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CONTENTS

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The Ad-din Sakina Women's Medical College Journal welcomes the submission of manuscripts including original articles, case reports, review articles, image, short communication and letters to editor. The Journal covers all the fields of medical science and it is the official publication of the Ad-din Sakina Women's Medical College. The Editorial board reserves the right to edit, accept and reject submitted manuscripts.

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4. All authors' names, posts, affiliation at the time they did their work and their highest academic degree(s), cell phone numbers and e-mail addresses should be included. The name of the corresponding author should be mentioned.
5. A cover letter must be signed by the corresponding author and co-author(s). The letter must include the following statement: "This manuscript is my/our own work, it is not under consideration by another journal, and this material has not been previously published."
6. Abstract and key words in the first page followed by the text, prepared in the format of Introduction, Methods, Results, Discussion and conclusion.

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a. Title page
b. Abstract
c. Introduction
d. Methods
e. Results (Tables with titles and Figures with legends)
f. Discussion
g. Conclusion
h. Acknowledgement (if any)
i. References

Each of the sections is to start on a separate page. Page should be numbered consecutively beginning from the abstract.

Title

• Should be short (not more than 15 characters) & specific
• Providing a distinct description of the complete article
• Should include the names of all authors with their designation & their affiliations
• Name of the department and institution where the work has been carried out
• The address of the corresponding authors including contact number & email address
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• Title of the article
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• Avoid abbreviations in the title and abstract except standard abbreviation (eg: DNA)

Introduction

• Statement of the problem with a short discussion of its importance and significance
• Review of the literature(s) related to the problem with pertinent reference
• Objectives/hypothesis/benefits should be clearly stated

Methods

• Research type, place and time
• Description of research variables
• Discussion of research population
• Selection criteria (Exclusion criteria if any)
• Approval of the research involving human subjects by ethical review committee (IRB/ERC) and description of the ethical aspects in such research
• Description of procedure, methods, apparatus, drugs or chemical as applicable
• Statistical procedure should be described and supported by reference

Result

• Present results in a logical sequence in text, table and illustration with most important finding first
• Figure should be numbered as Fig. 1 and table in Roman numerical (Tab. I)
• Do not duplicate data in table and figure
• Table and figure not supportive to the research are strictly discouraged
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References

• Should be followed the Vancouver Format
• Should be numbered consecutively as superscript and should appear on top of the line after the punctuation
• At least 15 references should be included
• At the end of the paper these should be listed in numerical order according to the order of citation in the text

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• Reviews are evidence-based articles about a specific topic using relevant citations from the most recent literature with the authors' conclusions on this subject
• The author is expected to have conducted

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These are short reports based on a focused question arising from a clinical encounter, and accompanied with a summary of the appraised evidence.

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The Editor-in-Chief
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Dear Sir,

I would like to submit an original research manuscript entitled "..... ....." for publishing in your highly esteemed journal.

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We the undersigned give an undertaking to the following effect with regard to our manuscript titled "....." for publishing in Ad-din Sakina Women's Medical College Journal.

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Editorial

Osteoporosis: Stealing in silence

Rizwan ASM

When laymen think about disease, usually the lot that has the ability to kill him catches the most attention. Heart disease, stroke, cancer etc are a good example of that. Even the social paradigm favors this narrative which is reflected in the way health in general is promoted to the masses. So, taking bone health as seriously as brain or heart is something far from reality and ironically may sound like an overstatement to many. Contrary to this unawareness, bone health is of paramount importance as it carries the physical being and maintains many important dynamic functions in the human body like calcium homeostasis. One key pathology that may affect bone without producing any symptom is osteoporosis. The word osteoporosis literally means a bone that has become porous. This happens due to an imbalance between bone making (Osteoblast) and bone breaking (Osteoclast) cells. Bone is composed roughly with two main component namely mineral and matrix. The mineral part is predominantly calcium hydroxyapatite and the matrix is primarily type 1 collagen. In osteoporosis both of these components are eaten up by the osteoclast. As a result, the bone becomes more fragile than usual and is vulnerable to break down at much lower pressure threshold than normal. Understandably the mineral to matrix ratio remains normal as both are decreased. This is not the case in a similarly named bone condition "Osteomalacia" where bone is de-mineralized and mineral to matrix ratio is decreased. The problem with osteoporosis is, it doesn't produce any bells and whistle until it's too late. So, pathological fragility fracture is usually the first presentation of this condition. If anyone has fracture falling from standing height or less it is then labeled as fragility fracture. Common site of fracture in osteoporosis are spine, hip and forearm; the hip being the deadliest as it carries a high overall mortality rate. The precursor to osteoporosis is called osteopenia: reduction of bone mass which is less severe but still capable of causing fracture. To diagnose osteoporosis and osteopenia we need to measure the bone mineral density (BMD) using dual energy x ray absorptiometry (DXA). Patients bone density is compared either with age matched healthy adult (Z score) or young adult (T score) and is plotted against standard deviation from normal. If someone has a bone mineral density 2.5 standard deviation below normal, s/he is labeled as having osteoporosis. The risk of fracture can be assessed by using standardized tools like FRAX scoring devised by world health organization (WHO). Ageing, Menopause, smoking, medication like steroid, chronic inflammatory diseases are some of the important risk factors for osteoporosis. Women are more vulnerable than men to suffer. In Bangladesh, 43.6 % woman aged 16-45 year has osteopenia and 5.5 % have osteoporosis. The figure changes dramatically in post menopausal state as 40.7% woman aged 46-65 year have osteopenia and 41.8 % have osteoporosis[1]. Human attains peak bone density by the age of 20-35 years. From this point onwards the net tendency of bone remodeling is tipped towards resorption. We lose 3% cortical bone and 6% spongy bone in every 12 years. This process can be enhanced by the risk factors of osteoporosis to culminate into a fracture. Although osteoporosis has some legitimate treatment options like anti resorption and anabolic therapies but like any other ailments, prevention is the best. To keep the bone strong, we should adopt healthy life style. We need to eat healthy; containing foods rich in calcium and vitamin D. we need proper sun exposure to ensure activation of cholecalciferol; sun provides

70% of all vitamin D. Exercise is next best thing to do for maintaining healthy bone. Regular aerobic exercise will be of great help; weight bearing exercise within ones physical limit is another excellent way to remain in good shape. But above all, we need to raise awareness of this silent yet potentially dangerous disease among the general public as well as health care providers[2]. Annually 20th October is celebrated as world osteoporosis day organized by International Osteoporosis Foundation (IOF). This year's slogan "step up for bone health" really resonate the need of this condition to be acknowledged.

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Original Article

Foreign bodies in the nose, ear and throat: an experience of 22 years

Rahman MS[1], Rahman M [2], Alam S[3]

Abstract :

Background: *The presence of a foreign body in the ear, nose, or throat is a common condition in both children and adults. It's located in the ENT (ear, nose, and throat) area. FB may be divided into two categories: animate (alive) and inanimate (non-living) (nonliving).* ***Objective:*** *To observed FBs in terms of kind, location, age, gender distribution, and removal technique.* ***Materials and Methods:*** *The clinical materials consist of my entire private chamber. The study was conducted during the period of January 2000 to December 2021. We retrospectively studied the medical records of all patients (>2 years) with foreign bodies, who presented to the emergency room of Bangabandhu Sheikh Mujib Medical College, Faridpur and all my private chambers of Faridpur district level for a foreign body in the ear, nose, and throat. We selected 1482 patients who met the inclusion and exclusion criteria.* ***Results:*** *All foreign bodies removed successfully from the nose with foreign body hook foreign body forceps. No complication was seen any case during removal of foreign bodies from the nose. In ear group, all were removed by foreign body hook without an anesthesia. In throat group, all foreign bodies in the throat removed successfully with foreign body forceps by endoscopy under general anesthesia.* ***Conclusion:*** *All foreign bodies were efficiently removed from the nose and ear without the use of anaesthesia utilizing foreign body hook foreign body forceps. All foreign bodies in the throat were properly removed using foreign body forceps during an endoscopy performed under general anesthesia.*

Keywords: Foreign bodies, ear, nose and throat.

