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EDITORIAL

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PET-CT Scan for Diagnosis of Inflammatory Diseases

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Positron Emission Tomography (PET)-Computed Tomography (CT) or PET/CT scan is defined as fusion technique that combines PET scanner and CT scanner in a single machine and acquires sequential images by two modalities at the same time that are combined into single superposed image. Thus biochemical active areas imaged by PET describes metabolic activity in the body those are precisely aligned or correlated with anatomic imaging obtained by CT scanning. Medical diagnosis are revolutionized by this imaging modality in many fields, by adding precision of anatomic localization to functional imaging, which was previously lacking from pure PET imaging. For example, many diagnostic imaging procedures in oncology, surgical planning, radiation therapy and cancer staging have been changing rapidly under the influence of PET-CT availability.[1] Integrated positron emission tomography/computed tomography with the glucose analogue, 2-[(18)F]-fluoro-2-deoxy-d-glucose (FDG), is an excellent fusion imaging technique for the evaluation of infection and aseptic inflammation. Now it is being recognized that, in addition to its established role in oncological imaging, FDG PET/CT also has clinical utility in suspected infection and inflammation. The technique can identify the source of infection or inflammation in a timely fashion ahead of morphological changes on conventional anatomical imaging techniques, such as CT and magnetic resonance imaging (MRI), map the extent and severity of disease, identify sites for tissue sampling, and assess therapy response.[2,3] FDG PET/CT exhibits distinct advantages over traditional radionuclide imaging techniques in terms of shorter duration of examination, higher spatial resolution, non-invasive nature of acquisition, ability to perform quantitative analyses, and the provision of a synergistic combination of functional and anatomical imaging. With the use of illustrative clinico-radiological cases, this article discusses the current and emerging evidence for the use of FDG PET/CT in a broad spectrum of disorders, such as fever of unknown origin, sarcoidosis, large vessel vasculitis, musculoskeletal infections, joint prosthesis or implant-related complications, human immunodeficiency virus (HIV)-related infections, and miscellaneous indications, such as immunoglobuline related systemic disease.[3-5] Recent studies,[5-7] revealed indications for the use of FDG in infectious or inflammatory diseases, namely localization of abnormal foci to guide the aetiological diagnosis in the presence of fever of unknown origin (FUO), diagnosis of infection in suspected chronic infection of bone and/or adjacent structures (osteomyelitis, spondylitis, discitis or osteitis including presence of metallic implants), diabetes with suspicion of Charcot's

neuroarthropathy, osteomyelitis and/or soft tissue infection, painful hip prosthesis, vascular prosthesis, fever in AIDS. On the other hand detection of the extent of inflammation in sarcoidosis, inflammatory bowel disease, vasculitis involving the great vessels and therapeutic follow-up of unrespectable alveolar echinococcosis, in which it may be used in the search for active localizations of the parasite during medical treatment and after treatment discontinuation. So it can be concluded that PET-CT scan can be utilized as a modality for imaging infection and inflammation other than oncologic diseases.

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ORIGINAL ARTICLE

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Comparison of Carbetocin versus Oxytocin for Decreased Blood Loss from Caesarean Section: A Randomized Clinical Trial

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ABSTRACT

Objectives: *The aim of the present study was to compare the efficacy of oxytocin bolus and infusion to carbetocin bolus followed by oxytocin infusion in reducing operative and postoperative blood loss after caesarean section. Therefore reducing needs for additional uterotonic agents.* ***Methods****: Hundred (100) women scheduled for elective caesarean section under spinal anaesthesia, were included in this study and divided into two groups. Group-O; received oxytocin 10 IU bolus, followed by 20 IU oxytocin in each 1000 ml saline for 24 hours. Group-C; received carbetocin 100 µgm bolus followed by 20 IU oxytocin infusion in each 1000 ml saline for 24 hours. The main parameters were evaluated and blood loss was calculated during caesarean delivery along with 24 hours posto-perative period, in addition to the need for additional uterotonic drugs.* ***Results:*** *Blood loss was compared and accepted clinically in two groups but loss was less during caesarean section in carbetocin groups than that of oxytocin groups. Carbetocin groups did not require any other uterotonic drug but oxytocin groups required other uterotonic drugs during operative and postoperative periods.* ***Conclusion:*** *Carbetocin and oxytocin were comparable for reducing blood loss and maintaining tone of the uterus during and after caesarean section. Additional uterotonic use was significantly lower in carbetocin groups with lower incidence of PPH, blood transfusion, Hb%, Hct% changes within 24 hours. of caesarean section.*

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INTRODUCTION

Caesarean section (CS) is the most common operation for the Obstetricians, but has to take challenge to reduce operative and postoperative bleeding. Rate of CS is increasing up by 20% to 30% in most developed countries; up to 40% in China and as high as 70% in some Latin American countries.[1,2] Now-a-days, PPH has still been the common cause of maternal death after delivery-delivery with incidence of 1:1000, specially in developing countries.[3] The most common cause of PPH (postpartum

haemorrhage) is uterine atony.[3, 4] CS delivery-delivery itself is one of the PPH risk factors.[5,6] For this reason, WHO (in 2012) suggested the PPH prevention methods by administration of uterotonic drugs, immediately after child birth by CS, combined with controlled cord traction for placental delivery.[7]

Current strategies for preventing PPH include, the prophylactic use of utertonic agents to enhance natural contraction and retraction following CS.[8,9] Many factors would affect blood loss during and after CS, e.g. maternal cause (weight, parity, H/O previous CS), foetal cause (multiple gestation, polyhydramnios, malpresentation) and technical cause (operation time, type of incision, placental site and separation technique and type of anaesthesia). To reduce maternal morbidity and mortality caused by bleeding, it is important to reduce the amount of bleeding during and after CS. The guidelines of the Royal College of Obstetricians and Gynaecologists (UK) on CS recommended a slow intravenous bolus dose of 5 IU oxytocin after delivery of the baby.[10] This practice is the same in most countries of the Europe and Australia. In UK, a survey of Obstetricians and Anesthesiologists, the use of oxytocin bolus[11] was standard but dose varied between 5 and 10 IU. So, Obstetrician used an additional infusion of oxytocin on a selective or routine basis to high risk cases.[12] In US, they recommended the use of oxytocin infusion instead of a bolus dose.[13] The very recent Canadian guidelines recommended the use of carbetocin instead of oxytocin at CS.[8] Oxytocin is the most widely used uterotonic agent, but has a half life of only 4-10 minutes. Carbetocin is a synthetic analog of oxytocin with a half life 4-10 times longer than oxytocin. It is used as a single dose (100µgm) slowly I/v or I/m injection.[14] Carbetocin is currently appro-ved in 23 countries for prevention of uterine atony and excessive bleeding following caesarean delivery-delivery in spinal or epidural anaesthesia.

