPD patients, immuno-compromised persons and children of certain age group.

At present there is no vaccine available & no specific treatment is possible. Even present antiviral drugs are not working on this Corona virus. Only symptomatic treatment can be given.

The virus commonly transmitted person to person by droplet infection through air during coughing, sneezing, talking. Also spread occurs due to close personal contact like handshaking or touching or using objects utensils already contaminated. The virus enters into the body by respiratory route, mouth, nose, eyes etc.

Therefore, prevention is the best method to reduce the risk of Corona virus infection through following measures.

- Regular hand washing, use of mask in public places.
- Covering mouth & nose when coughing & sneezing.
- Avoiding close contact of people who are sick.
- Avoid unprotected contact with live wild or farm animals.

As the numbers of incidence is increasing the countries and health agencies are also becoming more concerned. Movements of people to and from China have been restricted and put under surveillance by many countries including Bangladesh. But it seems to be partially effective as opined by Harvard scientists.

Chief of health emergency of WHO, Mr. Michael Ryan urged that whole world should remain alert and ready to face any emergency situation related to corona virus infection. It is expected that this outbreak should be controlled before it becomes a serious global threat by joint efforts of all countries and relevant sectors as soon as possible.

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Original Article**“Non-adherence to prescribed medications”**

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Abstract

Objective: The aim of the present study was to evaluate the percentage of non-adherence patients to prescribed medications.

Methods: An observational, cross sectional study was conducted from January 2019 to April 2019 among patients attending at different Outpatient Department (such as Medicine OPD, Endocrinology OPD, Cardiac OPD etc) of the Dhaka Medical college Hospital, after obtaining requisite consent from the patients. Once the consultation by the physician was over, the patients were interviewed. Medication adherence was assessed through the specific four questions patient questionnaire, the modified morisky instrument that has high reliability and validity and the patient was considered to be highly adherent if he or she answered in the negative to all four questions (score-0).

Results: In a pool of 101 patients, more than half were male (n=65, 64.40%). Most of the patients belonged to the middle age group 41-60 years (54.45%). 17.82% patients were considered highly adherent, 24.75% patients were considered moderately adherent and 57.42% patients were considered poorly adherent to the prescribed drugs.

Conclusion: The participants in the area of study were low adherent to their prescribed medications. Measures should be taken to improve patient's adherence to the prescribed treatment.

Keywords: Adherence, prescribed drugs.

Received: 01.05.2019

Accepted: 18.05.2019

Introduction

Adherence with medication usage is defined as the proportion of prescribed doses of medication actually taken by a patient over a specified period of time. Compliance a synonymous term which was commonly used in the past implies a passive role and simply following the demands of a prescriber and non compliance has been regarded as associated with deviant or irrational behavior. According to the WHO, non adherence to medical regimen consist a major clinical problem in the management of patients with chronic illness. Rates of non adherence with any medication treatment may vary from 15% to 93%, with an average estimated rate of 50%¹. Nonadherence to medical plans affects every level of the population, but particularly older adults due to the high number of coexisting diseases they are affected by and the consequent polypharmacy.

Nonadherence is related not only to individual's behavioral factors, but also to the disease itself, complexity and duration of the treatment, possible adverse drug reactions, cost of treatment, and social factors². When people fail to take their medicines as prescribed, it does not just place a burden on the healthcare system; without getting the full benefit from their medicines, patients' quality-of-life suffers and the risk of morbidity and mortality increases³. This study sought to determine the prevalence of medication noncompliance among patients with chronic diseases in Dhaka City. This study undoubtedly benefits the physicians for successful management of chronic disease in the future.

Materials and Method

An observational, cross sectional study was conducted from January 2019 to April 2019 among patients attending at different Outpatient Department (such as Medicine OPD, Endocrinology OPD, Cardiac OPD) of Dhaka Medical College Hospital after obtaining requisite consent from the patients. Total 101 patients were studied during the study period. The interviews were held directly in the corridor just outside the medical Outpatient Department. Prescriptions slips were taken from the patients after taking the written consent and the relevant information was entered into the pre-designed proforma to observe the percentage of non-adherence patients to prescribed medications and their clinical conditions. Medication adherence was assessed through the specific four questions patient questionnaire, the modified morisky instrument that has high reliability and validity and the patient was considered to be high adherent if he or she answered in the negative to all four questions. The patient was considered to be medium adherent if he or she answered in the positive to one or two questions. The patient was considered to be low adherent if he or she answered in the positive to three or four questions. The study was approved by the institutional ethical committee. Non-Random purposive sampling was employed for collecting data. All filled questionnaires were entered into the computer for subsequent analysis using SPSS method version 20.1.

Results

The age structures of the patients have been categorized in years into three groups. Overall 21 (20.79%) patients were in ≤ 40 years old while 55 (54.45%) patients were 41-60 years old, 25 (24.75%) patients belong to > 60 years age group. Most of the patients belonged to the middle age group 41-60 years (Table 1). Total numbers of patients both male and female were 101. It comprised of 65 (64.40%) male and 36 (35.50%) female. Male patients were more than the female patients at the outpatient department (Figure 1). Among 101 cases, when the patients were asked about whether they ever forget to take their medicines, 83 patients (82.17%) answered "yes" and 18 (17.82%) answered "no". When asked about whether the patients were not careful in taking their medicines 25 patients (24.75%) answered "yes" and 76 patients (75.24%) answered "no". When they felt better whether they stop taking their medicines, 58 patients (57.45%) answered "yes" and 43 (42.57%) answered "no" and when they felt worse while taking medication whether they stop taking them, 68 patients (67.3%) answered "yes" and 33 (32.7%) answered "no" (Table 2). Out of 101 patients, 18 (17.82%) patients answered no to every question and were considered high adherent (score 0). 25 (24.75%) patients answered yes to one or two questions and were considered medium adherent (score 1-2). Total 58 (57.42%) patients answered yes to three or four questions and were considered low adherent (score 3-4) (Table 3). Forgetfulness (54.21%), Carelessness (18.07%), Financial problem (48.19%), Meal irregular (7.22%), and hypoglycemia (6.02%) were considered as major reasons for non adherence to medication. Forgetfulness was the central reason for not taking their medications (Table 4).

Table I: Age distribution of the study population (n=101)

Age group (years)	Frequency (n)	Percentage (%)
≤ 40 years	21	20.79
41-60 years	55	54.45
> 60 years	25	24.75
Total	101	100

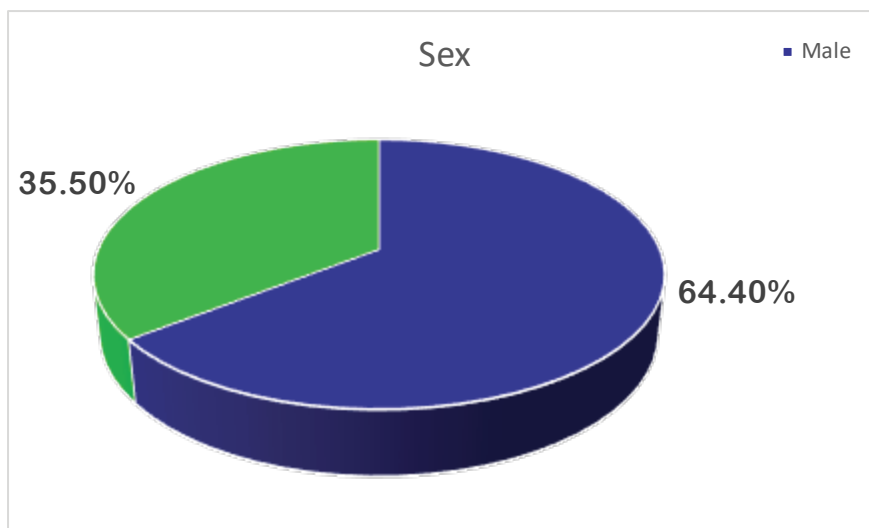


Figure 1: Pie chart showing percentage of sex distribution of patient

Table II: Summary of the patient’s response to the modified morisky adherence Predictor scale.

Patients response	Frequency of yes (n)	Percentage (%)	Frequency of no (n)	Percentage (%)
Do you ever forget to take your medicine?	83	82.17	18	17.82
Do you sometime not being careful in taking your medicine?	25	24.75	76	75.24
If you feel better, do you sometimes stop taking your medicine?	58	57.45	43	42.57
Sometimes if you feel worse when you take your medication, do you stop taking them?	68	67.3	33	32.67

Table III: Distribution of patients according to pattern of medication adherence to prescribed medication. (n=101)

Adherence pattern (score)	Frequency (n)	Frequency (%)
High adherence (0)	18	17.82
Medium adherence (1-2)	25	24.75
Low adherence (3-4)	58	57.42
Total	101	100

Table IV: Reasons for non-adherence to prescribed drugs in non-compliant patients (n=83).

Reasons	Frequency (n)	Frequency (%)
Carelessness	15	18.07
Forgetfulness	45	54.21
Financial problem	40	48.19
Meal irregular	6	7.22
Hypoglycemia	5	6.02

Discussion

All together a total of 101 prescriptions were collected during the study period. This study also found a higher prevalence of chronic disease was among middle aged patients, with a high percentage (54.45%) in the age group of 41-60 years. This result correlates with the study of sajith et al ⁴. In our study the 4 item modified morisky adherence predictor scale is used to assess medication adherence to prescribed medication. The assessment of the patient's response to the four item modified morisky adherence predictor scale showed that 17.82% of the patients had good adherence with prescribed medications, whereas 24.75% had medium adherence and 57.42% had low adherence. Similar results were obtained in the study conducted by Sharma et al. ⁵ study. In their study they stated that 16.66% patients are adherent to prescribed medications. 54.21% patients used to miss prescribed drugs due to forgetfulness. The result is consistent with the finding from the Shrestha et al. ⁶ study which had reported that, forgetfulness (42.9%) as the central reason for not taking their medications. Moreover, the present study showed that 48.19% of the patients had not adequate cost of medications in relation to the income. High cost of newer agents hindered optimal adherence to the treatment, so one should ensure that cost effective as well as beneficial agents are prescribed to the patients.

Our results are not in agreement with the Heissam, Abuamer, and Dahshan, who reported that about 68.62% of the patients had not adequate cost of medications in relation to the income ⁷.

Conclusion

It is concluded that the participants in the area of study were low adherent to their prescribed medications. Measures should be taken to improve patient's adherence to the prescribed treatment for better management of chronic disease. Various factors of medication non adherence were identified and evaluated. Therefore, we recommend interventions that will address these factors of non adherence in order to improve adherence the more. Some of such interventions include simplifying drug regimen with decreasing the number of drug taken, encouraging patients to follow up regularly. So continuous patient education and awareness program are required.