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Introduction

Foreign bodies in the ear, nose, and throat are frequently treated in the emergency room, especially if the patient provides a history consistent with a foreign body and is calm and agreeable with the examination and removal efforts.[1]

When their parents discover or suspect foreign things in their children's ears, noses, or throats, they frequently present to emergency departments.[2,3] Children at an exploring period have a propensity to put items in their ears, nose, and mouth. These youngsters exhibit either abnormal symptoms, such as weeping, general discomfort, unwillingness to eat, and the appearance of blood-stained saliva, or no symptoms at all.[4,5]

It can be found in the ear, nose, and throat (ENT) region. FB may be classified as animate (living) and inanimate (nonliving). The inanimate FBs can further be classified as organic or inorganic and hygroscopic (hydrophilic) or nonhygroscopic (hydrophobic).[6]

Most have focused in management of FBs in pediatric populations. Only a few studies have addressed ear, nose, and throat FBs in adults. Moreover, studies have mostly been hospital based.[7,8]Therefore, population-based data for elucidating strategies for treating ear, nose, and throat FBs should be evaluated.

Methods

The clinical materials consist of my entire private chamber. The study was conducted during the period of January 2000 to December 2021. All procedures were performed in accordance with

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the Declaration of Helsinki. We retrospectively studied the medical records of all patients (>2 years) with foreign bodies, who presented to the emergency room of Bangabandhu Sheikh Mujib Medical College, Faridpur and all my private chambers of Faridpur district level for a foreign body in the ear, nose, and throat. We selected 1482 patients who met the inclusion and exclusion criteria. After the patient was seated in an otolaryngology chair, the head was instructed not to move, and the ears, nose, and throat were observed using the naked eye or endoscope. In the case of a foreign body in the nose, cotton pledget including 1:100,000 epinephrine was placed in the nasal cavity for 5 min to improve visibility, and then removed and observed. If a foreign body was observed, it was removed using suction, bayonet forceps, alligator forceps, tonsil kelly, pick, and steel ear tips. If foreign body removal from the throat was unsuccessful, or if a foreign body was suspected but unverified, the patient was referred to a physician for esophagogastroscopy. Foreign bodies were removed under general anesthesia in an operating room if there was a risk of complications, anatomical problems, or poor compliance. The number of patients with foreign bodies was determined. Foreign body locations, types, presence or absence, removal methods, and complications were reviewed in each location. The foreign bodies were classified based on their location (ear, nose, or throat foreign bodies) and type (food, toy or play instruments, bones, insects, and other). The presence or absence of foreign bodies, removal methods, and complications were determined using medical records.

Results

Table 1 shows that majority (60.2%) patients belonged to age 2-10 years. Almost two third (65.5%) patients were male and 511(34.5%) were female. Male female ratio was 1.9:1. The most common foreign body location was nose 806(54.4%) followed by throat was 371(25.0%) and ear was 305(20.6%) patients (Table-2). In nose group, most common type of foreign bodies was button 137(17.0%) followed by cotton piece 131(16.3%) and rubber 117(14.5%) cases. Others result are depicted in this table (Table-3). In ear group, most common type of foreign bodies was cotton piece 75(24.6%) followed by metallic ball 69(22.6%),

different types of seed 47(15.4%) and ant 41(13.4%) cases. Others result are depicted in this table (Table- 4). In throat group, most common type of foreign bodies was fish bone 183(49.3%) followed by toys 95(25.6%), denture 31(8.4%), ornaments of the mother 13(3.5%) cases. Others result are depicted in this table (Table-5). All foreign bodies removed successfully from the nose with foreign body hook foreign body forceps. No complication was seen any case during removal of foreign bodies from the nose. Eight (1.0%) case needed-general anesthesia in case of children. Others were removed without anesthesia.

In ear group, all were removed by foreign body hook without an anesthesia. Only 12 (3.9%) cases needed general anesthesia among the case of children. During instrumentation in 5 cases-tympanic membrane were perforated but those were healed within three months. In throat group, all foreign bodies in the throat removed successfully with foreign body forceps by endoscopy under general anesthesia. Except one case (age about 65 years) died after 2 hours of removal of foreign body due to development of atrial fibrillation. ECG was not done before given anesthesia in that case. There was no other complications during instrumentation. There was no oesophageal perfection (Table-6).

Table-I: demographic characteristics of the study population (n=1482)

Demographic characteristics		Frequency	Percentage
Age (years)	2-10	892	60.2
	11-15	307	20.7
	16-25	77	5.2
	>25	206	13.9
Sex	Male	971	65.5
	Female	511	34.5

Table-II : Location of foreign bodies of the study population (n=1482)

Location of foreign bodies	Frequency	Percentage
Nose	806	54.4
Ear	305	20.6
Throat	371	25.0

Table III : Foreign bodies of the nose of the study population (n=806)

		Frequency	Percentage
Animate	Cockroach	12	1.5
	Ant	66	8.2
	Maggots	18	2.2
Inanimate	Different types of seed	57	7.1
	Foam	33	4.1
	Leaf	54	6.7
	Button	137	17.0
	Glass piece	63	7.8
	Chalk	45	5.6
	Rubber	117	14.5
	Battery	19	2.4
	Cotton piece	131	16.3
	Paper piece	54	6.7

Table IV : Foreign bodies of the ear of the study population (n=305)

		Frequency	Percentage
Animate	Mosquito	26	8.5
	Cockroach	18	5.9
	Ant	41	13.4
	Maggots	22	7.2
Inanimate	Different types of seed	47	15.4
	Cotton piece	75	24.6
	Metallic ball	69	22.6
	Wax	6	2.0
	Snail	1	0.3

Table V : Foreign bodies of the throat of the study population (n=371)

		Frequency	Percentage
Children	Coin	10	2.7
	Ornaments of the mother	13	3.5
	Toys	95	25.6
Adult	Meat bone	13	3.5
	Fish bone	154	41.5
	Pin/Safety pin	8	2.2
	Needle	6	1.6
	Beads	3	0.8
Older age	Meat bollous	2	0.5
	Meat bone	7	1.9
	Denture	31	8.4
	Fish bone	29	7.8

Table-VI: Outcome of the study population (n=1482)

	Nose (n=806)		Ear (n=305)		Throat (n=371)	
	n	%	n	%	n	%
Successfully removed	806	100.0	305	100.0	371	100.0
Needed general anesthesia	8	1.0	12	3.9	371	100.0
Death after operation	0	0.0	0	0.0	1	0.3
Complication Atrial fibrillation	0	0.0	0	0.0	1	0.3

Discussion:

In this study observed that the majority (60.2%) patients belonged to age 2-10 years. Almost two third (65.5%) patients were male and 511(34.5%) were female. Male female ratio was 1.9:1. Kwon et al.[9] also reported there were 591 females (46.0%) and 694 males (54.0%) among the 1285 patients. The early childhood group had the highest number of patients (n = 672; 52.2%) followed by the late childhood (n = 514; 40.0%) and infancy (n = 99; 7.8%) groups. Other study showed that age between 1–2 years oldwere most frequent age group who visited hospital for foreign bodies.[10] Lee et al.[11] also reported the mean age of thestudy population was 47.2±15.8 years and 47.5% (44,786/94,312) of the individuals were men. Parajuli[12] also reported males werepredominating. Current study showed that the most common foreign body location was nose 806(54.4%) followed by throat was 371(25.0%) and ear was 305(20.6%) patients. Kwon et al.[9] also observed that the most common foreign body location was the throat (n = 761; 59.2%), followed by the nose (n = 429; 33.4%) and ears (n = 95; 7.4%). Lee et al.[10] also reported In total, 94,312 adults with ear (n = 21,786), nose (n Z 1007), throat (n = 62,986), airway (n = 419), or esophageal (n = 8114) FB were identified.