METHODS

This is a prospective randomized clinical study conducted from January 2017 to December 2017 at Delta hospital limited at Mirpur-11, Dhaka, Bangla-desh. Written informed consents were taken from 100 women undergoing elective Caesarean section (CS) under spinal anesthesia. The patients were clinically examined and USG of abdomen, Complete Blood Count, coagulation profile, urine analysis, and blood sugar tests were done. Exclusion criteria were women with coagulopathy, fibroid, placenta praevia, anticoagulant and antiplatelet therapy, and ecclampsia. All women were given subara-chnoid block (spinal anesthesia) using 25 G spinocaine B. BRAUN needle, with a dose of 12.5 mg heavy bupivacaine mixed with 25 µgm fentanyl after preloaded with 1000 ml Hartman solution. All CS were done by same Obstetrician with same team. Intraoperative blood pressure was maintai-ned by using inj. Ephedrine intravenously in 5 mg incremental doses. After delivery-delivery of the baby, women were randomly divided into equal two groups: 50 women were in each group.

Group-O received 10 IU oxytocin bolus (diluted to 5 ml normal saline) intravenously over 2 minutes followed by 20 IU oxytocin in each 1000 ml saline for 24 hours.

Group-C received 100 µgm carbetocin diluted to 5 ml normal saline bolus dose intravenously over 2 minutes followed by 20 IU oxytocin infusion in each 1000 ml saline for 24 hours.

Intraoperative blood loss was calculated by the sum of the amounts of blood loss in suction bottle and estimated blood volume from all blood stained swabs, while postoperative blood loss was calculated by weighing all sanitary pads used within 24 hours. All patients' demographic data, amount of blood loss, blood transfusion, and additional uterotonic agents used, Hb%, Hct% changes in 24 hourrs after CS and side effects were collected in data sheet. Statistical analysis was carried out by using the Statistical Package for Social Sciences (SPSS) Version 22.0 for windows (SPSS Inc., Chicago, Illinois, USA). Continuous data were expressed as the mean standard deviation (SD) and categorical variables are expressed as percentages. Chi-square (χ^2) and unpaired t-tests were done for measuring of

p-values for all statistical tests. A '*p*' value <0.05 was considered as statistically significant.

With the changes of Hb% and Hct% at 24 hours post CS, total amount of blood loss was calculated, transfusion depended on the calculated blood loss. During operation, addition of uterotonic drugs were administered if surgeon perceived inadequate uterine contraction and also in the postoperative period.

RESULTS

Demographic characteristics in two groups of the patients were comparable with no significant differences regarding age, weight, height, BMI, parity. There were no significant differences in preoperative Hb% and Hct% values in both the groups (Table I).

Table I: Comparison of demographic characteristics between two groups (n-100)

Demographic characteristics	Oxytocin-O (n-50) Mean ± SD	Carbetocin-C (n-50) Mean±SD	*p* value
Age (years)	26.80±4.04	26.02±3.47	0.303 ^{ns}
Weight (kg)	77.24±4.50	76.08±4.77	0.214 ^{ns}
Height (cm)	157.69±3.73	157.66±4.08	0.970 ^{ns}
BMI(kg/m2)	31.12±2.42	30.64±2.27	0.312 ^{ns}
Parity-primipara	34(68.0%)	41(82.0%)	
multipara	16(32.0%)	9(18.0%)	0.106 ^{ns}
Preoperative Hb%	11.72±0.71	11.92±0.82	0.196 ^{ns}
Preoperative Hct%	35.07±0.73	35.20±0.74	0.397 ^{ns}

Data were expressed as mean±SD, unpaired student t-test was performed to compare between two groups, s= significant, ns= not significant.

Table II shows operative and 24 hours postoperative blood losses were significantly less in carbetocin groups (297.30 ± 88.37) than oxytocin groups (411.20±93.09), *p*<0.001. Postoperative losses were also significantly less in carbetocin groups than oxytocin groups (166.20±58.26 and 312.70±156.32 respectively, *p*<0.001). Regarding postoperative Hb% and Hct% values, carbetocin group had 11.25±0.82 and 34.19±45.04 respectively similar to oxytocin group (11.25±3.30 and 33.90±3.40 (p=0.257).

Table II: Comparison of operative and postoperative variables between two groups (n-100)

Variables	Oxytocin (n-50) Mean ± SD	Carbetocin (n-50) Mean ± SD	*p* value
Operative blood loss	411.20±93.09	297.30±88.37	<0.001 ^{s}
Postoperative 24 hours blood loss	312.70±156.32	166.20±58.26	<0.001 ^{s}
Postoperative Hb%	11.25±3.30	11.25±0.82	0.993 ns
Postoperative Hct%	33.90±3.40	24.19±45.04	0.257 ns

Data were expressed as frequency, percentage and mean ± SD. Unpaired student t-test was performed for quantitative variables and Chi-squared test (χ^2) was done for qualitative variables. S= significant, ns= not significant.

Table III shows comparison of use of other uterotonic agents in two groups which was significantly

p-values for all statistical tests. A '*p*' value <0.05 was considered as statistically significant.

With the changes of Hb% and Hct% at 24 hours post CS, total amount of blood loss was calculated, transfusion depended on the calculated blood loss. During operation, addition of uterotonic drugs were administered if surgeon perceived inadequate uterine contraction and also in the postoperative period.

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Table III shows comparison of use of other utero-

less in carbetocin group than oxytocin group (4.0% vs 24.0%) (p=0.004). Blood transfusion was needed more in oxytocin group than carbetocin group (14.0% vs 4.0%) but not significant.

Table III: Comparison of use of other uterotonic agents and Blood transfusion in two groups (n-100)

Variables	Oxytocin (n-50) Number (%)	Carbetocin (n-50) Number (%)	*p* value
Use of other uterotonic agents	12(24.0%)	2(4.0%)	0.004 [s]
Blood transfusion	7(14.0%)	2(4.0%)	0.081 [ns]

Unpaired student t-test was performed.
S= significant, ns= not significant.

There were no significant differences in side effects between the groups, but carbetocin group had no headache.