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Original Article**Pattern of Homicidal Death Among The Post- Mortem Case In The Southern Part of Dhaka City*** **Islam MS¹, Hoque KA², Anam AMA³, Ahmed NU⁴, Debnath J⁵, Basak AK⁶**

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* For Correspondence

Abstract**Objective:** To determine the modes ,motives , methods of homicides in the southern part of Dhaka city.

Methods and Materials: - This was a prevalence study. A total number of 436 post- mortem cases were done during the period of July - 2010 to June - 2011 in Sir Salimullah Medical College, Mitford ,Dhaka, of which 220 post- mortem cases were homicidal-death. All the inquest reports and the chalan were read through along with those post-mortem reports during the study period . The data were collected during the autopsy as well as from the registration books(Govt. records.) in the Department of Forensic- Medicine, Sir Salimullah Medical College, Mitford, Dhaka.

Place and period of study: This study was performed in the Department of Forensic Medicine, Sir Salimullah Medical College, Mitford,Dhaka, during the period of July - 2010 to June - 2011.

Results: A total of 436 post-mortem cases were done during the period of July, 2010 to June, 2011. In the above mentioned medical college morgue , of which 220 cases were homicidal death. Out of 220 homicidal death, 156 cases were above the age of 30 years (70.91 % of the total cases) , 123 cases were male (55.91 %) and 97 were female (44.09 %) where as considering religion , the majority were Muslim 196 in number (89.09%) and the rest were Hindu. According to the types of wound , 115 cases were stab and cut-throat , 85 cases were strangulation,17cases were firearm injury & the 03 cases were suffocated.

Conclusion : The majority of deceased resulting from stab and cut-throat injuries and those were above 30 years of age group.

Key words: Homicide, Beveling cut, Bansdola, Missiles,Vital organs, Crimes.

Received: 03.03.2019

Accepted: 15.04.2019

Introduction

In general , this homicide means killing one human –being as a result of conduct of the others. It may be lawful (Justifiable and excusable) or unlawful (murder, culpable and rash)¹. Justifiable homicide term applies to judicial execution of death sentence permitted by the law of different countries of the world after the trial in the court ². The excusable homicide caused unintentionally by an act done in good faith. This includes, Killing for self defense when attacked,

provided there is no other means of defense, causing homicide due to accident or misadventure, death following a lawful operation, Homicide committed by an insane person ³. Homicidal cut throat usually situated on the both sides of the neck at or below the level of thyroid cartilage. The direction of the wounds are transverse or from below upwards. The edges are sharp and clean-cut, beveling cut may be seen. The hesitation cuts and tailing are absent. The severity of the injury is more ⁴. In strangulation, The exchange of air between the atmosphere and the lungs is prevented by the

constriction of the neck by means of a ligature material or by some other means, without suspending the body where the force of constriction is applied from outside and not by the weight of the body or the head of the victim. According to the mode of action the strangulation are the following types- Strangulation by Ligature, Throatling, Garroting, Mugging, Bansdola 5.

The fire arms wounds are either penetrating or perforating. In penetrating wound, some times the pellets and bullets could be detected in side the body of the deceased. The characteristics of the fire arms-wound and categories depends according the types and nature of action of the weapon etc 6. The suffocation is a general term to indicate that form of asphyxia, where the entry of air to the lungs is prevented by any means other than pressure on the neck or drowning. The form of suffocation are Smothering, Gagging, Overlying, Choking, Traumatic asphyxia 7.

Methods and Material

This was a prevalence study, a total number of 436 post- mortem cases were done during the period of July, 2010 to June , 2011 in Sir Salimullah Medical College, Mitford, Dhaka, of which 220 post- mortem cases were homicidal death. All the inquest reports and the chalan were read through along with those post-mortem reports during the study period. The data were collected during the autopsy as well as from the registration books (Govt. records). in the Department of Forensic Medicine, Sir Salimullah Medical College, Mitford, Dhaka.

Results

A total of 436 post-mortem cases were done during the period of July, 2010 to June, 2011. in the above mentioned medical college morgue , of which 220 cases were homicidal death. Out of 220 homicidal deaths, among those post –mortem cases are documented below:-

Table I: Distribution of post –mortem cases of Homicidal death according to the duration of study.

Duration.	P.M.cases (n).	Percentage (%)	Homicidal death (n)	Percentage (%)
July,2010 – Sept,2010	105	24.08	45	20.47
Oct, 2010 – Dec, 2010	118	27.06	38	17.24
Jan, 2011 - March,2011	110	25.23	95	43.18
April, 2011 - June, 2011	103	23.63	42	19.11
Total	436	100	220	100

Table II: Distribution of post –mortem cases of Homicidal death according to the age of the deceased.

Age (in years.)	Homicidal death (n)	Percentage (%)
10 - 20	17	7.73
20 - 30	47	21.36
30 and above	156	70.91
Total	220	100

Table III: Distribution of post –mortem cases of Homicidal death according to the sex of the deceased.

Sex	Homicidal death (n)	Percentage (%)
Male	123	55.91
Female	97	44.09
Total	220	100

Table IV: Distribution of post –mortem cases of Homicidal death according to the religion of the deceased.

Religion	Homicidal death (n)	Percentage (%)
Muslim	196	89.09
Hindu	24	10.91
Total	220	100

Table V: Distribution of post –mortem cases of Homicidal death according to the method of homicide.

Method.	Number of cases (n)	Percentage (%)
Stab & Cut throat.	115	52
Strangulation.	85	38.64
Fire -arms injuries.	17	7.73
Su ffocation.	03	1.63
Total	220	100

Discussion

Actually the study was so difficult that all those cases were related to the crime and criminals. The security maintained to study were very difficult. It is known and established that homicides always occurs in different ways, patterns and situations. Circumstances and scene of occurrence differs from one to another. It is tried the level best to collect all the data placed in the tables properly according to the headlines distributed. Asphyxia, hemorrhage and shock which were the main causes of death studied and noted carefully. The weapons and vital organs of the deceased are related to the individual case examined, explained and the points or facts in relation of homicide noted in each and every case. There were no any doubt to establish homicide about any case. The doubtful cases were omitted to study for this publication. The duration, methods, several types of distribution shown in the table are in correct form.

Conclusion

The most of homicidal death occurred among the young age group which is very sensitive to the society and for the nation. So, we should be aware enough for prevention the underline causes, which act as a vital role of police is important for strong and effective prevention of such crimes.

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Evaluation of association of liver function tests, haematological and biochemical parameters, ultrasonographic and upper GI endoscopic findings with sero prevalence of HBV and HCV among the patients presenting with chronic liver disease and its complications: A Tertiary Care Hospital Based Study

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Abstract

Background: *Now-a-days chronic liver disease is one of the major health problems in the world. In developing countries, chronic liver disease due to hepatitis virus (like hepatitis B and hepatitis C virus) is increasing day by day. It is rapidly emerging as a major health problem. So the present study was conducted to document the hepatitis B and hepatitis C virus in patient with chronic liver disease by an easy and simple marker like HBsAg, Anti HBc (total) and Anti HCV in a tertiary hospital.*

Methods: *Serum samples were collected from 100 selected cases who were diagnosed as a case of chronic liver disease in medicine and gastroenterology department of DMCH. Study period was from April 01, 2016 to September 30, 2018. For detection of HBsAg, Anti HBc (total) and Anti HCV, Immunochromatographic test (ICT) was done in every case.*

Results: *Out of 100 cases, HBsAg seropositive with negative Anti HCV was found in 64% cases, Anti HCV positive with negative HBsAg was found in 16% cases, both HBsAg and anti HCV positive was found in 4% cases, both HBsAg and anti HCV negative was found in 16% cases. Among these cases, 74% were male and 26% were female. Here male: female was 3:1 and among them, 75% male was seropositive for either HBsAg or Anti HCV.*

Conclusion: *The high frequency of seropositivity in patients with chronic liver disease with male predominance is found in tertiary care settings. The number of Anti HCV seropositive patient indicates that it is an emerging health problem in our country.*

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Introduction

Chronic liver disease is one of the common hepatobiliary problems worldwide. A major portion of the cases of chronic liver disease presents as a sequelae of hepatotropic viral infection specially hepatitis B and hepatitis C virus. Hepatitis B virus infects more than 350 million people worldwide and it is a leading cause of chronic hepatitis, cirrhosis and hepatocellular carcinoma¹. On the other hand hepatitis C virus infects an estimated 170 million people worldwide and it represents a viral pandemic and mostly causes chronic infection leading to cirrhosis in 15-20% of those². In Bangladesh the prevalence of chronic viral hepatitis³⁻⁴ is quite significant. It has been observed that a large number of people in Bangladesh suffer from viral

hepatitis every year. Around 10-15% of patients are treated for liver diseases including hepatitis and their sequelae⁵⁻⁹ in medical units in hospitals of Dhaka city. Hepatitis B virus infection is the major cause of mortality and morbidity related to chronic liver disease and also hepatitis C virus is emerging as another major health problem³⁻⁴. The patients with chronic liver disease in our hospital usually come with overt clinical manifestations and complications. In our country vast majority of cases are non alcoholic post viral sequelae is the most important cause. Among the etiologically implicated hepatotropic viruses, hepatitis B virus has been reported most important and hepatitis C virus related especially to chronic infection⁹⁻¹².

Clinically persistent presences of HBsAg and/or Anti-HCV are correlated with chronic liver disease⁹⁻¹³. Most of the patients of chronic liver disease are likely to be the carrier of these viruses and hence persistent viraemia resulting in positive HBsAg and/ or Anti-HCV.¹⁴⁻¹⁶ So they are potential source of hepatitis B (HBV) and hepatitis C (HCV) virus infection for others. This study yet not has been done in our hospitals settings. This study is therefore undertaken to show the pictures of two common and cost effective viral markers like HBsAg and Anti-HCV(for hepatitis B and hepatitis C virus infection respectively) in patients with chronic liver disease and their demographic profile, clinical presentation, complication profile and other related findings. The study will try to evaluate demographic profiles of those patients having post viral (HBV & HCV) CLD in our settings.

Materials & Methods

This observational, descriptive, longitudinal study was carried out on Medicine unite and department of gastroenterology of Dhaka Medical College Hospital from April 2016 to September 2018. Total 100 cases age between 15 to 75 years (including known cases) of chronic liver disease with or without complications was selected. Diagnosis was made by analysis of clinical, biochemical and upper GI endoscopy. Histopathological examination was done in some selected cases. Collected data's were analyzed with the aid of computer software SPSS.

Inclusion criteria: All cases (including known cases) of chronic liver disease with or without complications will be selected. Diagnosis will be made by analysis of clinical, biochemical and imaging features including evidences of varices on upper GI endoscopy. Histopathological examination will be done in some selected cases. Initial criteria's for selection of cases as chronic liver disease are:

- Age between 15 to 75 years, and
- Presence of stigmata of chronic liver disease(e.g. spider naevi, palmer erythema, gynaecomastia, testicular atrophy), and/or
- Cases having jaundice for more than 6 months, and/or
- Clinical and laboratory evidences of portal hypertension.