Current study showed that in nose group, most common type of foreign bodies was button 137(17.0%) followed by cotton piece 131(16.3%) and rubber 117(14.5%) cases. Kwon et al.9 observed in the nose, toys were the most common foreign bodies followed by foods and others (55.7%, 23.7% and 20.7 respectively). Parajuli[12] study showed 27 patients (96.42%), all of whomwere children <10 yearsof age, had nonliving FB and only 1 patient had living FB (i.e.,maggots), an adult patient with fungating growth due tocarcinoma of maxilla. Of 27 cases with nonliving FBs, 10patients had hygroscopic FB such as bean, peanut, corn, andgrams, and 17 patients had non-hygroscopic FB such as eraser,paper, sponge, and plastic and metallic objects.

Present study showed that in throat group, most common type of foreign bodies was fish bone 183(49.3%) followed by toys 95(25.6%), denture 31(8.4%), ornaments of the mother 13(3.5%) cases. Kwon et al.[9] reported in the throat, bones were the most common foreign bodies, followed by foods and toys (79.8%, 9.1% and 7.4%, respectively). In other studies conducted in Asia, fish bones were most frequent foreignbody.[13,14] Parajuli[12]the most common type of FB was meat-bone/bolus in the form of chicken, mutton, or buffalo meatand the most common site of the impaction was cricopharyngealjunction in 21 patients (58.3%). The other sites of FBimpaction were oral cavity, oropharynx, hypopharynx, and thoracic esophagus. All the ingested FBwere inanimate, with 26 (72.22%) being organic and 10 (27.77%) being inorganic. Organic FBs weremeat bolus and bone (fish, chicken, mutton, and buffalomeat). The inorganic FBs included denture, coin, and plastic and metallic objects. In elderly people there are commonly other underlying pathologies that cause narrowing of the digestive tract. Coin was the most common FB in the throat in childrenin our study, which is similar to other studies;[15,16] this may bedue to fact that the coins

are often handed to younger childrenand they accidentally swallow because of their tendency totake things into themouth, inadequate control of deglutitionand shouting or crying while playing or eating.

Present study showed all foreign bodies removed successfully from the nose with foreign body hook foreign body forceps. No complication was seen any case during removal of foreign bodies from the nose. Eight (1.0%) cases needed-general anesthesia in case of children. Others were removed without anesthesia. In ear group, all were removed by foreign body hook without an anesthesia. Only 12 (3.9%) cases needed general anesthesia among the case of children.

During instrumentation in 5 cases-tympanic membrane were perforated but those were healed within three months. In throat group, all foreign bodies in the throat removed successfully with foreign body forceps by endoscopy under general anesthesia. Except one case (age about 65 years) died after 2 hours of removal of foreign body due to development of atrial fibrillation. ECG was not done before given anesthesia in that case. There were no other complications during instrumentation. There was no oesophageal perfection. Kwon et al.[9] reportedforeign bodies were removed by an ear, nose, and throat doctor in the emergency room in 625 (95.1%) of 657 patients. Foreign bodies were removed using esophagogastroscopy in 4 patients (0.6%) and under general anesthesia in an operating room in 28 patients (4.3%). Foreign bodies in the ear required removal under general anesthesia more frequently (n = 15/83; 18.1%) compared to those in the throat (n = 7/280; 2.5%) and nose (n = 6/294; 2.0%). Complications occurred in only 4(0.3%) patients; 1(1%) in infancy (epistaxis), and 3(0.5%) in the late childhood (tympanic membrane perforation, external auditory canal injury, and laryngeal mucosal injury) group. However, unlike other studies, there were no severe complications, such as peritonsillar abscesses or infections.[5,17] Parajuli[12] study observed that the FB was removed with or without local anaesthesia (LA) in 98 (73.13%) patients, and only

36 patients (26.86%) required general anaesthesia (GA) in ear group. Only 2 patients required removal of theFB under GA in nose group.

Conclusion:

The most common foreign body location was nose followed by throat and ear. In nose group, most common type of foreign bodies was button followed by cotton piece and rubber cases. In ear group, most common type of foreign bodies was cotton piece followed by metallic ball, different types of seed and ant cases. In throat group, most common type of foreign bodies was fish bone followed by toys, denture, ornaments of the mother cases. All foreign bodies were efficiently removed from the nose and ear without the use of anaesthesia utilizing foreign body hook foreign body forceps. All foreign bodies in the throat were properly removed using foreign body forceps during an endoscopy performed under general anesthesia.

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Original Article

Prothrombin time and activated partial thromboplastin time in preeclampsia.

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Abstract :

Background: *Hypercoagulable state is seen in preeclampsia which acts as a risk factor for thromboembolism & DIC. Altered coagulation indices (PT& APTT) have been reported in patients with preeclampsia and have been suggested as a sensitive marker for detection of bleeding complications.* ***Objective:*** *This study was carried out to compare the coagulation indices in preeclamptic women.* ***Methods:*** *This cross sectional study was conducted in the Department of Physiology, Dhaka Medical College (DMC), Dhaka from January to December 2014. Total 100 women aged 18 – 40 years were selected from the department of Obstetrics & Gynaecology of DMCH, Dhaka for this study. Among them 50 were preeclamptic and age matched 50 healthy nonpregnant women were considered as control group. Data were collected in pre-designed structured questionnaire form by the researcher herself. Prothrombin time (PT) & activated partial thromboplastin time (APTT) were analyzed on automated coagulation analyzer.* ***Result:*** *In this study, prothrombin time (PT) & activated partial thromboplastin time (APTT) were significantly higher in preeclamptic than those of healthy nonpregnant women. Moreover, 88% & 32% preeclamptic patient had raised prothrombin time (PT) & activated partial thromboplastin time (APTT) respectively.* ***Conclusion:*** *From this study it can be concluded that are directly prothrombin time (PT) & activated partial thromboplastin time (APTT)are elevated in patients of preeclampsia. So, measurement of plasma PT & APTT may reflects the severity of disease and helps to provide appropriate treatment to the patient.*

Keywords: preeclampsia, prothrombin time (PT), activated partial thromboplastin time (APTT)

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Introduction

Preeclampsia is a pregnancy specific, idiopathic multisystem disorder characterized by the development of hypertension and proteinuria after the 20 weeks of gestation[1,2]. It may present itself as a primary disorder or may complicate pre-existing pathology like chronic hypertension or chronic nephritis[3].

Preeclampsia can be categorized clinically as (1) mild preeclampsia (blood pressure >140/90mm Hg and proteinuria upto 1+) and (2) severe preeclampsia (blood pressure >160/110mm Hg with proteinuria > 1+) [4]. According to the time of onset, preeclampsia can also be categorized as (1) early onset preeclampsia (before 34 wks gestation) and (2) late onset preeclampsia (after 34 wks gestation) [5].