Table IV: Comparison of side effects between two groups (n-100)

Side effects	Oxytocin (n-50) Number (%)	Carbetocin (n-50) Number (%)	*p* value
Nausea	14(28.0%)	20(40.0%)	0.205 [ns]
Vomiting	18(36.0%)	11(22.0%)	0.123 [ns]
Headache	3(6.0%)	00(0.0%)	0.079 [ns]

Data were expressed as frequency, percentage and mean±SD. Chi-square (χ^2) Test was done.
s=significant, ns=not significant.

DISCUSSION

Caesarean section (CS) is a very common operation for the Obstetricians but has to take challenge to reduce blood loss during and after 24 hours of operation. Carbetocin a newer drug having eight aminoacid long chain analogues of oxytocin, having longer half life than oxytocin. Carbetocin has been approved for promoting uterine contraction in order to prevent postoperative bleeding in CS. In the present study, operative blood loss was significantly less in carbetocin groups than that of oxytocin groups (p<0.001). Postoperative blood loss was relatively high in oxytocin groups than that of carbetocin groups but the differences are not significant. Our results were similar to that conducted by Attilacos et al,[8] who reported less blood loss with the use of carbetocin when compared to oxytocin bolus.

Borruto et al,[15] compared carbetocin bolus and oxytocin 20 IU infusion and they found equivalent results regarding maintenance of tonic uterine contraction and limitation of blood loss during and after CS which is matched with this study results. Triopon et al,[14] also found that, carbetocin was similarly effective as oxytocin during CS.

Su et al,[16] in the Cochrane of 2007 regarding "Oxytocin agonists for preventing postpartum haemorrhage" and in the Cochrane of 2012 regarding "Carbetocin for preventing postoperative haemorrhage" concluded that the use of carbetocin is more effective than oxytocin for preventing PPH in women undergoing CS, but the data and evidences were still insufficient.[16] The results of clinical study matched with those results. Regarding the literature about carbetocin, D Dan Zerean et al,[17] firstly described a lower additional uterotonic need for treatment of uterine atony in women who took carbetocin soon after delivery. Also Borruto et al,[15] describe a lower rate of additional oxytocic need in women undergoing CS using carbetocin after delivery-delivery of the baby. In this study, use of other uterotonic agents in carbetocin groups were significantly less (2; 4.0%) (p<0.004), which was matched with above study.

In conclusion, carbetocin and oxytocin are compa-rable drugs for reducing blood loss, maintaining uterine tone during and after CS. Adding oxytocin infusion for 24 hours, postoperatively might decrease blood loss and reduces the need for additional uterotonic agents.

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Table III: Comparison of use of other uterotonic agents and Blood transfusion in two groups (n-100)

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Blood transfusion	7(14.0%)	2(4.0%)	0.081 [ns]

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In conclusion, carbetocin and oxytocin are compa-rable drugs for reducing blood loss, maintaining uterine tone during and after CS. Adding oxytocin infusion for 24 hours, postoperatively might decrease blood loss and reduces the need for additional uterotonic agents.

Conflict of Interest: None

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ORIGINAL ARTICLE

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Incidence of distal urethral stenosis among female diabetic patients with lower urinary tract symptoms (LUTS): A multicentre study

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ABSTRACT

Background: *A lower urinary tract symptom (LUTS) especially with distal urethral stenosis is one of the most embarrassing situations for female patients. Patients with diabetes mellitus (DM), the urethral immune defensive mechanism are compromised. Female patients with DM are more prone to attack of recurrent urinary tract infection (UTI) and that is one of the causes of distal urethral stenosis.* ***Methods***: *Total 90 female patients with LUTS were enrolled in this study after fulfillment of inclusion criteria from July 2016 to July 2018. Among 90 patients with LUTS, 45 patients had DM and another 45 patients did not have DM. LUTS were analyzed in both groups and compared by 'Z',* χ^2 *tests whereas required.* ***Results:*** *In female diabetic patients with LUTS, 19 (42.2%) had distal urethral stenosis, 10 (22.2%) had descended anterior pelvic compartment/cystocele and remaining patients had the other causes of LUTS. In non diabetic female patients with LUTS, the identified causes were 7 (15.5%) distal urethral stenosis, cystocele was 13 (28.9%) and the rest had LUTS due to other causes. Statistical analysis was done and was found that there was a significant difference present between diabetic and non diabetic groups regarding distal urethral stenosis.* ***Conclusion***: *In this study it was concluded that in female diabetic patients with LUTS, the distal urethral stenosis were more common.*

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INTRODUCTION

A lower urinary tract symptom (LUTS) is one of the embarrassing conditions in female patients. It includes both obstructive and irritative symptoms. There are varieties of causes of obstructive LUTS and one of the common causes is the distal urethral stenosis/stricture. There are other many causes

of LUTS in female patients like cystocele/ descended anterior pelvic compartment, over active bladder(OAB), foreign body in urinary bladder, stone, specific infection like TB of urinary bladder, urinary bladder dysfunction, carcinoma in situ (CIS), interstitial cystitis, bladder neck hypertrophy, neurogenic bladder etc.[1] Urethral stricture is the fibrotic narrowing composed of dense collagen and fibroblast.[2] The female urethra is about 4 cm long passing from the neck of the bladder at the lower angle of trigone to the external urethral meatus.[3] The distal urethral stenosis is uncommon in female than male and the reason might include the shorter urethra, anatomical mobility, straighter in course, more degree of protection provided by bony pelvis over its entire length.[4] Many physicians have been reluctant to accept a diagnosis of meatal or distal urethral stenosis in the female.[5,6] In past, this may be due to greater difficulties in examining and calibrating the female urethra. Now-a –days, we can easily examine and calibrate the female urethra with a bougie. Distal urethral stenosis usually involve the last one cm of female urethra.[7] Distal urethral stenosis is a real entity and that its correction may play a significant role in managing female of all ages with symptoms of recurrent UTI. Normally distal urethral ring in female calibrated 14 French scale (Fr.) at age 2 years and 16Fr. between the ages 4–10 years.[8] In this study, distal urethral ring in female, less than 10 Fr., are considered to be narrowed. When distal urethra is stenosed, it may increase the intraurethral pressure up to 200 cm of H_2O (normally up to 100 cm of H_2O) at resting stage, thus attempts of voiding causes intravesical pressure as high as 225 cm of H_2O (normally 30-40 cm of H_2o).[9] This may lead to LUTS. Mcaninch has shown that a high percentage of girls with distal urethral stenosis have increased intravesical pressure on voiding cinecystography.[10] According to Salam, urethral caliber less than 11 Fr. causes flow abnormality.[11] Any degree of urethral obstruction in female leads to an increased lateral intraluminal pressure as a result of straining to void also leads to LUTS. A study conducted by Wyatt- among 72 female patients of different ages with LUTS, 26 patients had distal urethral stenosis.[7] In diabetes mellitus, the immune-defensive system of urethra is weak and is prone to repeated infection. This is due to decreased phygocytosis, leukocyte adhesion, chemotaxis and opsonisation.[12] As a result of repeated infection and healing, stenosis/ stricture of distal urethra and proximal urethra may escape somehow due to sphincter contraction and relaxation of urinary bladder neck. Urethral stricture/stenosis is uncommon in women and the common cause of urethral stricture is one of the common complications of diabetes mellitus is UTI.[13] In presence of UTI, the recurrence rate of distal urethral stenosis in girl is high (about 60%) within one year.[14] So, recurrent UTI of female diabetic patients may play a vital role in the development of distal urethral stenosis. Distal urethral stenosis is rarely congenital in female and ammonia dermatitis is another cause which associated with decreased mucosal immunity in diabetic patient.[2] The present study was carried out to observe urethral stenosis among female patients with diabetes mellitus and LUTS.