Exclusion criteria:

- Age < 15 years or > 75 years
- The patient with chronic liver disease with known etiology other than hepatotropic virus (Wilson's disease, drug induced, hemochromatosis, autoimmune hepatitis etc).
- The patients who will refuse to give consent
- The patient who will leave hospital before diagnosis
- Pregnant ladies

Results

A total number of 100 patients were selected and they were diagnosed as a case of chronic liver disease (CLD). Observational findings of this study are shown in different frequency tables and charts.

Table I: Seroprevalence of HBsAg and Anti-HCV in patients with chronic liver disease (CLD) (n= 100)

Name of viral marker with status	Total	Percentage (%)
HBsAg positive but Anti-HCV negative	64	64
Anti HCV positive but HBsAg negative	16	16
Both HBsAg and Anti-HCV positive	4	4
Both HBsAg and Anti-HCV negative	16	16

Table II:USG findings in patients with CLD (n=100)

USG findings	HbsAg positive but Anti-HCV negative n= 64(%)	Anti- HCV positive but HbsAg negative n= 16(%)	Both HbsAg and Anti-HCV positive n= 4(%)	Both HbsAg and Anti-HCV negative n= 16(%)	Total: n= 100(%)
Hepatomegaly	20(31.2%)	4(25%)	0(0%)	4(25%)	28
Splenomegaly	52(81.2%)	16(100%)	2(50%)	16(100%)	86
Hepatosplenomegaly	18(28.1%)	4(25%)	0(0%)	4(25%)	26
Mild ascites	14(21.8%)	4(25%)	0(0%)	0(0%)	18
Moderate to huge ascites	44(68.7%)	12(75%)	4(100%)	16(100%)	76
SOL	4(6.2%)	0(0%)	0(0%)	0(0%)	4

Table III: Hematological parameter in patients with CLD (n= 100)

Hematological parameter	HbsAg positive but Anti-HCV negative n= 64(%) mean value±SD (range)	Anti - HCV positive but HbsAg negative n= 16(%) mean value±SD (range)	Both HbsAg and Anti - HCV positive n= 4(%) mean value±SD (range)	Both HbsAg and Anti - HCV negative n= 16(%) mean value±SD (range)	Total: n= 100(%) mean value±SD (range)
Hb%(gm/dl)	8.8±2.1 (6.0-11.3)	8.9±1.9 (8.1-10.2)	10.5±2.5 (9.0-12.0)	8.5±1.8 (8.2-10.5)	8.8±2.1 (6.0-12.0)
ESR(mm in 1st hour)	34±20.6 (20-70)	37.3±15.2 (25-55)	32.5±21.2 (30-45)	35±8.9 (30-40)	34.6±19.5 (25- 70)
TC of WBC/cmm	7230±2035 (4000 - 18500)	8300±1710 (5600 - 11000)	11000±707 (10500 - 11500)	8100±2010 (6300 - 10500)	7691±1980 (4000 -11500)
Platelet count/cmm	162010±30 320 (100000 - 260000)	167000±25 100 (145000 - 210000)	210000±15 000 (190000 - 220000)	170000±30 200 (160000 - 230000)	166006±29 500 (100000 - 260000)
Bleeding time(mins)	4.9±2.1 (3.5-6.0)	4.1±1.9 (3.5-5.0)	4.5±0.6 (4.0-5.0)	4.1±1.2 (3.0-5.0)	4.6±20. (3.5-6.0)
Clotting time(mins)	6.3±1.2 (5.0-7.5)	6.1±1.5 (4.5-7.0)	6.0±0.0 (6.0-6.0)	6.2±1.25 (5.0-7.0)	6.24±1.2 (4.0-7.5)
Parameter	n= 32(%)	n= 4(%)	n= 2(%)	n= 6(%)	n= 44(%)
PBF normocytic normochromic anemia	8(25%)	0(0%)	0(0%)	0(0%)	8
microcytic hypochromic anemia	14(43.7%)	4(100%)	2(100%)	4(66.3%)	24
combined deficiency anemia	10(31.2%)	0(0%)	0(0%)	2(33.3%)	12

Table IV: Liver function tests in patients with CLD (n= 100)

Parameter	HbsAg positive but Anti -HCV negative n= 64(%) mean value±SD (range)	Anti - HCV positive but HbsAg negative n= 16(%) mean value±SD (range)	Both HbsAg and Anti - HCV positive n= 4(%) mean value±SD (range)	Both HbsAg and Anti - HCV negative n= 16(%) mean value±SD (range)	Total: n= 100(%) mean value±SD (range)
Serum bilirubin[gm/dl]	2.8±3.9 (1-12)	2.1±2.5 (1.2-4.1)	1.65±0.6 (1.2-2.1)	1.3±0.8 (1.2-2.5)	2.4±3.7 (1-12)
Serum ALT [U/L]	45.2±31.1 (10-112)	41.5±12.2 (30-50)	62.5±3.46 (60-65)	32.5±6.2 (20-46)	43.2±28.5 (10-112)
Serum ALP [U/L]	35.3±10.2 (20-66)	40.3±11.1 (30-70)	37.2±3.46 (35-40)	33.2±4.2 (30-40)	35.8±9.3 (20-70)
STP [gm/l]	58.2±8.1 (42-68)	57.1±8.1 (42-70)	57.5±0.7 (57-58)	53.2±5.1 (38-70)	57.1±8.0 (33-70)
S. Albumin [gm/l]	23.9±7.2 (21-35)	25.4±6.2 (27-36)	25.5±0.7 (25-26)	23.1±5.2 (21-32)	24.1±7.1 (21-36)
S. Globulin [gm/l]	35.2±9.3 (29-44)	32.7±5.2 (31-40)	32.5±0.7 (32-33)	35.3±8.1 (30-42)	34.7±9.1 (21-36)
Parameter	64(%)	16(%)	4(%)	16(%)	n= 100%
PT Within 3 secs of control	12(18.7%)	2(12.5%)	0(0%)	4(25%)	18
Moderately raised [16-18 sec]	38(59.4%)	10(62.5%)	4(100%)	10(62.5%)	62
Highly raised > 19 secs	14(21.8%)	4(25%)	0(0%)	2(12.5%)	20

Table V: Upper GIT endoscopic findings in patients with CLD (n= 100)

Endoscopic findings	HbsAg positive but Anti-HCV negative n= 64(%)	Anti- HCV positive but HbsAg negative n= 16(%)	Both HbsAg and Anti - HCV positive n= 4(%)	Both HbsAg and Anti - HCV negative n= 16(%)	Total: n= 100(%)
Esophageal Varices: G -1	4(6.25%)	0(0%)	0(0%)	0(0%)	4
Esophageal Varices: G -2	24(37.5%)	4(25%)	2(50%)	8(50%)	38
Esophageal Varices:G -3	22(34.37%)	8(50%)	2(50%)	6(25%)	36
Esophageal Varices: G -4	14(21.88%)	4(25%)	0(0%)	4(25%)	22
With congestive gastropathy	16(25%)	4(25%)	0(0%)	4(25%)	24
With gastric erosion	2(3.13%)	0(0%)	0(0%)	0(0%)	2
With duodenal ulcer	4(6.25%)	2(12.5%)	0(0%)	0(0%)	6
With gastric ulcer	4(6.25%)	0(0%)	0(0%)	0(0%)	4

Discussion

In Bangladesh, Chronic parenchymal liver disease (CLD) is a common hepatobiliary problem. Chronic hepatitis B virus (HBV) and hepatitis C virus (HCV) infection are regarded as the most important cause of chronic liver disease in Bangladesh^{3,6,7}. A substantial number of hospital admitted CLD patients are likely to be chronic carriers of HBV and HCV. A common serologic marker of HBV infection is HBsAg and HCV infection is Anti-HCV. After first identification of HBsAg by Blumberg et al¹⁷, it has been widely used to identify chronic carriers of HBV. The HCV was discovered in 1989 and Anti-HCV antibodies were identified soon after the virus was discovered, and current iterations of these assays enable past exposure to HCV to be determined with high degree of accuracy^{1,2,5}. Therefore, these patients constitute a major medical health hazards for medical personnel as well as for other patients by acting as a potential source of HBV and HCV infection. The present study was undertaken to find out the seroprevalence of HBsAg and Anti-HCV among the patients with CLD in DMCH with their demographic pattern, clinicopathological presentation, complication profile and the correlation of these features.

I have screened 110 consecutive patients who were admitted in medicine and gastroenterology units of Dhaka Medical College Hospital. Among them, 10 were excluded from the study. Among the excluded cases, 4 were absconded, 2 were dead before satisfactory diagnosis, 3 refused to give consent and 1 was known case of Wilson’s disease. (Total numbers of 100 cases were selected and ages of all were 15 years or more. Clinical history of the patients with their particulars (age, sex, occupation, socioeconomic condition, marital status, relevant past history (past H/O jaundice, hospitalization, hematemesis & melaena, altered or loss of consciousness, alcohol history, transfusion history, H/O injectable drug use) were carefully noted. The diagnostic parameters like biochemical, serological, ultrasonographic and endoscopic study were available in 100 percent cases; in addition histopathological examination was available in 28% of cases. Although ideally all the cases should have been studied by biopsy, but different contraindications (huge ascites, prolonged PT), logistic and financial difficulties and patients refusal precluded histopathological study in all cases.

However, strict attention to clinical and pathological details and other important investigations (like liver function tests including PT, USG of whole abdomen, endoscopy of upper GIT done in all cases) considerably compensated the lack of histopathological evidence. Among the 100 cases, in hospital settings, most of them are in decompensated stage or with complications which indicate compensated CLD are usually not come to our hospital for further management. Among the 100 cases, HBsAg seropositive with negative Anti-HCV in 64% cases, Anti-HCV positive with negative HBsAg in 16% cases, both HBsAg and Anti-HCV positive in 4% cases and both HBsAg and Anti-HCV negative in 16% cases (Table 1). So, still HBsAg seropositive group has higher prevalence among the patients with CLD and several number of Anti-HCV seropositive cases indicate that chronic liver disease as a result of HCV infection is not uncommon. Co-infection should be also considered in case of chronic liver disease.