Preeclampsia creates a functional derangement of multiple organ system. Complications of preeclampsia include eclampsia, placental abruption, ascities, hepatic infarction and rupture, intra-abdominal bleeding, pulmonary edema and acute renal failure. Twenty percent (20%) of women with severe preeclampsia develops HELLP syndrome (haemolysis, elevated liver enzymes, low platelets) and the same percentage (20%) among HELLP syndrome develops disseminated intravascular coagulation (DIC). Complications affecting the developing fetus include intrauterine growth retardation, prematurity, oligohydramnios, bronchopulmonary dysplasia and increased risk of perinatal death[2]. During normal pregnancy profound changes occur in the coagulation and fibrinolytic system of the mother causing a hypercoagulable state. In preeclampsia there is a

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distinct possibility of accentuation of this hypercoagulable state of pregnancy[4].

Numerous studies observed coagulation abnormalities in preeclampsia .The level of anticoagulants such as antithrombin III, protein C and protein S are decreased in these groups. The clotting factors such as factor VIII and von Willebrand factors are elevated in preeclampsia. There is also increase in plasminogen activator inhibitor type 1(PAI-1) in preeclampsia. So preeclampsia is a highly thrombotic and procoagulant state[1].

Measurement of prothrombin time (PT), activated partial thromboplastin time (APTT) are commonly used laboratory tests in patients with a suspected abnormal coagulation. Prothrombin time (PT) and activated partial thromboplastin time (APTT) are done to test the extrinsic and intrinsic pathway respectively. Several studies found significantly prolonged PT& APTT in preeclamptic patients[6]. Increased PT and APTT has been reported in patients with preeclampsia which was not statistically significant[7]. On the other hand, a group of investigators showed no significant change of PT and APTT in preeclampsia[7,8,9]

From the above studies, it has been observed that the result is conflicting. Several studies have done abroad to observe the PT and APTT levels in these groups but their exact relationship with preeclampsia still debatable. As, there is less published data available regarding this topic in our country, the relationship among these parameters in the Bangladeshi preeclamptic is not precisely known. Furthermore, we need a data from which we can compare these parameters in our population.

Methods

The present cross sectional analytic study was conducted in the Department of Physiology, Dhaka Medical College, Dhaka, during the period from January 2014 to December 2014. Protocol of this study was approved by Ethical Review Committee of Dhaka Medical College, Dhaka. For this study, 50 diagnosed preeclamptic women aged 18 to 40 years were selected as group B. Age matched 50 healthy nonpregnant women were considered as control group (group-A) for comparison. The subjects were selected from department of Obstetrics and Gynaecology, Dhaka Medical College Hospital and from personal contact in different areas of Dhaka city by simple random sampling. After selection the nature, purpose, benefit and risks of the study were explained in details. Informed written consent was taken from the participants. Before taking blood detailed family and medical history were taken and recorded in a prefixed data schedule. Plasma prothrombin time (PT) & activated partial thromboplastin time (APTT) were estimated on automated coagulation analyzer, Sysmex CA – 500 series. Prothrombin time was estimated by using the NEOPLASTINE ® CI PLUS reagent. Activated partial thromboplastin time (APTT) was estimated by using the Dade ® Actin ® FSL Activated PTT reagent. In addition BMI was calculated and blood pressure was measured. Presence of proteinuria was determined by conventional heat coagulation test[10].Then interpretation of the heat coagulation test was done according to presence of turbidity in the urine as nil/trace (0), 1+, 2+, 3+ and 4+ [10,11]. For statistical analysis one-way ANOVA test, Bonferroni test and Pearson's correlation co-efficient (r) test were performed as applicable using SPSS for windows version 22.

Results

In this study, prothrombin time (PT) was significantly ($p<0.001$) prolonged in preeclampsia in comparison to control group. Again, activated partial thromboplastin time (APTT) was significantly prolonged ($p<0.001$) in preeclampsia in comparison to control group.

Table-I: 1 General characteristics of the subjects in different groups (n=100)

Parameters	Healthy nonpregnant (n=50)	Preeclampsia (n=50)
Age (years)	28.24±4.63	26.86±5.33
BMI (kg/m2)	26.17±2.58	27.72±3.5
SBP (mmHg)	112.2±7.1	159.8±19.2*
DBP (mmHg)	73.0±6.1	110.0±9.9*
Urinary protein level (gm/L)		1.34±1.72*

Results are expressed as Mean ±SD.Figures in parentheses indicate range.One-way ANOVA test was performed to compare among groups. n = Number of subjects.*p<0.001, compared to control.BMI= Body mass index; SBP= Systolic blood pressure; DBP= Diastolic blood pressure.

Table-II:Prothrombin time (PT) and activated partial thromboplastin time (APTT) of the subjects in different groups (n=50)

Groups	n	Prothrombin time (sec)	Activated partial thromboplastin time (sec)
A	50	11.97±0.35	25.2±2.3
B	50	13.0±0.78	28.1±2.9

Group A : Healthy adult non pregnant women (Control group)
Group B : Women with preeclampsia (Study group)

Results are expressed as Mean ±SD. Figures in parentheses indicate range. One-way ANOVA test was performed. Bonferroni test was performed to compare between groups. n = Number of subjects;* p < 0.05.
The mean prothrombin time (13.0 + 0.78) and activated partial thromboplastine time (28.1+2.9) were significantly higher in preeclampsia than healthy nonpregnant women.

Table-III:Distribution of the subjects by prothrombin time (PT) and activated partial thromboplastin time (APTT) in study groups

Parameters		B2 n(%)
Prothrombin time	< 12 sec	6(12%)
	> 12 sec	44(88%)
Activated partial thromboplastin time	< 28 sec	34(68%)
	> 28 sec	16(32%)

Results are expressed as frequency and percentage. n = Number of subjects
Moreover in this study, elevated prothrombin time (PT) (>12 sec) and activated partial thromboplastin time (APTT) (>28 sec) were found in 88% and 32% of preeclamptic women respectively.

Discussion:

In the present study PT was prolonged in preeclamptic than that of healthy nonpregnant female and the result was significant (P<0.001). This finding was in agreement with the study of many researchers of different countries[6,11]
On the other hand, some researcher found no statistically significant changes in PT in preeclampsia[4,7,8]
In the present study, APTT level was prolonged in preeclampsia than healthy nonpregnant female and the result was statistically significant (P<0.001). Similar type of observations were reported by other workers preeclampsia[4,6,7,11] .
On the other hand, others did not find any significant changes in APTT in between preeclamptic and normal pregnancy[4,12].
Literature review suggested that prolonged PT may be due to endothelial – platelet dysfunction[4].
Again prolonged PT& APTT in preeclampsia were may be due to consumption of blood clotting factors.

Conclusion:

From the result of this study, it may be concluded that PT & APTT are prolonged in preeclampsia than that of healthy nonpregnant women. Therefore, measurement of theses parameters may reflect the severity of preeclampsia and helps to provide appropriate treatment to ensure a satisfactory outcome for mother and fetus. Authors Affiliations :

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Original Article

Variation of Diameter of White Pulp of Spleen of Different Age and Sex in Bangladeshi Cadaver

***Shumi MS[1], Sultana SZ[2], JUddin MK[3], Sultana J[4], Sultana A[5], Sultana S[6], Akhter M[7]**

Abstract :