METHODS

This was a multicentre observational type of cross- sectional study, enrolling female patients, (both with DM and without DM) suffering from lower urinary tract symptoms (LUTS) for six months or more. The cases were referred from out-patient department of Pabna Medical College and Hospital and from local private health institutions (clinics and laboratories). After ethical clearance from local ethical review committee, total 90 female patients were enrolled and

divided into two groups, group A with DM, and group B without DM. They were selected first by non purposive sampling and after selection were assessed by randomization. The major causes of LUTS of both groups were observed and assessed by history, clinical examinations and examination of urethra and urinary bladder with a bougie and vaginal speculum. Investigation included USG of KUB region. The distal urethral caliber less than 10 Fr. were taken as stenosed in this study. The vaginal speculum was used to assess the anterior pelvic compartment for presence or absence of cystocele. In group A, 45 female patients with LUTS for 6 months or more with DM were divided into three sub-groups according to investigation and clinical examinations as, (i) LUTS with distal urethral stenosis, (ii) LUTS with cystoele or descended anterior pelvic compartment and (iii) LUTS with other causes. The other causes include urinary bladder dysfunctions, foreign body in urinary bladder, interstitial cystitis, over active bladder (OAB), carcinoma in situ (CIS), stone, TB of urinary bladder, bladder neck hypertrophy, neurogenic bladder etc. Those patients having no distal urethral stenosis were sub divided into either LUTS with cystocele (if cystocele were present) or LUTS with other causes. In group B, 45 female patients, with LUTS for 6 months or more without DM, were also divided into three sub groups according to history, clinical examination and investigation as (i) LUTS with distal urethral stenosis, (ii) LUTS with cystocele and (iii) LUTS with other causes (as in group A). Findings of sub groups of both A and B groups were assessed and statistical analyses were done with 'Z' test and χ^2 test.

RESULTS

In group A, maximum age was 45 years and minimum age was 25 years. The mean age and standard deviation were 35.4 ± 5.3. In group B, the maximum and minimum ages were 46 years and 26 years respectively and mean was 37.5± 5.0. The age of patients in both groups were compared and found that there was no significant difference (p> 0.05) (Table I).

Table I: Age distribution of patients in both diabetic and non diabetic group

Group A (Diabetic)			Group B (Non diabetic)			Z value	*p* value
Age group in years	Number of patients	Mean ± SD	Age group in years	Number of patients	Mean± SD		
25 or less	1		25 or less	0			
26 to 30	8		26 to 30	4			
31 to 35	3	35.4 ± 5.3	31 to 35	10	37.5± 5.0	-1.5	>0.05
36 to 40	12		36 to 40	19			
41 to 45	21		41 to 46	10			
46 to 50	0		46 to 50	2			
Total	**45**			**45**			

(calculated Z value was-1.50 and Z value of 5% level of significance was Z 0.05 = 1.96).

The duration of symptoms of LUTS for 6 months or more than 6 months were taken in this study. In group A, the maximum duration of symptoms was 60 months and minimum was 6 months. In group B, the maximum and minimum duration of symptoms of LUTS were 48 months and 6 months respectively. Statistical analysis was done and the result was not significant (p > 0.05) (Table II).

Table II: Duration of symptoms distribution of both groups of the study

Group	Maximum duration of symptoms (months)	Minimum duration of symptom (months)	Mean ± SD	Calculated Z value	*p* value
A (Diabetic)	60	6	20 ± 13.3	0.310	> 0.05
B (Non diabetic)	48	6	18.8 ± 12.6		

Z 0.05 = 1.96

In group A, total 19 (42.2%) patients had distal urethral stenosis after examination in operation theater (OT) with a urethral bougie. In group B, 7 (15.5%) patients had distal urethral stenosis. Statistical analysis was done and calculated χ^2 was 10.817. It was more than tabulated value at 5% level of significance ($p< 0.05$). So, there was significant difference between diabetic and non diabetic groups regarding the distribution of distal urethral stenosis (Table III).

Table III: Distribution of distal urethral stenosis in both diabetic and non diabetic group

Group (Diabetic and non diabetic)	Number of patients	Patients with distal urethral stenosis	Patients without distal urethral stenosis	χ^2 value	*p* value
A (diabetic)	45	19 (42.2 %)	26 (57.7%)	10.817	< 0.05
B (non diabetic)	45	7 (15.5%)	38 (84.5%)		

χ^2 0.05, 1 = 3.84

In group A (diabetic), total 10 (22.2%) patients had cystocele after examination in OT and in group B (non diabetic), 13 (28.9%) patients had cystocele (Table IV). χ^2 test was done and found that calculated value was lesser than tabulated value. So, there was no significant difference between diabetic and non diabetic group for the distribution of cystocele ($p > 0.05$).