Different previous reports from Bangladesh showed a wide range (30-62.5%) of HBsAg seropositivity in CLD patients^{8,18,19,20}. Naher Daulatun, Bishwas Jolly et al showed 65.9% HBsAg positive in patients of CLD in a hospital of Bangladesh which is almost similar to this study findings³. Khan M, Kiyosawa K, Yano M et al showed 24.1% seropositive for Anti-HCV in patients with CLD in Bangladesh which is almost similar to this study findings report⁴ (16+8=24%). Chakravarti A, Verma V. Prevalence of hepatitis B and hepatitis C viral markers in patients with chronic liver disease: A study from Northern India showed HBV infection in 60.6% cases & it was detected by using all three markers. Among them, HBsAg was positive in 33.3% cases. Similar findings were reported by other workers but it was lower than this study. HCV infection was present in 25.75% patients with CLD which is similar to my study¹⁶. 79.41% of total HCV infected cases showed co infection with HBV (past or present infection)¹⁶. Here co infection was detected by various markers but in this study we had done only one marker that might be the cause of having HBsAg with Anti-HCV positive in 4% cases. The high prevalence of HBsAg among the patients with CLD is not surprising if we consider that the HBsAg prevalence amongst the general population of Bangladesh which is between 7.8 to 8.6 percent¹². But prevalence of CLD due to HCV infection is not less now a days¹².

High incidence of HBsAg seropositivity in the patients with CLD ranging from 25 to 60% had been reported from Iraq²¹, Greece²², Africa²³ & India²⁴.

All of these countries have high HBsAg seroprevalence amongst the general population^{22,24}. Such association however was rarely observed in patients with CLD in Australia²⁵ and Great Britain²⁶. This is consistent with their very low (0.1-0.2%) HBsAg seroprevalence amongst general population. Another study was done in Myanmar and Khin Pyone Ky, Myo Aye et al showed Anti-HCV positive in 38.5% cases of cirrhosis, in 29.3% cases of HCC. Although general population showed 2.5% Anti HCV positive²².

Ultrasonographic examination revealed (Table-2) moderate to huge ascites in 76% cases and mild ascites in 18% cases. Only hepatomegaly was present in 28% cases, only splenomegaly was in 86% cases and both hepatosplenomegaly in 26% of cases. Space occupying lesion (SOL) of liver was detected in 4% cases and all of which are HCC (proved by liver biopsy/FNAC and histopathology) Ascites associated with hepatomegaly or splenomegaly or both hepatosplenomegaly was detected in 88% cases and only ascites was detected in 6% cases.

Analysis of hematological parameters (Table-3) showed that most of the patients had mild to moderate anemia with mean Hb% level 8.8 gm% (range 6-12). Mean ESR was 34.6 mm in 1st hour (range 25 mm -70 mm). Mean bleeding time was 4.6 mins; mean clotting time was 6.2 min which were not significantly higher than the normal range. Out of anemic patients, 43% were microcytic hypochromic found in PBF study.

Liver function tests (Table-4) analysis showed that 73% patient had hypoalbuminemia (>1 gm/l) (not shown in table) and mean Bilirubin was 2.4 mg/dl. The wide range of values for ALT (10-112 U/L) indicate that variable spectrum of patients with CLD were included in this study. Raised Bilirubin level in vast majority (73%) is consistent with the findings of Khan⁸ (76.9%), Sobur²⁷ (89.5%), Chowdhury²⁸ (77%), Parveen²⁹ (77.5%), Rahman's³⁰ (62.9%) study. Gross hypoalbuminemia (<30 gram/L) was found in 74% cases and mean serum albumin was 24.1 gm/l. Serum albumin was reduced in decompensated CLD and it has been used as an important prognostic guide. Hypoalbuminemia was also reported in Datta³¹, Parveen²⁹ and Hassan³² study in 81.2%, 50% and 50% cases respectively. Prothrombin time (PT) was done in all cases and found raised in most cases (82%). It was prolonged more than 3 seconds of control was found in 82% of cases which is similar to Chowdhury²⁸ (79.2%) and some other studies^{8, 27, 29} but higher than Parveen³¹ (25%) study.

In the present study, I also found 20% cases where PT was more than 20 seconds. In HBsAg and Anti-HCV seropositive cases prolonged PT more than 19 seconds were found in 21% and 25% cases respectively. Ascitic fluid study revealed mostly transudative fluid (98% and a mean protein 22.8 gm/L) with few exceptions (patients with SBP) and most of which were clear (54.54%) or straw colored (33.33%).

Endoscopy of upper GIT was done in all 100 cases. Variable grades of esophageal varices (Table- 5) were detected in all patients. Among them 12% patients had associated peptic ulcer (Table-5). Serum alfa- fetoprotein study was done in 9 cases and positive value was found in 3 cases, two of whom had HCC and one had cirrhosis which was not shown in the table. Liver biopsy procedure was carried out in 32% of cases and it was successful in 28% of cases. Among them cirrhosis was found in 18% cases, chronic hepatitis was found in 8% of cases and hepatocellular carcinoma (HCC) superimposed on cirrhosis was found in 4% of cases on histopathological examination, which was not shown in the table.

Conclusion

Chronic liver disease (CLD) is common in tertiary care hospital setting. Hepatitis B (HBV) and Hepatitis C (HCV) virus are important causes of chronic liver disease (CLD). Hepatitis C virus is an emerging problem. In tertiary care hospital most of the patients of chronic liver disease are in decompensated stage with various complications. HBsAg and Anti-HCV are two important sensitive and cost-effective markers for detection of Hepatitis B and Hepatitis C virus infection. So protection against Hepatitis B and Hepatitis C virus infection should be an important strategy for preventing incidence of chronic liver disease in community.

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Anthropometric Study of Hand Length and Hand Breadth in Left Hander Bangladeshi Medical college students

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Abstract

Context:

Handedness shows substantial individual variability. Skeletal and morphological asymmetries are present in human body though it appears to be bilaterally symmetrical. Bilateral asymmetry is defined as the difference between the measurements of the left and right half of the human body. These differences are very important and can be taken into consideration in designing the hand tools or equipments. Handedness is the tendency to use either the right or the left hand more naturally than the other. Hand anthropometry of left hander medical college students can help in proper designing of handedness specific medical instruments or surgical apparatuses which may enhance their better performance and provide less fatigue in clinical practice. The objectives of the present study to analyze the differences between right and left hand anthropometric dimensions in left hander medical college students of Bangladesh.

Materials and Methods: This cross-sectional, analytical type of study was performed in Department of Anatomy, Dhaka Medical College, Dhaka, from July 2016 to June 2017 on 40 left hander male and 34 left hander female Bangladeshi medical students. Sample collection was done by convenient purposive sampling technique. History of any injury of hand was excluded to construct standard measurement. Handedness of each medical student was determined on the basis of score provided by the Edinburgh handedness inventory. Hand breadth and hand length were measured with the help of vernier caliper. Paired student's 't' test was done for statistical analysis of the results.

Results: The mean hand breadth was higher in left hand of left hander male and female Bangladeshi medical students but the mean hand length was higher in right hand of study sample.

Key word: Handedness, left hander, hand breadth, hand length, anthropometry

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Introduction

Handedness can be defined as "the individual's preference to use one hand predominantly for unimanual tasks¹. Usually only one hand is considered as dominant.

The brain has the characteristics that its two hemisphere are functionally asymmetric in human. During childhood, one hemisphere slowly comes to dominate the other, and it is only after the first decades that, the dominance become fixed. Handedness, in most individual is controlled by dominant hemisphere². About 70 to 90 percent of population is right hander rather than left hander or any other form of handedness¹.

Generally there are both genetic and environmental theories. Handedness is predominantly determined by gene, it is also recognized that environmental influences clearly play a role in the handedness phenotype. Handedness runs in families and as a result is thought to be partly hereditary. Left handedness is more common if one parent is left hander and even more common if both parents are left hander¹.

Handedness is a major trait of human, generating a measurable directional bilateral asymmetry in the upper extremities. In case of the handedness, different parts of the upper extremities show differences in anthropometric measurements between right and left half. This is an indicator for environmental influences on the human body and its cerebral lateralization .

The cerebral lateralization could be the basic cause of the phenomenon handedness, and enables an optimization of controlling precise movements of the hand by the brain. Handedness is a behavioral trait of human³. The hand used by the individuals in writing has been used as the most reliable index of handedness. Handedness has been measured by questionnaires developed by several authors. These are the Edinburgh handedness inventory, Annet's questionnaire, Chapman and Chapman questionnaire etc⁴. Among them the Edinburgh handedness inventory is reliable and well validated.

The medical college students have to use medical equipments and surgical instruments for their professional purpose. The majority of the world population is right hander and left hander persons are in a minority, especially in the surgical field and this is endorsed by the fact that none of the medical science textbook and tools narrates for left hander medical students. An earlier report showed that, out of ten medical personnel, one is left hander⁵. Due to right hander majority, most of the surgical instruments and apparatuses are designed for right hander medical personnel, the locking and unlocking actions for the needle holders have also been designed for right hander surgeons. Left hander surgeons have several disadvantages in the field of surgery, where they always need supporting personnel to assist them and they are required to adapt themselves to the given environment. The left hander surgeons must go through the surgical procedures as defined by the right hander surgeons and have to add needful modifications to practice the safe and convenient procedures. There is a general impression among medical community that left hander practitioners face difficulties while performing some basic procedures or some delicate surgical operations as all the apparatuses, medical equipments and materials have been designed for the right hander population⁵. Hand anthropometry is useful for determining various aspects of machineries, so as to design the equipments and machines for use with better efficiency and more comfort, handedness being considered as an important factor in the design of hand tool in particular.

So far it is known, no study concerning upper limb anthropometry in relation to handedness has been reported in our country. In the present study an attempt was taken to evaluate the difference between right and left hand length and hand breadth in left hander male and female medical college students of Bangladesh.

Material and Methods

This cross-sectional, analytical type of study was performed in Department of Anatomy, Dhaka Medical College, Dhaka, from July 2016 to June 2017 on 40 left hander male and 34 left hander female Bangladeshi medical college students. Sample collection was done by convenient purposive sampling technique. Bangladeshi medical college students age ranging from 20-25 years were selected from different government (Dhaka medical college, Sir Salimullah medical college, Mymensingh medical college, Shaheed Taj Uddin Ahmad Medical College) and non-government (Popular Medical College, Dhaka Central International Medical College, Tairunnesa Memorial Medical College and Gazipur City Medical College) medical colleges of Bangladesh. Their ages were confirmed by the national ID cards.

Upper limb bones get completely ossified usually by the age 17-20 years. So the hand achieves its adult and fixed measurements by 17-20 years of age. For ensuring the adult measurements of upper limb as well as to avoid any confounding variable of the normal ossification process, no subject less than 20 years was included in the present study. The present study was conducted on population ranging from 20-25 years of age. To avoid any error of result of measurements of present study, height of male and female medical college student was selected ranging from 162 cm (5 feet 6 inch) to 172cm (5 feet 9 inch) and 142 cm (4 feet 9 inch) to 167 cm (5 feet 7 inch) respectively.