Background: *Activation and proliferation of T cells and differetion of B cells and plasma cells , as well as secration of antiboidies occure in the white pulp of the spleen; in this regard, the white pulp is the equivalent of other lymphatic organs. The spleen is involved in all systemic inflammations, generalized hematopoietic disorders, and many metabolic disturbances. In each case, the spleen undergoes enlargement, which is the major manifestation of disorders of this organ. It is rarely the primary site of disease. Massive splenic enlargement frequently occurs in the tropics from malaria, Kala-azar and schistosomiasis, and need to medical and surgical intervention. So, detailed anatomical knowledge on spleen is very much important.* ***Objectives:*** *Histological changes are evident in advancing age along with functional capability of the human spleen.* ***Method:*** *This cross sectional descriptive study was done to measure the diameter of white pulp of spleen to establish the difference between sexes of different age groups in Bangladeshi cadaver. The study was carried out in the department of Anatomy, Mymensingh Medical College, Mymensingh from June 2013 to July 2014. A total 30 human spleen were collected by purposive sampling technique from October 2013 to April 2014, among them 14 were male and 16 were female. The specimens were collected from Bangladeshi cadavers of age ranging from 6 months to 60 years, from autopsy laboratory of the Department of Forensic Medicine of Mymensingh Medical College. For convenience of differentiating the diameter of white pulp of spleen in relation to age and sex, the collected specimens were divided into three groups like Group A (upto 20 years), Group B (21 to 40 years) & Group C (41 to 60 years). Each group was again divided into male & female groups. In this study 10 slides from each age group were chosen for measuring the diameter of white pulp of spleen and examined under low power objective.* ***Results:*** *In present study the mean (±SD) diameter of white pulp was 472.35±62.68, 461.93±42.71 and 437.27±46.86µm in Group A, B and C respectively. The maximum diameter in Group A, 180.25µm in Group B and 145.50µm in Group C. The mean difference of diameter of white pulp between group A & B, group B & C and group C & A was statistically not significant at P> .05 level. From this study it was also observed that mean (±SD) diameter of white pulp was higher in male among the age groups but there was no significant difference between sexes. In statistical analysis, differences between age groups and sexes were calculated by using one way ANOVA test and unpaired't' test respectively.* ***Conclusion:*** *The diameter of white pulp increase with age upto certain level then decreases at the late age. There was no statistically significant difference in diameter of white pulp in between age groups and sex r.*

Keywords: Spleen, White pulp, Age, Sex, Bangladeshi cadaver.

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Introduction

The spleen is a large haemolymphoid organ consisting of vascular and lymphoid tissue. It is located in the left quadrant of the abdominal cavity between the fundus of the stomach and the diaphragm, opposite the left ninth to eleventh ribs. It has friable texture due to its rich vascularity. The size of the spleen roughly corresponds to the cupped hand or fist of the subject. It has diaphragmatic and visceral surfaces, the superior and inferior borders and anterior and posterior ends or poles [1]. Splenic parenchyma consists of white and red pulp that is surrounded by serosa and a collagenous capsule with smooth muscle fibres. Trabecular dense connective tissue are rich in collagen and elastic fibres. These with the reticular framework, support the cells of the spleen and surround the vessels in the splenic pulp. Spleen is an elastic, controllable reservoir that is

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important in adjusting the volume of the circulating blood. In life the spleen undergoes both rhythmic and passive contractions. In part this activity is attributed to the smooth muscle in its framework [2,3]. During fetal development the spleen has important hematopoitic functions, which includes white and red blood cells production. Lymphocytes are formed in both types of pulp, but chiefly in the white pulp. The lymphatic tissue of the spleen is not arranged into cortex and medulla. It does have a distinctive pattern of blood circulation and specialized vascular channels that facilitate the filtering of blood [4]. It is also a major site of antibody synthesis. It is particularly important for defence against encapsulated bacteria and asplenic individuals are at risk of overwhelming Streptococcus pneumoniae and H. influenzae infection [5]. therefore, it is important to know the normal histology and variation of diameter of white pulp of the spleen. In this present study, diameter of white pulp of the spleen were studied and compared with the works of many eminent authors in this field.

Methods

The study was carried out in the department of Anatomy, Mymensingh Medical College, Mymensingh from June 2013 to July 2014. A total 30 human spleen were collected by purposive sampling technique from October 2013 to April 2014, among them 14 were male and 16 were female. The specimens were collected from Bangladeshi cadavers of age ranging from 6 months to 60 years, from autopsy laboratory of the Department of Forensic Medicine of Mymensingh Medical College and all the collected specimens of cadavers were from medico-legal cases (suicidal, homicidal and accidental death). Only fresh specimens from persons who died within the preceding 12 hours were chosen. Each specimen was duly tagged by a piece of waxed cloth which bore an identifying number representing individual serial number. Then the specimen was allowed to get fixed for 48-72 hours and preserved in 10% formol-saline solution. For convenience of differentiating the diameter of white pulp in relation to age and sex, the collected specimens were divided into three groups like Group A (upto 20 years), Group B (21 to 40 years) & Group C (41 to 60 years). Each group was again divided into male & female groups. Small pieces of tissue were taken from fresh 30 spleens which were fixed. For microscopic study, 10 slides from group A, 10 slides from group B and 10 slides from group C were collected. Size of the tissue block was 1cmsq and 4-5mm thick. Tissue samples were processed routinely by standard histological procedures, then sections were stained with heamatoxylin and eosin (H & E) stain and permanent slides were prepared. White pulp of the spleen is spherical which was somewhat difficult to measure the actual diameter. To overcome such type of drawback the numbers of ocular micrometer divisions were read out from near to remote margins of the white pulps and measurement were taken twice for each pulp one was maximum transverse diameter of pulp and another at perpendicular to the first one. Then the numbers of micrometer divisions were multiplied by the correlation factor derived earlier from keeping the magnification constant (x 10 objective, x 10 eyepiece). Therefore, the diameter of white pulps was calculated as follows: Diameter of white pulp = (Maximum transverse diameter + perpendicular diameter) ÷ 2 and the average value was taken from each slide and was expressed in µm. All data were recorded in the pre-designed data sheet, analyzed by SPSS program and compared with the findings of other national and international studies and standard text books.

Results

From Table I (a) it was evident that the maximum diameter of white pulp of spleen in Group A 566.40µm (0.56mm), in Group B 580.46µm (0.58mm) and Group C 590.63µm (0.590mm). The minimum diameter was 385.36µm (0.38mm) in Group A, 440.00µm (0.44mm) in Group B and 355.47µm (0.35mm) in Group C. It was also observed that the diameter of white pulp increased upto certain level then decreased in late age.

The mean (±SD) diameter of white pulp was 472.35±62.68µm in Group A, 461.93±42.71µm in Group B and 437.27±46.86µm in Group C. The mean diameter of white pulp was higher in Group A than Group B and C.

The mean diameter of white pulp was maximum in group A, 480.46µm in male and 464.23µm in female and minimum in group C, 442.17µm in male and 432.37µm in female.

The mean difference of diameter of white pulp between group A & B, group B & C and group C & A was statistically not significant at P> .05 level.

Table-I(a): Mean Diameter of White Pulp in Different Age Groups

Age Groups	Number of specimen	Diameter of white pulp (µm) Mean ± SD (Minimum – Maximum)
A (Upto 20 years)	10	447.35±62.68 (385.36-566.40)
B (21 – 40 years)	10	461.93±42.71 (440.20- 580.46)
C (41 to 60 years)	10	437.27±46.86 (355.47- 490.63)

Table-I(b): Comparison of Diameter of White Pulp among the Age Groups

Comparison between variables	Mean difference	Std. error	P	Level of significance
Group A vs Group B	10.421	23.986	0.669	NS
Group B vs Group C	24.657	20.05	0.235	NS
Group C vs Group A	35.078	24.748	0.173	NS

Table-II(a): Mean Diameter of White pulp in Different Sex Groups

Age Groups	Sex	Number of specimen	Mean± SD diameter of white pulp in µm
A (0-20 years)	Male	5	480.46±76.61
	Female	5	464.23±52.97
B (21 – 40 years)	Male	4	478.07±68.31
	Female	6	451.16±11.67
C (41to 60 years)	Male	5	442.17±49.53
	Female	5	432.37±49.27

Table-II(b): Comparison of Capsular Thickness of Spleen between Sexes

Age groups	Mean Difference between sex	t	P	Level of significance
A	7.574±5.186	1.46	0.182	NS
B	32.928±17.987	1.831	0.105	NS
C	11.41±5.128	2.226	0.057	NS

Table- II (a) and figure 1 depicts that the mean (±SD) diameter of white pulp was higher in male (480.46±76.61µm) in Group A, (478.07±68.31µm) in group B and (442.17±49.53µm) in Group C than that of female (464.23±52.97µm), (451.16±11.67µm) and (432.37±49.27µm) in Group A, B and C respectively. Variance analysis shows that there was no significant difference among the age groups at P> .05 level.