Table IV: Distribution of cystocele in both diabetic and non diabetic groups

Group (Diabetic and non diabetic)	Number of patients	Patients with cystocele	Patients without cystocele	χ^2 value	*p* value
A (diabetic)	45	10 (22.2%)	35 (77.8%)	0.523	> 0.05
B (non diabetic)	45	13 (28.9%)	32 (71.1%)		

χ^2 0.05, 1 = 3.84

In group A (diabetic) and in group B (non-diabetic), total 16 (35.5%) and 25 (55.5%) patients had LUTS due to other causes respectively (Table V). The test of significance was done and calculated χ^2 was 3.236. It was less than tabulated value at 5% level of significance ($p>0.05$). So, there was no significant difference between diabetic and non diabetic groups regarding distribution of LUTS due to other causes (over active bladder (OAB), interstitial cystitis. Foreign body in urinary bladder, bladder neck hypertrophy, stone, carcinoma in situ (CIS), specific infection like TB, neurogenic bladder, urinary bladder dysfunction etc.).

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Table IV: Distribution of cystocele in both diabetic and non diabetic groups

Group (Diabetic and non diabetic)	Number of patients	Patients with cystocele	Patients without cystocele	χ^2 value	*p* value
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B (non diabetic)	45	13 (28.9%)	32 (71.1%)		

χ^2 0.05, 1 = 3.84

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Table V: Distribution of patients with LUTS due to other causes

Group (Diabetic and non diabetic)	Number of patients	Patients with LUTS due to other causes	Patients with LUTS without other causes	χ^2 value	*p* value
A (diabetic)	45	16 (35.5%)	29 (64.4%)		
B (non diabetic)	45	25 (55.5%)	20 (44.4%)	3.236	> 0.05

χ^2 0.05, 1 = 3.84

In ultrasonography of KUB region in group A (38, 84.4%) patients had features of chronic cystitis and in group B, (36, 80%) patients had features of chronic cystitis. There was no significant difference between the groups (Table VI).

Table VI: Distribution features chronic cystitis in USG in both group

Group	No. of patients	Number of patients had features of chronic cystitis in USG	Percentage (%)
A (Diabetic)	45	38	84.4
B (Non diabetic)	45	36	80

DISCUSSION

By observing the values in two groups of patients with or without diabetes mellitus (DM), it can be inferred that diabetic female patients with LUTS had more distal urethral stenosis than non diabetic female patients with lower urinary tract symtoms (LUTS). A study conducted by Wyatt (reported in 1975), among 72 female patients without differentiating diabetic and non-diabetic groups of different ages with LUTS showed-that 26 (36.1%) patients had distal urethral stenosis.[7] But in this study, out of total 90 patients, 26 (28.9%) patients were affected by distal urethral stenosis in both groups. It was stated that diabetic patients have decreased urethral mucosal immunity, defective phygocytosis, opsonization and chemotaxis, these cause recurrent UTI leads to stenosis or stricture of urethra.[12] Any degree of urethral obstruction in female invites straining that also causes LUTS.[7] According to Chen et al,[15] UTI are more common (2 to 5 folds) in DM patients, that instigate the complicated course of recurrent UTI which leads to distal urethral stenosis. In diabetic women, asymptomatic bactireurea are more common which is nonresponsive to antimicrobial therapy, so there is more opportunity of UTI that may lead to distal urethral stenosis.[16] In our study, both diabetic group and non diabetic group had cystocele without significant difference. In addition to the above findings of this study, patients with LUTS due to other causes included (over-active bladder (OAB), interstitial cystitis etc (Table V).[1] The ultrasonographyic findings of chronic cystitis of this study showed no significant differences among the group (Table VI). In distal urethral stenosis, the proximal dilated urethra contains the infected urine that regurgitates into the urinary bladder after micturation and causes chronic cystitis.[8] This findings correlate with the findings of this study.

CONCLUSION

We conclude that in female diabetic patients with LUTS, the distal urethral stenosis were more prevalent and features of chronic cystitis were common finding in USG.

Conflict of interest: None.

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Conservative Management of De Quervain's disease and its Outcome before Surgery

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ABSTRACT

Introduction: *De Quervain's disease is a mechanical stenosing tenosynovitis due to inadequacy volume between Abductor Pollicis Longus (APL), Extensor Pollicis Brevis (EPB) and their tunnel. Treatments methods include immobilization, NSAIDs, steroid injections and operation. For the first time Fritz De Quervain described treatment of this disease. Since then, various ways of treatment have been reported.* ***Objective:*** *The purpose of this study was to make proper clinical diagnosis of De Quervain's disease providing conservative treatment to the cases and to observe their outcomes.* ***Methods:*** *This was a clinical trial conducted in the department of Orthopedics, North Bengal Medical College Hospital, Sirajganj for a period of two years enrolling thirty cases of De Quervain's disease.* ***Results:*** *Of the 30 studied patients, 25 (83.3%) were female, and 5 (16.7%) were male and aged between 25 to 74 years. The disease more commonly affected subjects between 31 to 50 years of age (66.7%). All the subjects were treated by conservative management (by Triamcinolone acetonide). Majority (94%) had complete relief of symptoms obtained after 18 months of treatment.* ***Conclusion:*** *According to the study findings, it could be recommended that conservative management along with Triamcinolone acetonide injection might be the first choice before resorting to surgery.*

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INTRODUCTION

In 1885 Fritz De Quervain, a Swiss surgeon, first described De Quervain's tenosynovitis.[1,2,3] De Quervain's disease is described as painful stenosing tenosynovitis of the first dorsal compartment of the hand.[4,5] It is usually caused by overuse or an increase in repetitive activity, resulting in shear microtrauma from repetitive

gliding of the first dorsal compartment tendons (abductor pollicis longus or APL,and extensor pollicis brevis or EPB) beneath the sheath of the first compartment over the styloid process of the radius leading to thickening of the extensor retinaculum of the wrist (and not related to inflammation as was once thought).[3,4,6,7] Predisposing movements include forceful grasping with ulnar deviation or repetitive use of the thumb. Patients usually present complaining of radial wrist pain with thumb movements and tenderness over the first dorsal compartment.[3,4,5] Diagnosis is usually concluded by a positive Finkelstein's test (which causes a reproduction of pain at the radial styloid), as well as the presence of a tender nodule over the radial styloid.[3,4,5,8] The incidence of De Quervain's is not known in primary care, but the prevalence has been reported in the general population in the UK as 0.5% in men and 1.3% in women.[9] De Quervain's has also been shown to usually present in the fifth and sixth decades of life, as well as being more common in pregnant and lactating women.[5]