Handedness of each medical college student was determined by Edinburgh Handedness Inventory-short form. The participant of this study was asked to indicate their preferences in the use of hands in the following activities/ holding items:

Activities/holding items	Always right	Usually right	Both equally	Usually left	Always left
Writing					
Throwing					
Toothbrush					
Spoon					

Scoring: For each item there is a score. Always right = 100; usually right = 50; both equally = 0; usually left = -50; Always left = -100.

For each activities/holding objects participants was given score. Then the score for the above four items were added. To obtain handedness score the sum of the score was divided by four. Then the handedness of participant was determined according to the score,

Classification	Handedness score
Left - hander	- 100 to - 61
Mixed - hander	- 60 to 60
Right - hander	61 to 100

If any participant got score between -100 to -61, then he or she was considered as left-hander.

If any participant got score between -60 to 60, then he or she was considered as mixed-hander.

If any participant got score between 61 to 100, then he or she was considered as right-hander

Procedure of measurement of hand length:

For measurement of hand length, the subject was requested to put his or her palm extended and facing up with digits in extended and adducted position. Hand length was measured from the midpoint of the distal transverse wrist crease to the midpoint of the tip of the middle finger along the long axis of the hand. The length was measured in mm, using vernier caliper. Fixed jaw of the caliper was placed on the midpoint of the distal transverse wrist crease and the sliding jaw of the caliper was placed on the midpoint of the tip of the middle finger. This reading was recorded as hand length.



Figure 1: .Photograph showing measurement of hand length

Procedure of measurement of hand breadth: To measure the hand breadth, the subject was requested to put his or her palm extended and facing up with second to fifth digit in adducted position except the thumb, touching a flat hard surface. Hand breadth was measured by sliding caliper as a straight distance between the outside projections of the ends of second and fifth metacarpals of the hand in mm.



Figure 2: Photograph showing measurement of hand breadth

Results

Table I: Comparison between right and left hand length and hand breadth of left hander male and female medical students

Group	Hand length in mm			Hand breadth in mm		
	Right (Mean±SD)	Left (Mean±SD)	P Value	Right (Mean±SD)	Left (Mean±SD)	P Value
Left hander male (n=52)	182.78±8.10 (159.0 - 200.0)	181.45±8.96 (158.0 - 200.0)	0.022*	77.78±4.42 (67.0 - 87.0)	80.98±3.65 (73.0-90.0)	<0.001*
Left hander Female (n=40)	168.82±6.66 (158.0 - 186.0)	167.35±6.54 (156.0 - 183.0)	0.002*	77.24±2.72 (68.0-77.0)	74.91±2.94 (68.0-80.0)	<0.001*

Figures in parentheses indicate range. SD = Standard Deviation
 Comparison between values of right and left hand of same group was done by Paired Student’s ‘t’ test.
 ns= not significant, *= significant.

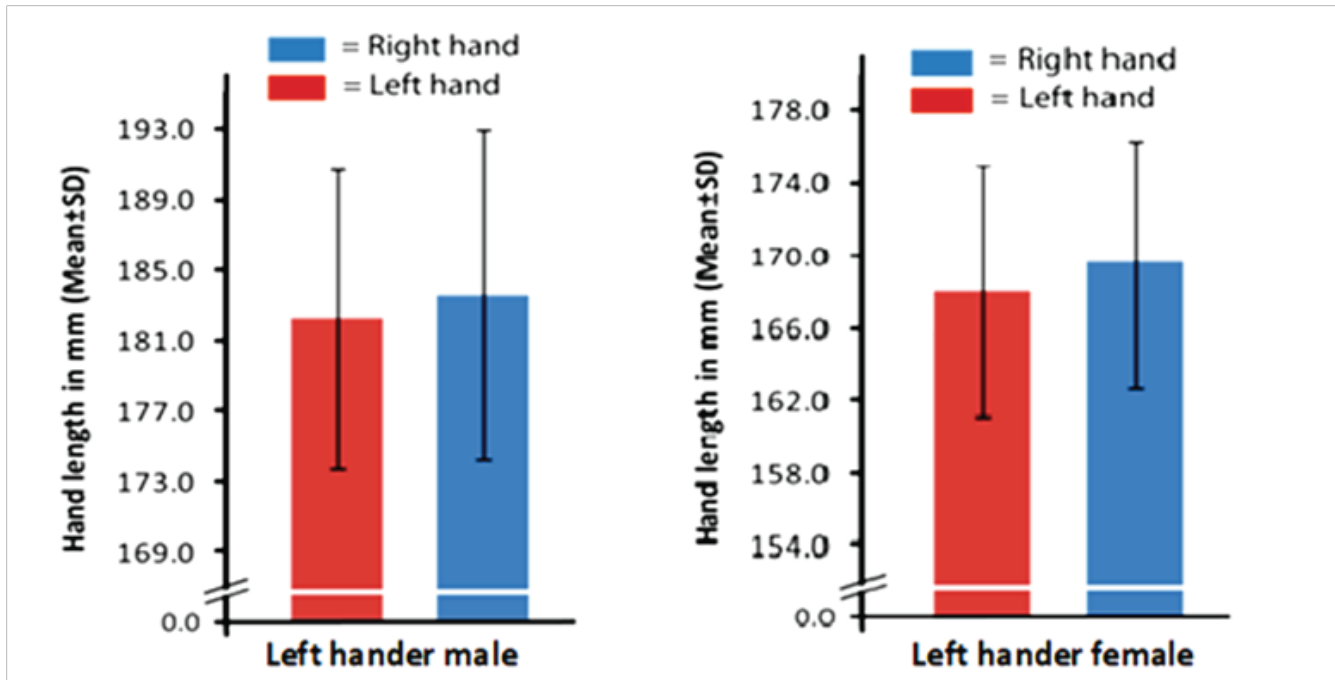


Figure 3: Comparison between right and left hand length of left hander male female

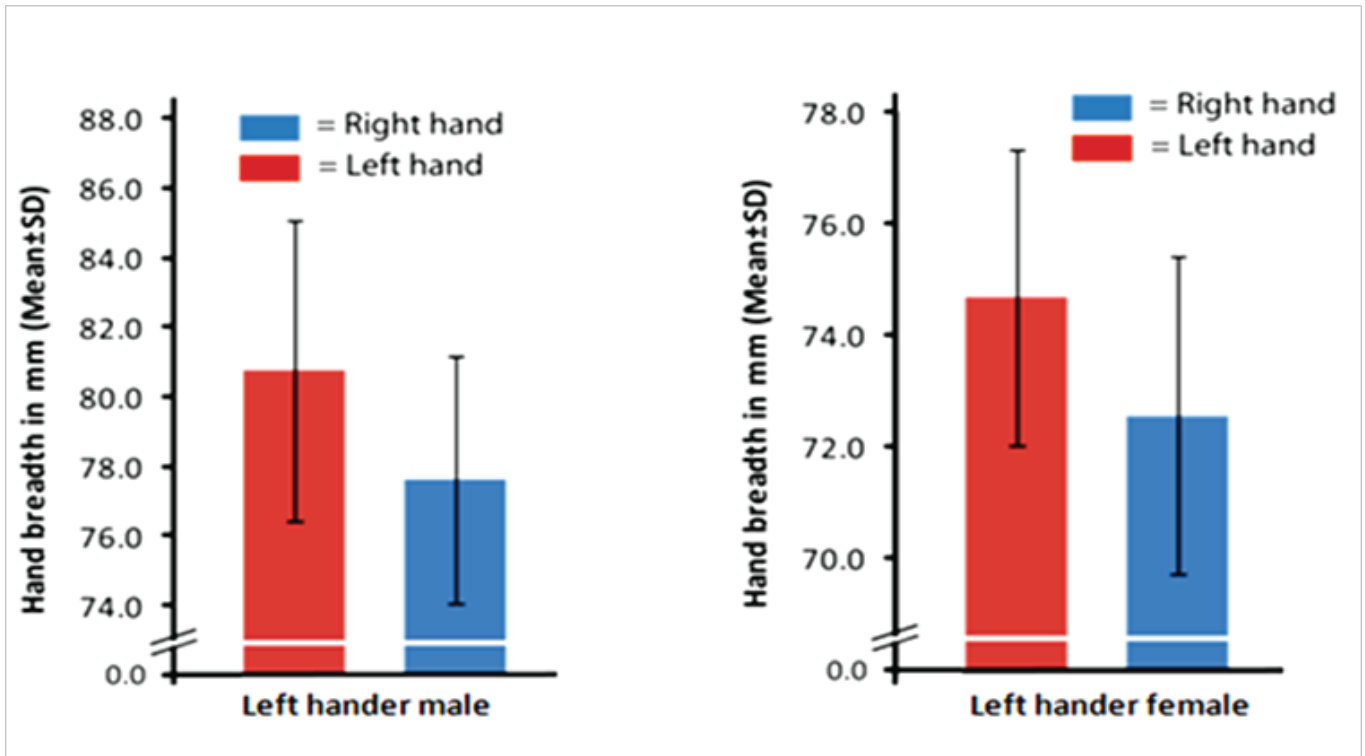


Figure 4: Comparison between right and left hand breadth of left hander male and female

Discussion

The result of the present study were compared with the studies carried out by Barut, Sevinc and Sumbuloglu ⁶; Kimura and Konishi ⁷; Kulaksiz and Gozil ⁸; Mohammad ⁹; Swami, Kumar and Sharma ^{10, 11}.

In the present study the right hand length was significantly higher ($P < 0.001$) than left hand length of left hander male and the right hand length was significantly higher ($P < 0.05$) than left hand length in left hander female. The findings of the present study showed similarities with the findings of the by Swami, Kumar and Sharma ¹⁰; Kulaksiz and Gozil ⁸.

Swami, Kumar and Sharma ¹⁰ conducted a study on 6 left hander (1 male and 5 female) Haryanvi Brahmins of age 18 years and above. They determined their handedness by Edinburgh handedness inventory. In left hander Haryanvi Brahmins, they found that right hand length was significantly higher ($P < 0.05$) than the left hand length.

Kulaksiz and Gozil ⁸ carried out study on 235 right hander (130 male and 105 female) and 14 left hander (08 male and 06 female) university students of Turkey. In left hander students they found 178.38 ± 8.77 mm, 177.92 ± 9.33 mm mean hand length for right and left hand respectively, and showed that right hand length was significantly higher ($P < 0.05$) than the left hand length.

Right hander use their right hand and left hander use their left hand efficiently. The left hand in right hander and right hand in left hander found to be longer in the present study. Probably the left hand in right hander and the right hand in left hander remain relaxed and stretched and moreover due to soft tissue effect that changes might be occur ¹³. Moreover growth plates of bones are sealed by puberty, and thus bones don't usually lengthen after that time.