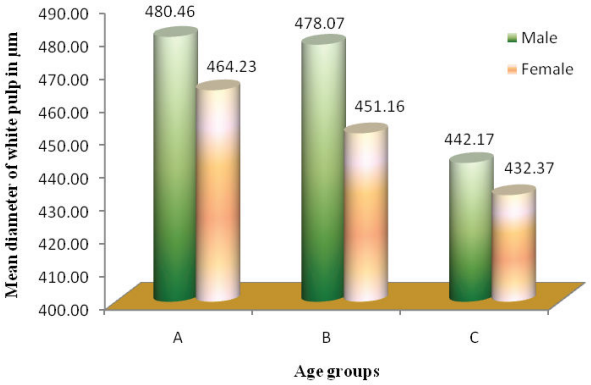
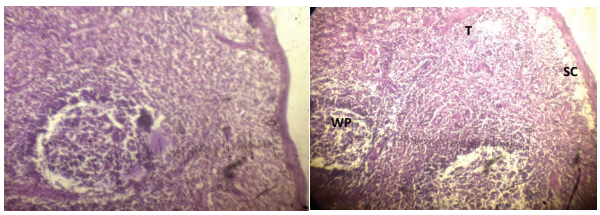


Figure 1: Bar diagram showing the mean diameter of white pulp in different age and sex groups.



Group A **Group B**

Figure 2: Photomicrograph of spleen showing diameter of White Pulp (WP), Red Pulp (RP), Splenic Capsule (SC), Trabeculae (T). H&E stain. X 10:

Discussion:

In this study 10 slides from each age group were chosen for measuring the diameter of white pulp and examined under low power objective (X10 objective, X10 eye piece). From the present study it was evident that, the maximum diameter of white pulp of spleen in Group A 566.40µm (0.56mm), in Group B 580.46µm (0.58mm) and in Group C 590.63µm (0.59mm). The minimum diameter was 385.36µm (0.38mm) in Group A, 440.00µm (0.44mm) in Group B and 355.47µm (0.35mm) in Group C. It was also observed that the diameter of white pulp increased upto certain level then decreased in late age.

The mean (±SD) diameter of white pulp was 472.35±62.68µm in Group A, 461.93±42.71µm in Group B and 437.27±46.86µm in Group C. The mean diameter of white pulp was higher in Group A than Group B and C. The mean diameter of white pulp was maximum in group A, 480.46µm in male and 464.23µm in female and minimum in group C, 442.17µm in male and 432.37µm in female. There was no significance difference in diameter of white pulp among the age groups.

In the present study the mean (±SD) diameter of white pulp was higher in male (480.46±76.61µm) in Group A, (478.07±68.31µm) in group B and (442.17±49.53µm) in Group C than that of female (464.23±52.97µm), (451.16±11.67µm) and (432.37±49.27µm) in Group A, B and C respectively.

Variance analysis shows that there was no significant difference between male and female among the age groups at P> .05 level.

Alim (2008) studied 30 spleens of Bangladeshi cadaver and found that the mean diameter of white pulp about 0.32±0.01mm [6]. The mean diameter of white pulp of present study was higher than Alim because most of the values were close to the lower limit. Young Barbara in 2006 found that macroscopically the spleen appears to consist of discrete 0.5-1 mm white nodules, called the white pulp [7], which supports the present study. Jacobsen C T and Shurin S B in 2003 stated that, the white pulp is grossly visible as the diameter of white nodules ranges from 0.1 to 0.2cm in diameter [8], the mean diameter of present study was lower than those of the above mentioned authors, because most of the values were close to the lower

limit. In 2002 Fawcett state that the cut surface of a hemisected spleen, reveals many rounded, gray areas 9.2-0.8 µm in diameter that collectively constitute the white pulp of the spleen [9].

Conclusion:

From the present study, it was concluded that the mean diameter of white pulp was maximum in group A, minimum in group C in both male and female. It was concluded from this study that the diameter of white pulp decreased with age and not significant difference in between Group A and C. There was no significant difference in between sexes.

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Original Article:

Prevalence and Antibiogram of Escherichia Coli Isolated from Urine Sample of Male UTI Patient

***Fardows J[1], Khatun MN[2], Khatun R[3], Ahmed MA[4], Dhar U[5], Sakib MNU[6]**

Abstract :

Background: *Urinary tract infection is one of the commonest infectious diseases in the society. E. coli is found to be the commonest cause of Urinary tract infection. However, drug resistant E. coli strain has escalated over the past many years.* ***Objective:*** *To observe the possible uropathogen causing UTI and their antibiotics susceptibility.* ***Method:*** *This cross sectional study was conducted in the department of Microbiology, under CHRF (child health research foundation) of Kumudini Women's Medical College Hospital from January to June 2018.* ***Result:*** *Different pathogenic bacteria was isolated and identified by culture and biochemical tests from the urine sample of suspected male patient with UTI attending outdoor service. Out of 200 urine samples, 160 (80.00%) yielded significant bacterial growth. Among them E. coli was the most predominant bacteria 82 (51.25%) followed by Klebsiella 30 (18.75%), Pseudomonas 14 (8.75%), Proteus 10 (6.25%) and different Gram positive bacteria 10 (6.25%). Only antibiotic susceptibility test of E. coli was done. All (100%) E. coli were sensitive to imipenem and colistin sulphate and 100% resistant to ciorofloxacin.* ***Conclusion:*** *it can be said that antibiotic resistance against commonly using antibiotics is increasing in an alarming rate that can pose a great threat for us to treat the outdoor patients.*

Keywords: UTI, Escherichia coli, urine, antibiotic susceptibility

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Introduction

Urinary tract infection is one of the most common bacterial infections and Gram negative bacteria are among the most prevalent bacteria detected from UTI patients.[1] UTI are a global financial burden and the emergence of resistance in uncomplicated and complicated uropathogen is of great concern.[2]

There is a wide spectrum of pathogens causing UTI including *E.coli, Klebsiella, Pseudomonas, Enterobacter, Enterococci and Proteus spp.*[3] Escherichia coli is the most common uropathogen in both uncomplicated and complicated UTI.[4] Antimicrobial resistance is an evolving and growing problem in UTI. Of more concern is increasing incidence of infections caused by strains of E.coli that are resistant to commonly used antimicrobial agents specially to trimethoprim-sulphamethoxazole (TMP/SMX) and beta lactam antibiotics.[5] This multidrug resistance pattern in E.coli might be due to the production of extended sprectum beta lactamase enzyme.[6] Therefore it is necessary for continuous surveillance of antimicrobial resistance of Gram negative organisms specially *E.coli.*[7] The present study is carried out to isolate Escherichia coli from urine sample of male patient by culture and to see their antimicrobial susceptibility pattern.

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Materials and Methods

It was cross sectional study. Urine samples were collected from the outdoor male patients from Kumudini Women's Medical College Hospital. Clean catch mid stream urine samples were collected in sterile containers. A total of 200 urine samples were collected from suspected male patients of UTI during January to June, 2018 in the department of Microbiology, under CHRF (child health research foundation) of Kumudini Women's Medical College Hospital.