An increased incidence of this disorder has been found in recent years, and although this may be due to more frequent recognition of De Quervain's disease, it may also be attributed to the type of repetitive occupational trauma performed today, involving continued strain in the use of the hand. It seems that repeated irritation of the sheath and the tendons by forceful back-and-forth motions of the tendons during repeatedly performed operations, particularly dorsiflexion of the wrist and abduction of the thumb, are prone to produce this disease state. As the fibrous sheath becomes more edematous, it encroaches upon its tendons, with further aggravation of the condition. Friction may be increased as the smooth osseous space of the canal is changed by trauma. The role of occupational irritation as an etiological factor is further borne out by the fact that many cases occur when there is a change in occupation or resumption of a former job after a lay-off. This type of indirect trauma seems to be involved in the etiology to a greater degree than does direct trauma.[3,5,8] However, the superficial position of tendons makes them more easily susceptible to external and direct trauma. The disease is noted to be more common in persons who do manual work, particularly those who pinch the thumb while moving the wrist, e.g. housewives, knitters, typists, nurses, switchboard operators, pianists and golfer. It is approximately 10 times more common in females than in males, possibly, because of the greater excursion of the right first carpometacarpal joint in females and it more often involves the right than the left hand, probably owing to the predominance of right-handed people. The age occurrence is anywhere from 25 to 60 years, averaging 46 years. It is frequently unilateral, but occasionally bilateral cases are seen. The role of aberrant tendons in the etiology of this condition is still speculative. Some authors argue that because aberrant tendons occupy more space in the compartment, the factor of frictional trauma is increased. This is refuted by the fact that in cadaver material the incidence of aberrant tendons is approximately the same as in surgical material in persons with typical symptoms.[8] Laiou E noted that in 28% of his cases, trauma to the wrist was reported; however, in only two cases, there was direct trauma and in seven cases indirect trauma. In our series of patients, there were only two who reported any direct trauma in the region involved. In discussing the aetiology, Laiou E noted the relationship to trauma and friction and suggested that this might be a "collagen disorder", as it is often associated with rheumatoid disease.[9,11]

De Quervain's disease is characterized by pain over radial styloid process, onset is gradual but it

may begin acutely following a blow or sudden strain, gripping or lifting, or after a hard day's work involving the use of the wrist and hand.[10] Three criteria were held as essential before such a diagnosis was made. These were: (1) Tenderness on palpating the tendons of abductor pollicis longus and extensor pollicis brevis as they lie along the lower outer border of the radial styloid. (2) Pain, radiating up the forearm and down the thumb, on active abduction and extension of the thumb and aggravated by the resisted movement. Passive movements were invariably painless. (3) Pain on flexing the thumb into the palm and closing the remaining fingers around it.[1] This is further aggravated by forced ulnar deviation of the hand at the wrist (Finkelstein's test). Finkelstein's test was first described in 1930 and has recently been described as being performed in four stages: first with the application of gravity assisted gentle active ulnar deviation at the wrist, then the patient actively deviates the wrist in an ulnar direction, then further passive ulnar deviation by the examiner, and in the final stage, the examiner passively flexes the thumb into the palm.[6,8] The reliability, validity, specificity and sensitivity of this test has not been reported, but authors have claimed that the staged method of testing may be more accurate with higher sensitivity and specificity.[5,6,8] It has also been suggested that a patient must have pain four days out of seven.[9] All cases in the present series conformed to these criteria. This study was carried out to describe the treatment of De Quervain's disease either conservative or surgical management.

METHODS

The clinical trial conducted in the department of Orthopedics, North Bengal Medical College Hospital, Sirajganj for a period of two years enrolling 30 cases of De Quervain's disease. Duration of symptoms varied from five weeks to nine months. On examination, the classical signs, as described by De Quervain were observed. Informed consent was obtained from all the patients selected as subjects in this study. We have tried three types of treatment, two conservative and one surgical. These were: (1) Immobilization of the affected wrist by wrist brace with NSAIDs (Naproxen & Ibuprofen), (2) Injection Triamcinolone acetonide (TC) and (3) Unroofing the tendons by excision of the thickened tendon sheath. The treatment results were categorized into four groups: no pain or disruption of daily life was classified as excellent; occasional pain but no disruption of daily life as good; reduced pain but disruption of daily life as fair; and continued or worsening pain and disruption of daily life as poor. Differences between the two groups in terms of the number of injections, the recurrence of tenosynovitis, the occurrence of complications, and differences in the outcome of the treatment depending on differences in the injecting method were surveyed. All injections were performed by using the same technique. A mixture of 1 ml (10 mg) of TC and 1ml of 1% lidocaine hydrochloride was used for injection. In principle, injections were given a maximum of three times, with an interval of 2 weeks between injections, and treatment was terminated when effects were observed. Prior to intra-sheath injection, regions with tenderness and indurations were confirmed by palpation, and a 26 or 27-gauge needle was inserted vertically through the skin from the site immediately above the region up to the bone. Since resistance is so high, in this position, that the syringe cannot be pushed, the needle was pulled back to reach the point where the syringe could be pushed under resistance, we injected the mixture, stretching the synovial sheath by a volume effect. Sufficient filling in the tendon sheath distally and proximally was confirmed by palpation, and the needle was pulled out when injection was no longer possible. In principle, intra-sheath injection was used, but it should be noted that slight leakage into subcutaneous tissues could have occurred.

RESULTS

Of the 30 study subjects 25 (83.3%) were female, 5 (16.7%) were male and ages were between 25 to 74 years; more commonly occured in 31 to 50 years of age (66.7%) (Table I). More commonly found in housewives and there were no significant changes in treatment due to multiple duration of symptoms (Table II and Table III). When reviewed at two weeks 25 of the 30 patients were completely symptom-free. The remaining five had residual symptoms but all admitted of great improvement. One patient complained of mild aching after prolonged use of the hand but did not consider her symptoms severe enough to warrant a further injection. The fourth patient, a woman of 74, complained of weakness of grip but had no pain. On examination no weakness could be seen. Twenty-nine patients were seen 12 weeks after injection. Some 27 (90%) remained free of symptoms and signs apart from the thickening that was present in 8 (26.7%) patients. The patient who had complained of mild aching continued to do so, but again did not think her symptoms were severe enough to warrant a further injection. The symptoms of the patient complaining of weak grip were also unchanged but no local or systemic cause was found. She remained free of pain. Twenty-eight (94%) patients were seen after 18 months. One patient was reviewed and stated that she had remained symptom-free, and the patient who had complained of mild aching had become symptom-free.