Another study conducted by Barut, Sevinc and Sumbuloglu ⁶ 31 left handers (21 male, 10 female) Turkish people age ranging from 18 to 42 year. They showed that there was no significant difference ($P > 0.05$) between right hand and left hand length in left hander male of Turkey. Kimura and Konishi ⁷ carried out a study on 28 left hander male medical students of Japan. Kimura and Konishi ⁷ recorded left hand length was significantly higher ($P < 0.05$) than right hand length in left hander medical students of Japan.

In present study in left hander male and female left hand breadth was significantly higher ($P < 0.001$) than right hand breadth. The findings of the present study showed similarities with the findings of the by Swami, Kumar and Sharma; Kulaksiz and Gozil ⁸.

Barut, Sevinc and Sumbuloglu⁶ carried out a study on 21 left hander male and 10 left hander female healthy individual of Turkey age ranging from 18 to 42 year. Mohammad⁹ conducted study on 100 left hander male and 100 left hander female of Jordan, age ranging from 19 to 50 years. They recorded left hand breadth was significantly higher ($P<0.001$) than right hand breadth in left hander male and left hander female.

Barut, Sevinc and Sumbuloglu⁶, Mohammad⁹ recorded differences between mean right and left hand breadth in right hander and left hander which were found to be similar to the present study. Right hander use their right hand and left hander use their left hand predominantly in their daily activities which may be responsible of difference in anthropometric dimensions of right and left upper limb.

Swami, Kumar and Sharma¹¹ carried out study on 7 left hander (5 male and 2 female) Kashmiri pandit, of age 18 years and above. Swami, Kumar and Sharma¹¹ reported that no significant difference ($P>0.05$) was observed between mean right hand breadth and left hand breadth in left hander Kashmiri pandit. Swami, Kumar and Sharma¹⁰ conducted a study on 6 left hander (1 male and 5 female) Haryanvi Brahmins of age 18 years and reported that no significant difference ($P>0.05$) was observed between mean right hand breadth and left hand breadth in left hander Haryanvi Brahmins. The findings of the study conducted by Swami, Kumar and Sharma^{10,11} showed dissimilarities with the findings of the present study.

Swami, Kumar and Sharma^{10,11} conducted study on left hander but they did not show separate data for male and female but in the present study the data was collected separately from both right hander male and right hander female, left hander male and left hander female. This could be the cause of such dissimilarity.

Conclusion

In the present study the right hand length was significantly higher ($P<0.001$) than left hand length of left hander male and the right hand length was significantly higher ($P<0.05$) than left hand length in left hander female. In left hander male and female left hand breadth was significantly higher ($P<0.001$) than their right hand breadth. Further studies are recommended to do on different professionals such as players, garments workers, computer operators. To get more precise data on upper limb anthropometric measurements, the use of newer advanced technology like x-ray, CT scan are suggested.

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Original Article***Incidence and Pattern of Mechanical Injuries: Experience in a Tertiary Care Hospital at Sylhet City**** **Biswas BP¹, Islam MS², Biswas JP³, Shaim MSR⁴, Sumon MSR⁵**

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Abstract

The magnitude and burden of injuries and violence is more devastating in the developing countries. This study was undertaken to determine the incidence as well as to analyze the pattern of mechanical injuries among the patients attending emergency OPD in a tertiary care hospital at Sylhet City. This cross sectional retrospective study included the injured patients seeking medical care in emergency department of the health centre during the period of January to June 2017 and analyzed data in terms of age, sex, and injury patterns. During this period, 17.58 % of the total cases attended emergency OPD with mechanical injuries. Cut injuries (59.3%), RTA (16.9%) and blunt trauma injuries (13.9 %) were the commonest whereas bullet injuries (0.22%), electrocution (0.43%) and physical assaults (1.1%) were least reported. The younger adult (21-40 age group; 37.9%) males (37.2%) were predominantly the primary victims of almost all types of injuries except for burn and physical assaults where female outnumbered male by 52.6% & 54.5% respectively. Electrocution (50%) and burn (33.3%) were the major causes of mechanical injuries in children aged below 11. The incidence of accidental injuries is considerably higher among the most productive population which may be secretly creating a huge economic burden upon a family as well as for entire nation. The associated factors should be evaluated with large scaled studies to develop appropriate preventive strategies at national level.

Key words: Mechanical Injuries, Incidence, Pattern, Tertiary Care Hospital.

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Introduction

Injuries are very frequent in our day to day life and legally under section 44 BPC, an injury is defined as any harm whatever illegally caused to any person in body, mind, reputation, or property. Here we have focused on the mechanical injuries; one of the leading causes of emergency attendance in hospital for medical management. An injury or a wound means a solution or disruption of the anatomical continuity of any of the tissues of the body. Injuries caused by application of physical violence to the body are known as mechanical injuries¹⁻³.

The character of an injury caused by some mechanical force are dependent on the nature and shape of the weapon, the amount of energy in the weapon or instrument when it strikes the body, whether it is inflicted upon a moving or a fixed body and the nature of the tissue involved. Depending upon how the mechanical injuries are caused e.g., by blunt force, sharp weapon, or firearm, they are classified as - Abrasions, Bruises, Lacerations, Fractures, incised wounds or cuts, Stab wounds, Firearm injuries. Abrasions, Bruises, Lacerations, and Fractures are blunt force injuries headed as blunt injuries, injuries by sharp weapon & split lacerations are headed as cut injuries, thermal injuries are

headed as burn and other head of injuries are RTA, firearm injuries were considered for clarification of injury patterns ^{2,3}.

Injury and violence cause more than five million deaths per year which makes around 9% of the global mortality ⁴. Eight of the fifteen leading causes of deaths in the age group 15-25 years are injury related. World Health Organization (WHO) has predicted that by 2020, road traffic accidents will be the fifth leading cause of deaths with 3.6% of all deaths, self inflicted injuries will be in the 12th position with 1.5% and violence will take the 16th rank with 1.2% of total deaths worldwide⁵. Likewise, about 1.2 million people die every year as a result of road traffic crashes and up to 50 million more are injured or disabled. Together, injuries and violence will cause 6.3% of total deaths, which is definitely a huge proportion ⁴.

The magnitude and burden of injuries and violence is more devastating in the developing countries ^{5,6}. In many developing countries, particularly in Asia, documentation of health statistics is limited and as a result the effect of trauma is poorly understood ⁷. This also implies for our country as well. So, this study concerns the incidence and demographic pattern of mechanical injuries among the patients attending emergency OPD in a tertiary care hospital in Sylhet City.

Methods & Materials

This retrospective cross sectional study was designed and conducted at one of the tertiary health centers of zindabazar, at Sylhet City. This metropolitan city is advanced in terms of modern amenities, transport facilities and health care systems. All injured patients seeking medical care in emergency department of the health centre during the period of January'17 to June'17 were enrolled in the study. A pre tested data collection format was used to record data by qualified emergency physicians.

Data was collected in terms of age, sex, and injury patterns mentioned in the records. The profile of these cases was studied by grouping the total number of such cases under the following heads:

- Cut Injury
- Road traffic accidents (RTA)
- Blunt Trauma
- Burn
- Head Injury
- Physical Assault
- Electrocutation
- Bullet Injury

Injuries caused by sharp cutting instruments, resulting in a clean cut through the tissues, usually skin and subcutaneous tissues, including blood vessels are considered as incised wounds i.e. cut injuries. On the other hand, injuries caused by blunt and rough weapons through friction and application of force resulting in Abrasions, Bruises, Lacerations, and Fractures which are considered as blunt injuries and thermal injuries are reported as burn in this study. Data was analyzed through Statistical Package for Social Sciences (SPSS) 11.5 version.

Result

Out of total 5219 cases attending emergency OPD, 918 (17.58 %) were cases of mechanical injuries. Majority of these cases presented with a variety of cut injuries 59.3% followed by 16.9% RTA and

13.9 % blunt trauma injuries. The least common types were electrocution (0.43%) and bullet injuries (0.22%) (Figure 1).

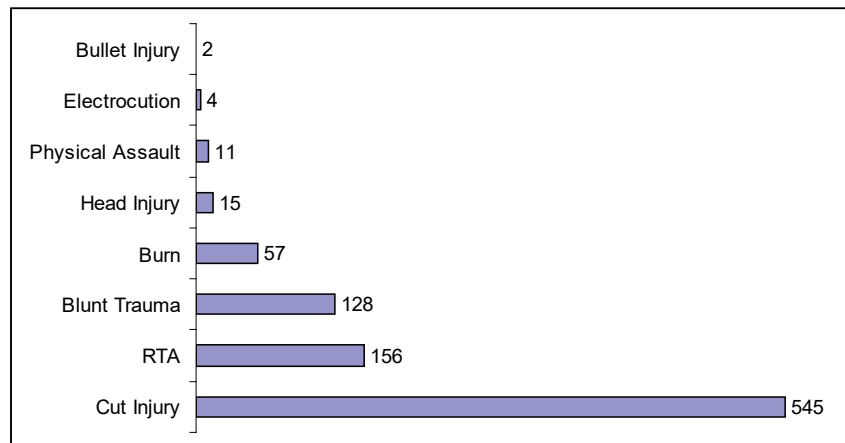


Figure 1: Type of mechanical injuries.

Majority of these cases (37.9%) were found between 21-40 years of age followed by 11-20 years (24.1%). However, burn was frequently (33.3%) reported in youngest age group (0-10 years). Cases of > 60 years of age were least common (6.2%) often reported with blunt trauma (16.4%) and cut injuries (6.6%); (Table-I). Male preponderance (63.1%) was observed in most of the injuries except for physical assaults (54.5%) and burn (52.6%);(Table-II).

Table I: Distribution of the Cases According To Age and Pattern of Injuries.

Type of Injury \ Age	Age					Total (%)
	0-10 (%)	11-20 (%)	21-40 (%)	41-60 (%)	>60 (%)	
<i>Cut Injury</i>	88 (16.1)	130 (23.8)	186 (34.1)	105 (19.2)	36 (6.6)	545 (59.3)
<i>RTA</i>	-	52 (33.3)	76 (48.7)	28 (17.9)	-	156 (16.9)
<i>Blunt Trauma</i>	25 (19.5)	14 (10.9)	52 (40.6)	16 (12.5)	21 (16.4)	128 (13.9)
<i>Burn</i>	19 (33.3)	12 (21.1)	18 (31.5)	8 (14.03)	-	57 (6.2)
<i>Head Injury</i>	-	6 (40.0)	9 (60.0)	-	-	15 (1.6)
<i>Physical Assault</i>	-	7 (63.6)	3 (27.2)	1 (9.1)	-	11 (1.1)
<i>Electrocutation</i>	2 (50.0)	-	2 (50.0)	-	-	4 (0.43)
<i>Bullet Injury</i>	-	-	2	-	-	2 (0.22)
Total (%)	134 (14.5)	221 (24.1)	348 (37.9)	158 (17.2)	57 (6.2)	918

Table II: Distribution of the Cases According To Sex and Pattern of Injuries in Different Age Groups.