Isolation of organisms

All the samples were inoculated on blood agar media and MacConkeys agar media and incubated at 37°C aerobically for 24 hours. The incubated plates were examined for bacterial growth and the organisms were identified by colony morphology, hemolytic criteria, staining character, pigment production and biochemical tests such as oxidase test, reaction in TSI, MIU and Simmon's citrate media and different sugar fermentation test.[8] Only E.coli was taken for determination of antimicrobial susceptibility pattern.

Antimicrobial susceptibility testing

The antimicrobial susceptibility pattern was determined by Kirby Bauer disk-diffusion method on Mueller-Hinton agar using commercially available antibiotic discs (Oxiod, Hampshire, UK) according to CLSI guidelines. [9] The antibiotic disk used in antibiogram for all the Gram-negative bacteria were co-trimoxazole (1.25/23.75 µg), gentamicin (10 µg), ciprofloxacin (5 µg), doxycycline (30 µg), azithromycin (30 µg), amoxiclav (20+10 µg), ceftriaxone (30 µg), ceftazidime (30 µg), imipenem (10 µg), amikacin (30µg/disc), colistin sulphate (10µg/disc), cefixime (30µg/disc), chloramphenicol (30µg/disc), cefepime (30µg/-disc), doxycycline (30µg/disc) and nitrofurantoin (300µg/disc). Escherichia coli ATCC 25922 was used for quality control. Pure colonies of isolated organisms were emulsified in normal saline and turbidity was matched with 0.5 McFarland turbidity standards. Selected antibiotic discs were placed on inoculated Mueller Hinton agar media. These plates were incubated at 37ºC for 24 hours. Resistant and sensitive bacteria were defined according to CLSI guidelines.[9]

Data analysis:

After compiling, data were analyzed using `Microsoft Office Excel 2007` program.

Result

Out of 200 urine samples of suspected cases of UTI of outdoor male patient, 160 (80.00%) samples showed significant bacterial growth. (Table: I)

Among them, E.coli was the most predominant pathogenic bacteria 82 (51.25%) followed by Klebiell 30 (18.75%), Pseudomonas 14 (8.75%) Proteus 10 (6.25%) different Gram Positive bacteria 10 (6.25%) and Acinetobacter 9 (5.63%). (Table: II)

According to disc diffusion method, none of the E.coli was resistant to imipenem, colistin sulphate and amikacin. All 82 (100%) E.coli were resistant to chloramphenicol and ciprofloxacin followed by doxycycline 62 (75.71%) and co-trimoxazole 60 (73.71%). (Table:III)

Table-I: Rate of isolation of bacteria from urine specimen (n=200)

Isolated bacteria	Frequency	Percentage
Significant bacterial growth	160	80.00
No growth	40	20.00
Total	**200**	**100.00**

Table-II: Organisms isolated from urine (n=160)

Organisms isolated	Number	Percentage
Escherichia coli	82	51.25
Klebsiella Pneumoniae	30	18.75
Pseudomonas aeruginosa	14	8.75
Enterobacter	05	3.13
Proteus vulgaris	10	6.25
Acinetobacter	09	5.63
Gram positive bacteria	10	6.25
Total	**160**	**100.00**

Table-III: Serum free thyroxine (FT_4) levels in different age groups (n=120).

Antibiotics	Sensitive %	Intermediate %	Resistant %
Amikacin	75 (91.46)	2 (2.44)	5 (6.02)
Azythromycin	70 (85.37)	5 (6.09)	7 (5.83)
Ceftazidime	70 (85.37)	7 (8.53)	5 (6.02)
Ceftriaxone	70 (85.37)	0 (0.00)	12 (14.63)
Chloramphenicol	0 (0.00)	0 (0.00)	82 (100.00)
Cipfloxaxcin	0 (0.00)	0 (0.00)	82 (100.00)
Co-trimoxazole	20 (24.39)	2 (2.44)	60 (73.17)
Gentamicin	70 (85.37)	0 (0.00)	12 (14.63)
Imipenem	82 (100.00)	0 (0.00)	0 (0.00)
Cefepime	75 (91.46)	0 (0.00)	7 (5.83)
Cefixime	70 (85.37)	0 (0.00)	12 (14.63)
Nitrofurantoin	80 (97.56)	0 (0.00)	2 (2.44)
Doxycycline	20 (24.39)	0 (0.00)	62 (75.61)
Colistin sulphate	82 (100.00)	0 (0.00)	0 (0.00)

Discussion:

In present study, E. coli was the most predominant bacteria (51.25%) found in urine followed by Klebsiella pneumonia (18.75%), Pseudomonas (8.75%) and Proteus (6.25%) which correlates with the studies conducted in Bangladesh, India and Nepal.[6,10,11] Previous study conducted in Dhaka also showed E.coli as the most common uropathogen in Bangladesh.[6,12]

In our study, we found that All 100% E.coli were sensitive to imipenem, colistin and amikacin . Same result was observed in other studies .[6,13] But all are injectable antibiotics and difficult to treat in outdoor patient.

In present study, 100% E.coli were resistant to chloramphenicol and ciprofloxacin and most of the bacteria were resistant to doxycycline (75.61%) and co-trimoxazole (73.17%) which correlates with the another studies .[14,15] These antibiotics are given as empirical therapy in outdoor suspected UTI patient and these are the cost effective also. Increased level of resistance to the commonly used antibiotics might be due to production of extended spectrum of beta lactamases by Gram negative bacteria.[16]

This resistance also might be due to self medication, stop medication before end of antibiotic course and also from lack of knowledge the future danger of antibiotic resistance.

Conclusion :

In this study. most of the antibiotics are resistant which are commonly used and it is very alarming for us. Proper use of antibiotics in proper condition should be done which will help in the proper treatment of the patients and also prevent further development of bacterial drug resistance.

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Original Article:

A Retrospective Study of Death Due to Organophosphorus Poisoning In Dhaka Medical College Morgue

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Abstract :

Introduction:*3 million cases of pesticide poisoning are estimated by World Health Organization in every year. All over the world acute poisoning is common and urgent medical problem is in both developed and developing countries.* ***Objective:****The aim of this study was to determine the relationship of age, sex, marital status, area distribution and manner distributionof victims in case of death due to Organophosphorus poisoning.* ***Methods:****This retrospective study was conducted in Dhakamedical morgue during from January 2016 - December 2016.*

Result:*A total of 3656 medico legal post mortems were performed during this study period, out of which 508(13.89%) cases were identified as poisoning cases among which 332(9.08%) were deaths due to Organophosphorus poisoning. The majority of the victim were males 186(56.02%) while females were 146(43.98%) in number. According to age group the highest incidence of poisoning was found in 21-30 years age group 146 (43.98%) followed by 31-40 age group of 96 (28.92%). Acute poisoning was observed more in married group 219(65.96%) than unmarried group 113(34.04%).Most of poisoning victims 303(91.27%) were rural areas and Suicidal death was the most common manner of poisoning death 294(88.55%) followed by accidental death 38(11.45%).* ***Conclusion:****Variation of pattern of poisoning may depends on country to country even society to society. So we should take preventive measures that may reduce mortality and morbidity due to Organophosphorus poisoning.*