The patient who complained of weakness of grip continued to do so. One patient who had been symptom-free at 12 weeks had a recurrence some three months before review. A further injection was given. Thus after 18 months, 27 of the 30 (90%) patients were symptom free and one, the 74-year-old woman, had no pain but professed weakness, which in no way incapacitated her. Twenty eight (94%) incidence of complete relief of symptoms was obtained after 18 months.

Table I: Age and gender distribution of study subjects

Age (in years)	Gender		Total (%)
	Male	Female	
<30	0(0%)	6(24%)	6(20%)
31 to 50	3(60%)	17(68%)	20(66.7%)
51 to 70	2(40%)	1(4%)	3(10%)
>70	0(0%)	1(4%)	1(3.3%)
Total	**5 (16.7%)**	**25 (83.3%)**	**30 (100%)**

Table II: Occupation of the study subjects

Occupation	Number (n)	Percentage (%)
Housewife	11	36.7
Religious teacher	04	36.7
Machine operator	04	13.3
Sales girl	02	6.7
Physician	02	6.7
Nurse	02	6.7
Checker	01	3.3
Typist	01	3.3
Painter	01	3.3
Plumber	01	3.3
Stitcher	01	3.3

Table III: Duration of symptoms prior to treatment

Duration in months	Number (n)	Percentage (%)
Less than six months	15	50
Seven to twelve months	14	46.7
Above thirteen months	01	3.3
Total	**30**	**100**

DISCUSSION

De Quervain's disease is a painful and often disabling condition which is readily amenable to treatment. It has frequently been stated that immediate surgery should be carried out on the grounds that the operation is quick and simple. This is undoubtedly so, but an even simpler treatment which carries a 96% success rate is preferable to surgery. Woods,[13] in a series of 36 cases, claimed 83% as symptom free, compared with 93%in this series.

Recently, nonsurgical treatment using intra-sheath steroid injections has been revie-wed.[12,14,18] We performed intra-sheath injections of Triamcinolone acetonide (TC) for patients with De Quervain's disease, and the efficacy rate was 94% in this study. Richie and Eriner,[15] who reviewed seven current reputable papers and surveyed the treatment outcomes concluded that the efficacy rate of injecting the steroid alone was 83%. Although the evaluation method in this study was different from that in their reports, our outcomes were much better than those previous reported. As Froimson[19] observed, surgery is readily chosen to treat De Quervain's disease with the view of reducing the treatment period and preventing recurrence despite good outcomes with intra-sheath injection. Surgical treatment has been chosen for tenosynovitis without careful consideration, and nonsurgical treatment has not been emphasized.[14]

The exact aetiology of De Quervain's disease is not known, though the onset is often but not invariably associated with unaccustomed use of the hand. It is, however, acknowledged to be an inflammatory condition.[20] Corticosteroids are known to be among the most potent anti infla-mmatory agents, so that logically hydrocortisone should be the initial treatment of choice. The recent use of hydrocortisone in other soft-tissue lesions prompted this survey of its use in De Quervain's disease. The results of this small series are encouraging and seem to merit further trial of the method. It appears that hydrocortisone has a place in the treatment of this troublesome condition and may be used as an alternative to surgery in many cases. With supplies of hydrocortisone becoming more plentiful, this simple method of treatment may become more widespread, thereby making it unnecessary for most patients to undergo operation. The action of TC in the body remains to be clarified. Since TC is a lyophobic steroid and has two insoluble methyl groups in the constitutional formula, the absorption of TC by tissues is slower than that of other steroids and it remains in the tendon sheath for a long time, so the anti-inflammatory effects of TC are considered to persist from 2 weeks to about 1 month after injection.[21] TC is, therefore, considered more effective in treating chronic inflammation, such as De Quervain's disease, than other steroids. However, before starting the treatment, patients should be fully informed of a transient increase in pain and side effects of TC on the skin and subcutaneous tissue, which may persist for a time after injection.

In those cases in this series in which treatment has succeeded, full function has been restored

and all pain relieved almost immediately after the injection, although in one or two, there was a, time interval of several days before full relief was experienced. It is difficult to retain patients for long periods of observation when complete relief of symptoms has ensued. Nevertheless, although relief for one hundred days has been regarded as a cure for the purpose of this series, it is known that several patients have had no relapse for periods approaching six months. It will also prove valuable in patients not wishing to undergo surgery and has the great advantage of leaving no scar. If further experience substantiates, in these findings, it would appear to be the treatment of choice in De Quervain's disease and in tenosynovitis occurring at other sites. Probably, the previous reported poor results with this treatment were due to faulty technique. Correct technique, which is possible with minimal practice, is all important. As shown in this series, correctly administered triamcinolone acetonide provides comparable if not better results to those of surgery.[11] It is suggested that cases of De Quervain's disease should first be treated by conservative management along with local steroid injection after two or three times with a interval of two weeks, and that those who relapse within a short period be referred for operation in the usual way.

CONCLUSION

The study findings suggested that diagnosis should be made by proper physical examination keeping in mind the possibility of overlooking. It could be recommended that conservative management by Triamcinolone acetonide injection might be the first choice before resorting to surgery. Further study with a much larger sample from different institutions suggested to confirm the outcome of the disease.

Conflicts of Interest: None

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ORIGINAL ARTICLE

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ECG Changes of the Patients of Chronic Obstructive Pulmonary Disease

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ABSTRACT

Background: *Chronic Obstructive Pulmonary Disease (COPD) is one of the major health problems and causes of chronic morbidity and mortality worldwide, including Bangladesh. COPD is a preventable and treatable disease which occurs mainly due to longtime smoking, which is also a major public health problem worldwide. Rise in morbidity and mortality from COPD will be the greatest in Asian and African countries as a result of the increasing trend of tobacco consumption in these regions. A timely assessment of the cases of COPD would prevent many of the long-term complications of these patients. In the present study, Electrocardiography (ECG) was performed to observe changes among the patients with COPD. This study is conducted to observe ECG changes of the patients with COPD.* ***Methods:*** *It was an observational study carried out among the patients with COPD in the In-patient and out-patient Department of Medicine, Rajshahi Medical College Hospital, and Rajshahi for two years from July, 2010 to June, 2012. According to inclusion and exclusion criteria, 64 consecutive cases of COPD, both males and females, aged within 40-70 years were selected. Thorough history, physical examination, Lung Function Test (Spirometry) and ECG were done.* ***Results:*** *Among the 64 cases, 22(34.4%) showed ECG changes and 42(65.6%) had normal ECG. Observed ECG changes were Right axis deviation, P-pulmonale and Right Ventricular Hypertrophy (RVH).* ***Conclusion:*** *ECG changes would help in early detection of cardiac morbidity among those patients and manage them accordingly.*