Age (sex)	0-10 (%)		11-20 (%)		21-40 (%)		41-60 (%)		>60 (%)		Total (%)	
	M	F	M	F	M	F	M	F	M	F	M	F
<i>Cut Injury</i>	51 (14.4)	37 (19.1)	97 (27.5)	33 (17.1)	117 (33.2)	69 (35.7)	68 (19.3)	37 (19.1)	19 (5.3)	17 (8.8)	352 (64.5)	193 (35.4)
<i>RTA</i>	-	-	31 (30.6)	21 (38.1)	53 (52.4)	23 (41.8)	17 (16.8)	11 (20)	-	-	101 (64.7)	55 (35.2)
<i>Blunt Trauma</i>	20 (26.6)	5 (9.4)	12 (16)	2 (3.7)	27 (36)	25 (47.1)	7 (9.3)	9 (16.9)	9 (12)	12 (22.6)	75 (58.5)	53 (41.4)
<i>Burn</i>	10 (37.0)	9 (30)	7 (25.9)	5 (16.6)	6 (22.2)	12 (40)	4 (14.8)	4 (13.3)	-	-	27 (47.3)	30 (52.6)
<i>Head Injury</i>	-	-	6 (40)	-	9 (60)	-	-	-	-	-	15 (2.5)	0
<i>Physical Assault</i>	-	-	4 (80)	3 (50)	1 (20)	2 (33.3)	-	1 (16.6)	-	-	5 (45.5)	6 (54.5)
<i>Electrocution</i>	1 (33.3)	1	-	-	2 (66.6)	-	-	-	-	-	3 (75)	1 (25)
<i>Bullet Injury</i>	-	-	-	-	1	-	1	-	-	-	2 (0.34)	0
Total	82 (14.1)	52 (15.3)	157 (27.1)	64 (18.9)	216 (37.2)	131 (38.7)	97 (16.7)	62 (18.3)	28 (4.8)	29 (8.5)	580 (63.1)	338 (36.8)

Discussion

In the period of this six months study, a total of 918 (about 18%) cases of mechanical injuries were reported. There is no national statistics available at present reporting the incidence of such injuries. According to ICDDRBR estimation of 2001, 95,000 unintentional deaths were reported in Bangladesh based on the 1996 Global Burden of Disease Indian subcontinent; adjusted for Bangladesh. A household survey by BBS showed 1819 casualties with 204 fatalities related to transport injuries⁸.

In this study the predominant pattern of injury was cut injuries (59.3%) followed by RTA (16.9%) which is consistent with a study in Nepal reporting 40.2% of cut injuries⁹. On the contrary, a number of studies depicted otherwise as RTA to be the primary injury pattern¹⁰⁻¹². In the present study, maximum number of RTC victims were between 15 to 44 years of age (63.8%) with a lesser number among those less than 15 years (10.8%) and above 60 years (6.5%). Similar age distribution of RTC victims has been reported in other studies from developing countries^{10, 12, 13}. Considering the maximum involvement of individuals in the economically productive years,

RTAs may have an important economic impact. It also implies that interventions should be designed so as to target these individuals. Lower proportion of RTAs below 11 years and above 60 years could be explained by the fact that children are usually taken care of by elders during travel and lesser mobility of geriatric people¹³⁻¹⁵. The third highest incidence was found in blunt trauma injuries (13.9%). The least common type in this study was bullet injuries (only 0.22%); since these are recognized as police cases due to the subsequent legal procedural necessities¹⁶.

Majority of those injured in the present study were males (63.1%) and between the age group of 21 to 40 years (37.9%). This is in conformity with most of the studies referred earlier. Young people between the ages of 15 and 44 years—the most economically productive members of the population—account for almost 50% of the world's injury-related mortality¹⁷. Preponderance of males implies that men are at higher risk of injuries than women. However, female cases were greater in burn and physical assaults which may be contributed by a number of behavioral, social and familial factors. Unlike ours, a local study reported of 52% of the total burn incidences in male and 48% in female¹⁸.

Children less than 10 years were found to be at a high risk for burn (33.3%) and electrical injury (50%). Findings were found to be consistent with many of the other studies^{18,19} where the unprotected household source of electricity was found as the most common source of electrical injury²⁰.

There are some limitations to the present study. It was performed over 6 months and thus seasonal variations in trauma admissions, as well as other socio-demographic factors were out of scope of this study. Furthermore, there may have been injury-related deaths from various mechanisms, specially the police cases that were referred directly to the public hospitals for subsequent medicolegal proceedings.

Conclusion

In the present study the targeted pattern of injuries were quite frequent. The majority of the injured subjects were economically active. Programs targeting immediate rescue from the injury sites and even primary management at the injury site should be promoted. Besides, awareness campaigning stressing on need for safety practices at home as well as at work places should be encouraged.

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Case Report of Darier's Disease: A Rare Genodermatosis

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Abstract

Darier's disease (DD) also known as keratosis follicularis or dyskeratosis follicularis, is a rare disorder of keratinization. It is an autosomal dominant genodermatosis with high penetrance and variable expressivity. It is clinically manifested by hyperkeratotic papules primarily affecting seborrheic areas on the head, neck and thorax and less frequently on the oral mucosa.

When the oral manifestation are present, they primary affect the palate and alveolar mucosa; are usually asymptomatic and are discovered in routine dental examination. Histologically the lesion show suprabasal clefts with acantholytic and dyskeratotic cells. This paper reports a case of a 28 year old male patient with typical clinical and histological features of DD.

Key words: Darier's disease, Keratosis follicularis, Genetics.

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Introduction

Darier's disease (DD) or Darier-white disease, also known as keratosis follicularis, is a rare autosomal dominantly inherited genodermatosis¹.

DD was initially described by Prince Marrow in 1886 and simultaneously by Darier and white in 1889, independently. White was first to recognize the genetic nature of keratosis follicularis (DD) by noticing that a mother and her daughter were affected^{2,3}. Although this is a genetically transmitted disease according to a larger series, about 47% of patient had no clear family history, presumably because of incomplete penetrance⁴.

It has high penetrance, variable expressivity and worldwide distribution. The onset of disease is in childhood and adolescence⁵.

The prevalence of this disorder in the population is 1:1,00,000 mostly often affecting males⁶. Thus indicating that the disease is a rare of its kind.

Clinically the distinctive lesion is characterized by hyperkeratotic papules that coalesce into plaque and occur primarily not only in seborrheic but also in intertriginous area⁷. Coalescence of the papules produces irregular warty plaques or papillomatous masses,

which in the flexures become hypertrophic and malodorous with painful fissure.

Associated abnormalities include nail abnormalities characterized by nail fragility, red and white longitudinal stripes and V shaped notches at the free margin of the nails⁸. Secondary infection is common. Sun, heat and sweating exacerbate the disease. Neuropsychiatric abnormalities, including mild mental retardation and epilepsy, have been described in associated with DD in a few families⁹.

Case Report

A 28 year old male patient presented to our OPD of JIMCH with the chief complaint of recurrent pruritic eruption with dirty warty, greasy lesion over his scalp, forehead, ear, back, neck and chest region since the last 15 years. [fig:2,4,5]. The eruption first appeared over scalp and then spread to other site of the body. The lesions aggravated on sun exposure. There was no history of similar lesion in his family. On examination, hyperkeratotic skin colored to hyperpigmented, grouped as well as scattered papules were seen involving the scalp, in and around ear, forehead, middle back, chest, neck and axilla.

longitudinal white stripes and V shaped notch were present at free margin of the nail.[fig:1]

Whitish papules & patches were present in palate and alveolar region. [fig:3]

Considering his sign and symptoms,

we arrived at differential diagnosis including Darier's disease, Seborrheic dermatitis, Haily Haily disease, Grovers disease, Ichthyosiform dermatitis, Langerhans cell histiocytosis or severe AD.



Figure: 1



Figure: 2



Figure: 3



Figure:4



Figure: 5

We took a biopsy from upper back and histopathology revealed hyperkeratosis, acanthosis and papillomatosis. Corps ronds are seen in the upper stratum malpighii. [fig:6] suprabasalacantholysis with elongated papillae lined by single layer of cells are also seen.[fig:7] The dermis show a mild chronic inflammatory infiltrate.no malignancy or granuloma is seen. Primary laboratory analysis of full blood count, liver enzymes and kidney function were normal.

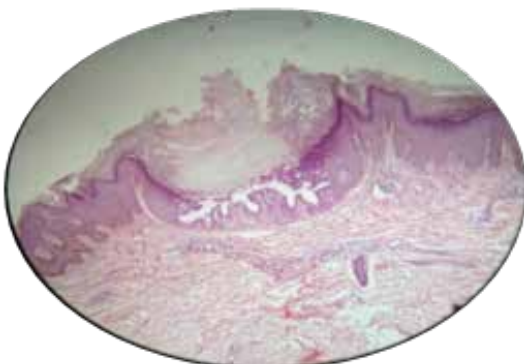


Figure: 6

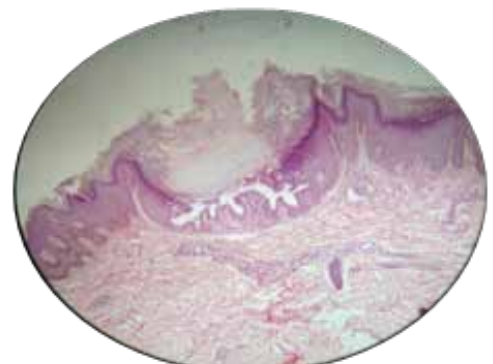


Figure: 7

Discussion

DD is a rare autosomal dominant disease affecting both sexes and all ethnic groups¹⁰. It is characterized by skin lesion, various nail abnormalities and oral lesion. The frequency of oral lesion range from 15% to 50% and is present on the palate showing a cobblestone appearance¹¹. The present case showed skin lesions, nail abnormality and also changes in oral mucosa.

The disease is caused by mutation in the ATP2A2 gene found on chromosome 12q 23-24.1.3 the gene encodes the SERCA type 2 protein (SERCA 2) which is a calcium pump. SERCA 2b an isoform of SERCA2 is more widely expressed including epidermis. DD is caused by reduction in SERCA2b function leading to abnormal Ca^{2+} signaling and abnormal organization or maturation of complexes responsible for cell adhesion¹².

Treatment of DD is challenging and is often difficult and unsatisfactory. Milder forms response to general measures such as improvement of hygiene, wearing cotton cloth, avoidance of heat, sun light and use of sunscreen. Moisturizers containing urea and lactic acid; topical retinoids (adapalene, tazarotene gel, 0.1% tretinoin) can decrease scaling and hyperkeratosis. Topical corticosteroid may help to reduce irritation and there are also report of success with 5-fluorouracil and pimecrolimus¹³, oral retinoids (Acitretin, isotretinoin and alitretinoin) are used in severe cases, they smoothen the plaque and reduce odor. If medical therapy is ineffective, carbon dioxide laser and erbium:YAG laser have been used for chronic, recalcitrant cases¹⁴.