Keywords: UTI, Escherichia coli, urine, antibiotic susceptibility

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Introduction

Organophosphorous compounds are commonly used as Insecticides, Pesticides, Herbicides, Fungicides, Rodenticides, Acaricides, Nematicides, Molluscicides and chemical warfare agents[1]. Poison may be define as a substance (solid, liquid, gaseous) which if administered in the living body or brought to a contact with any part thereof will produce ill health or death by its constitutional or local effects or both. The definition of poison is vague & unsatisfactory for (1) a substance which is harmless in small quantities may act as poison & cause death when take in large amount and (2) bacterial toxins are not regarded as poison[2]. Poisoning case can be in any nature- accidental, homicidal, suicidal, para-suicidal or self-inflicted. In young children, particularly below the age of 5 years they are virtually all accidental whereas in older groups the great majorities are intentional and self-inflicted or suicidal. Criminal homicidal poisonings by comparison are rare. Some populations are more vulnerable to pesticide poisoning. Organophosphorus pesticide exposure occurs through inhalation, ingestion and dermal contact because Organophosphorus pesticides disintegrate quickly in air and light, they have been considered relatively safe to consumers[3]. Poisoning also occurs from fruits and vegetables[4]. With massive ingestion or inhalation symptoms may begin within five minutes and are at maximum half an hour to eight hours. Death is caused by respiratory failure. There are nearly 3 million poisonings per year resulting in two hundred thousand deaths[5,6]. In the United States, farm

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workers can be exposed via direct spray, drift, spills, direct contact with treated crops or soil, or defective or missing protective equipment[7]. World Health Organization (WHO) and several other studies have estimated that Organophosphorous pesticides were responsible for majority of self-at-tempted deaths in the developing world.

Materials and Methods

This retrospective study was conducted in Dhaka medical college morgue during from January 2016 -December 2016. A total of 3656 medico-legal autopsy cases were carried out during this period out of which 508(13.89%) cases were identified as poisoning cases.332(9.08%) were deaths due to Organophosphorus poisoning. All information regarding study has been picked up from the departmental register book & some were our direct observation. Written permission for sample collection was obtained from the authority of Forensic medicine and toxicology department of Dhaka medical college.

Results

After observation, collected data were analyzed. Observations and results were noted carefully. The results were presented in the forms of tables and chart. A total of 3656 medico legal post mortems were performed during this study period, out of which 508(13.89%) cases were identified as poisoning cases. 332(9.08%) were deaths due to Organophosphorus poisoning.

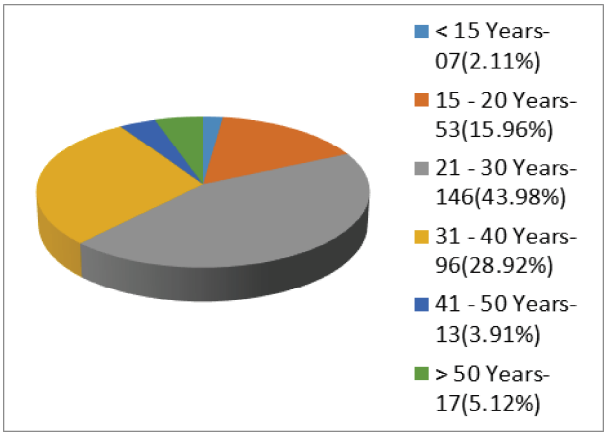
The majority of the victim were males 186 (56.02%) while females were 146(43.98%) in number. Female and male ratio found to be 1:1.3. (Table-1).

Table-I: Sex distribution of poisoning victims & Ratio (n=332)

Sex	No. of victim	Percentage
Male	186	56.02%
Female	146	43.98%
Total	**332**	**100%**

Highest incidence of poisoning was found in 21-30 years age group 146 (43.98%) (Fig-1) followed by 31-40 age group of 96 (28.92%).

Fig-1: Age distribution of poisoning victims (n=332)



In the present study acute poisoning were observed more in more in married group 219(65.96%)(Table-2) than unmarried group 113(34.04%).

Table-II: Marital status of poisoning victims & Ratio (n=332)

Marital status	No. of victim	Percentage
Married	219	65.96%
Unmarried	113	34.04%
Total	**332**	**100%**

Table 3 shows that most of poisoning victims 303(91.27%) were rural areas.

Table-III: Area distribution of poisoning victims & Ratio (n=332)

Marital status	No. of victim	Percentage
Rural	303	91.27%
Urban	29	8.73%
Total	**332**	**100%**

Suicidal death was the most common manner of poisoning death accounting for 294(88.55%) (Table-4) followed by accidental death were 38(11.45%)

Table-IV: Manner distribution of poisoning victims (n=332)

Manner	No. of victim	Percentage
Suicidal	294	88.55%
Homicidal	00	00%
Accidental	38	11.45%
Total	**332**	**100%**

Discussion:

Organophosphate pesticides are one of the top causes of poisoning worldwide with an annual incidence of poisonings among agricultural workers varying from 3-10% per country[8]. Organophosphate poisoning occurs most commonly as a suicide attempt in farming areas of the developing world and less commonly by accident. Exposure can be from drinking, breathing in the vapors or skin exposure[9]. Availability & cheapest of Organophosphorous compounds are responsible for increasing incidences of pesticide poisoning and it being a major cause of morbidity & mortality that poses public health problem in developing countries. The International Agency for Research on Cancer (IARC), found that organophosphates may possibly increase cancer risk[10]. Prenatal exposure has been linked to impaired fetal growth and development. The effects of Organophosphorous compound's exposure on infants and children are at this time currently being researched to come to a conclusive finding[11,12]. Evidence of Organophosphorous compound's exposure in pregnant mothers is linked to several health effects in the fetus. Some of these effects include delayed mental development, pervasive developmental disorder (PDD) and morphological abnormalities[13]. A study performed by Islam & Islam[14] at Sir Salimullah Medical College from January 1988 to December 1997. A total 2534 medico-legal autopsy cases were carried out during this period and 273 deaths by poisoning. Organophosphorus poisoning was the commonest one 37.7%. In the study of Rahman et al., [15] from July 2005 to May 2006 showed that death due to Organophosphorous poisoning were 28%. From the previous study we observed that the death due to Organophosphorus poisoning gradually reduced year by year due to may be social awareness & consciousness. Another study at Dhamrai Thana Health Complex performed from January 1993 to December 1997 showed that males 61.30% were predominant than females 38.70% in poisoning case. Acute poisoning was observed more in married group (68.64%) than unmarried group (31.36%) [16]. In a study of khan et al., [17] total 67 cases were selected as study population. Among the cases 38 (57%) were male and 29 (43%) were female. Majority victims were male which is similar to the findings of Ahamed et al., [18] in the serious of Faiz et al., [19]&karim et al., [20]. In this study by the findings of present study death occurs predominantly in male than female and maximum poisoning victims were from married group. Our findings are similar to the findings of others. In the present series young adult patients 21-30 years are mostly suffered from Organophosphorous poisoning. Faiz et al., [19] in their study reported it among 11-30 years of age group76%. Ahmed et al., 18& Khan et al., [21] showed highest incidences of Organophosphorous poisoning among 10-30 years of age 88.3%. And in the study of Islam et al., [22] indicate the highest victims also the age group 16-35 years of age. Our findings are more or less similar to the findings of others. In densely populated and developing country like Bangladesh poverty, less source of job, familial stress, failure to love, quarrel between family members, unsatisfied working environment, property distributions are the mentionable cause of poisoning. During our study we found those causes were the motives behind poisoning. Very much possible steps should to reduce the incidence of Organophosphorus poisoning related mortality include immediate shifting of the victim to a well-equipped and

well-staffed hospital, careful resuscitation improvement in medical management, and provision of antidotes, intensive care beds, awareness, and education.

Conclusion :

Oragnophosphorus poisoning patient need rapid diagnosis & treatment urgently. Instant recognition, careful monitoring and appropriate management will decrease the complications as well as mortality rate. Mass media has also an important role for awareness buildup of the local people.

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