Conclusion

Regardless of the clinical severity and treatment option, the patient should undergo genetic counselling with information on the inherited condition and risk of transmission to the offspring. Patient should be informed on the complication of this disorder and the care required. Neuropsychiatric abnormalities, including mild mental retardation and epilepsy should be followed by a psychologist and neuromedicine specialist; therefore these patient should be treated by a multidisciplinary team.

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Urethral hemangioma in a female patient : A case report

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Abstract

Urinary hemangiomas are uncommon and can predispose any part of the urinary system. The urethra is infrequently involved and usually affects male urethra. Diagnosis of urethral cavernous hemangioma (UCH) is very rare. It can be easy to misdiagnose and mistreat due to its atypical clinical manifestations and a lack of relevant knowledge. We reported a sixty years old female patient with urinary incontinence due to tumor like mass arising at the edge of the urethra. Ventral vaginal graft urethroplasty was performed directly afterwards. Histopathology report was a urethral cavernous hemangioma. An individualized approach regarding the most appropriate procedure for a given patient should be recommended.

Keywords: Urethral hemangioma, Female, Graft, Urethroplasty

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Introduction

Some studies have reported cavernous hemangioma in the female urethra and most of them were located at distal third of the urethra. The tumor usually found superficial and most of the studies have reported good results after a simple surgical resection^{1, 2, 3}. However, none of them clearly stated the technique and difficulties found during tumor resection.

The surgical technique can be challenging if the tumor base is wide and many urethral tissues must be removed to prevent recurrence. In this presentation, we report a case of urethral cavernous hemangioma in female where a ventral vaginal graft urethroplasty was performed directly after extensive urethral tumor resection. To our knowledge, only a few cases have been reported and this is the first documented case of female urethral hemangioma from Jahurul Islam Medical College and Hospital, Bhagolpur, Bajitpur, Kishoregonj.

Case presentation

A 60-year old female patient presented with scanty micturition for one and half month. She also reported pain during micturition for same duration. Physical examination showed a tumor growth like structure arising at the edge of the urethra. Excision of growth done by cauterization by using diathermy (Size of the growth approximately 3+2cm). Urethra was dilated with urethral dilator. A 14-Fr urethral Trichannel catheter was inserted and was maintained for 21 days. Pathological examination showed cavernous vascular spaces filled with blood and separated by connective tissue stroma revealed as cavernous hemangioma of the urethra.

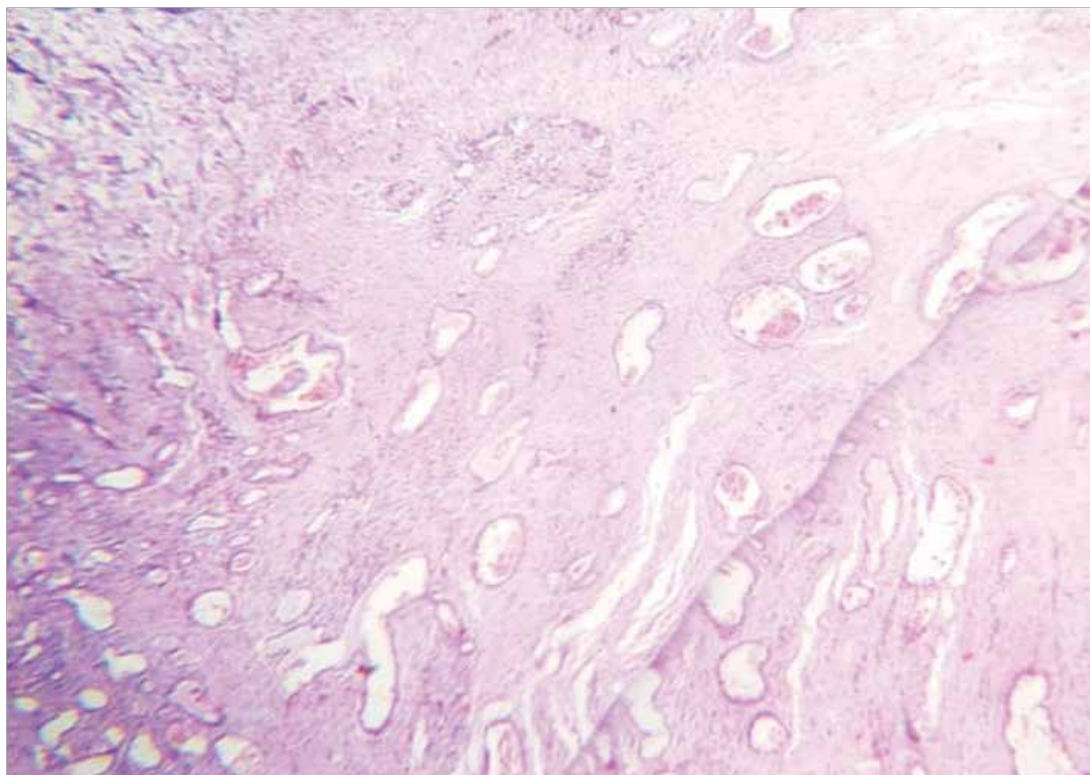


Figure 1: Histopathology view of the specimen revealed a urethral cavernous hemangioma (H & E x10).

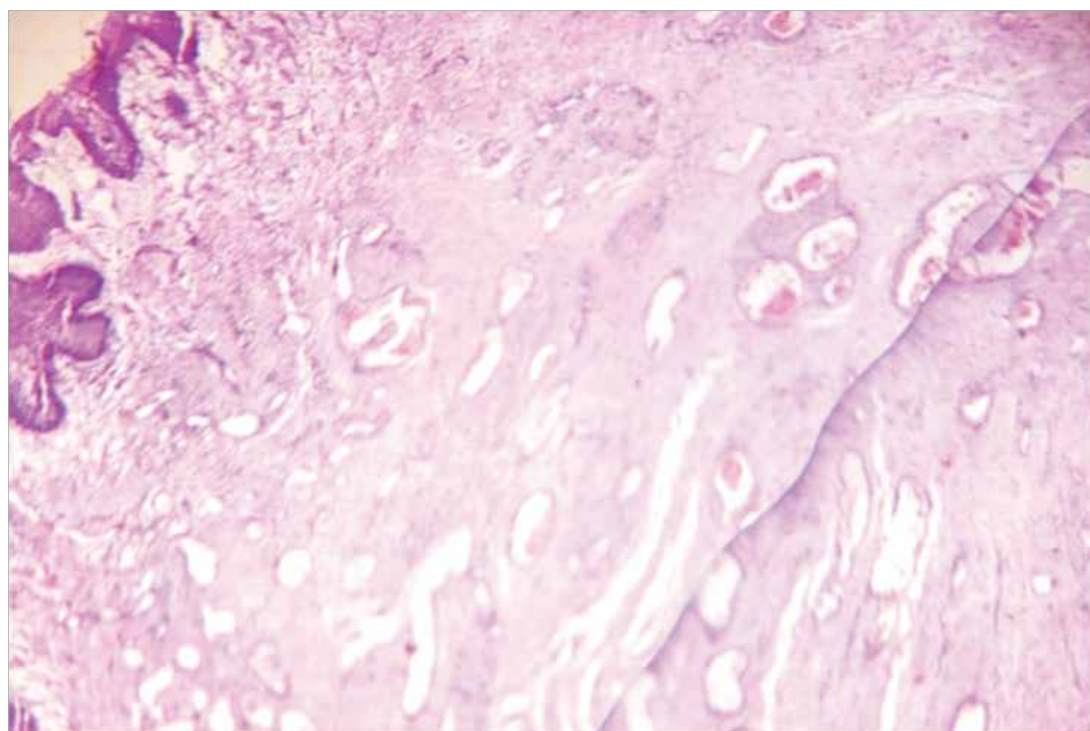


Figure 2: Histopathology view of the specimen revealed a urethral cavernous hemangioma (H & E x10).

The patient was symptom-free at 3 months of follow-up with no evidence of tumor recurrence, no stress incontinence, and no need for urethral dilation.

Discussion

Hemangioma is a benign vascular tumor that can occur at any age, commonly found on the skin and liver. However, hemangioma is very unlikely to be found on urinary tract. If it occurs, it can involve kidney, ureter, bladder, prostate, and urethra. They usually congenital and develop from the embryonic rest of the unipotent angioblastic cells that fail to develop into normal blood vessels¹. The most common clinical manifestations are hematuria and obstructive symptoms. However, the atypical features of UCH lead the disease being easily misdiagnosed and mistreated for a long time. Likely, nephritis, which was removed from the diagnosis until the invasive renal biopsy was performed. Another was misdiagnosed and mistreated for the painless hematuria that has been excluded from the urinary system related diseases such as inflammation, malignant tumor and stone, especially for young people, cystoscopy is an important means of examination. Diagnosis is primarily confirmed by the lesion's histopathological analysis. Differential diagnosis includes formation resulting from urothelial reactions, such as inflammatory processes and, in post-menopausal women, urethral caruncles, and urethral polyp. Urethrocytoscopy is an excellent diagnostic method that supports in identification of the characteristic, fragility, size, location, and number of hemangiomas^{2,3}.

The management of female urethral hemangioma can be challenging due to the chance for urethral stricture. Despite benign nature, hemangioma may recur due to incomplete excision. In our case, the choice was performing ventral vaginal graft urethroplasty since the tumor base was wide and extended to the ventral urethral tissue which must be resected. Primary closure will likely make the urethral lumen narrower. Vaginal mucosa graft was chosen because it was practically available, hairless elastic surface, good vascularity, and early healing⁴.

We did not find stress incontinence in our patient after 3 months of follow-up. Ventral resection may have a theoretical benefit in this matter due to the intact pubo-urethral ligament and the striated muscle was relatively deficient posteriorly. Some studies showed that stress urinary incontinence was rare after urethroplasty for female urethral syndrome (FUS), it remains unknown whether the dorsal or ventral urethral resection would prove a preferential approach from the standpoint of disruption of the external urethral sphincter⁵.

Surgeons should continue to innovate and search for the most effective techniques, while aiming to minimize patient morbidity and potential complications in managing urethral hemangioma in female patients.

Conclusion

Due to rarity of location misdiagnosis of urethral hemangioma is very common and documented cases of long time misdiagnosed management leading to increased patients suffering has been reported. Biopsy followed by histopathology is the only gold standard method for confirmatory diagnosis hence any suspicious lesion should undergo histopathological evaluation.

Surgical resection followed by direct reconstruction with vaginal mucosa graft urethroplasty is an effective choice for the treatment of cavernous hemangioma urethral in female.

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