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INTRODUCTION

Chronic obstructive pulmonary diseases (COPD) are one of the chronic disabling diseases of the lungs. This disease is a major health problem and a cause of chronic morbidity and mortality worldwide, including Bangladesh.[1]

COPD is a preventable and treatable disease with some significant extra pulmonary effects that may contribute to the severity in individual patients. Its pulmonary component is characterized by airflow limitation that is not fully reversible. COPD is caused by a mixture of small airway disease (Obstructive bronchiolitis) and parenchyma destruction (emphysema), the relative contributions of which vary from person to person.[2]

Most common COPD patients are middle aged or late adults and longtime smokers. Among the risk factors, tobacco smoking, either active or passive, current or previous, have impact with a higher respiratory symptoms and lung function abnormalities, a greater annual rate of decline in forced expiratory volume in 1st second (FEV_1) and a greater COPD mortality rate than those among the non-smoker cases. Other factors includes occupational dusts and chemicals, indoor and outdoor air pollution (almost equal in men and women in developed countries), childhood infection and socio-economic status.[3] Overall prevalence of COPD varies across countries; it is appreciably higher in smokers and ex-smokers compared with non-smokers, in those older than 40 years compared with those younger than 40 years and in men compared with women.[4,5]

Recently, it has been realized that COPD, is associated with a number of co-morbidities, e.g. ischaemic heart disease, hypertension, diabetes, heart failure and cancer. COPD is the 4th of the most important causes of death and is predicted to be 3rd most common cause of death and 5th most common cause of disability worldwide by 2020.[3]

According to a study known as BOLD-BD[1] on COPD conducted by Bangladesh lung foundation, burden of COPD in Bangladeshis can be predicted by the following findings:

prevalence in >40 years of age was 21.24% and prevalence in general population was 4.3%. So, this study is conducted to find out the ECG changes in COPD patients.

METHODS

This observational study was conducted in the Department of Medicine both indoor and outdoor, Rajshahi Medical College Hospital, Rajshahi, during a period of two years from July, 2010 to June 2012. All patients fulfilling the inclusion and exclusion criteria were included as cases. Inclusion criteria were the cases of COPD, aged between 40 to 70 years. Both male and female were enrolled. Exclusions were age less than 40 years and more than 70 years. Patients having other co-morbidities viz. ischaemic heart disease, chronic kidney disease, chronic liver disease, valvular heart disease and hypertension were also excluded. Sample size was 64 cases, in coherence with the prevalence of the disease in the general population in Bangladesh to be 4.3%.

This study was intended to observe the electrocardiographic (ECG) changes among the patients of chronic obstructive pulmonary disease (COPD). All the cases had undergone complete history taking, physical examination and spirometric examination. Among the suspected cases, an initial screening spirometry was done without using bronchodilator inhalation and the cases showing significant obstruction were having either COPD or Bronchial Asthma. Among the obstructive cases, post-bronchodilator spirometry was done to select the cases with irreversible obstruction, i.e., COPD (FEV_1 increment <15%) and to exclude the cases with reversible obstruction i.e. bronchial asthma (FEV_1 increment ≥15%). Then staging of COPD was done according to GOLD's criteria (2009). ECG

was done among the COPD cases to observe changes.

Data were collected after taking informed consent of the patients. The data was analyzed with the help of SPSS (Statistical Package for Social Science) software program version 16.0. Descriptive analytical technique involving frequency distributions, computation of percentage was applied. Association between variables was conducted applying statistical tests. P-value of <0.05 was considered significant.

RESULTS

Among the 64 cases of COPD under this study, 19(29.7%) were aged between 40-50 years, 18 (29.7%) were between 51-60 years and the remaining maximum group of 27(42.2%) cases were between 61-70 years (Table I).

There was only 1(1.7%) female case of COPD and, all other cases (63,98.4%) were males (Table II).

Maximum cases of COPD were farmers 55 (85.9%), followed by businessmen 5(7.8%) and service holders 4(6.3%). (Table III).

Table I: Age distribution of the cases of COPD

Age group (years)	Cases of COPD (n-64)	
	Number	%
40-50	19	29.7
51-60	18	28.1
61-70	27	42.1
Total	**64**	**100**

Table II: Sex distribution of the cases of COPD

Sex	COPD (n-64)	
	Number	%
Male	63	98.4
Female	01	1.6
Total	**64**	**100**

Table III: Occupation distribution among cases of COPD

Occupation	COPD (n-64)	
	Number	%
Farmer	55	85.9
Businessman	05	7.8
Service	04	6.3
Total	**64**	**100**

Some 59(92.2%) cases of COPD had normal mean QRS axis and 5 (7.8%) had right axis deviation but no case had left axis deviation. (Table IV).

Table IV: Mean QRS axis in ECG among cases of COPD

Axis	COPD (n-64)	
	Number	%
Normal	59	92.2
Right axis deviation (RAD)	05	7.8
Left axis deviation (LAD)	00	00
Total	**64**	**100**

Table V: P-wave changes in ECG among the cases of COPD

P-wave changes	COPD (n-64)	
	Number	%
Normal	42	65.6
Pulmonale	22	34.4
Biphasic	00	00
Multiform	00	00
Total	**64**	**100**

Table V shows 22(34.4%) cases of COPD had P-pulmonale (amplitude of p wave > 2.5 mm).

Table-VI: QRS amplitude changes in ECG among the cases of COPD

QRS complex	COPD (n-64)	
	Number	%
Normal	42	65.6
RVH*	22	34.4
LVH**	00	00
BVH***	00	00
Total	**64**	**100**

Table VI shows that, out of 64 cases of COPD, 42(65.6%) were normal QRS amplitude and 22(34.4%) showed RVH.

*RVH (Right Ventricular Hypertrophy): Tall R wave in V_1>7mm (also deep S in V_5 or V_6).

**LVH (Left Ventricular Hypertrophy): S in V_1 + R in V_6 or V_5>35 mm ($SV_1 + RV_6$>35 mm).

***BVH (Both Ventricular Hypertrophy): Finding of RVH and LVH as described above.

Table VII: Distribution of the cases of COPD with normal and abnormal ECG

ECG	COPD (n-64)	
	No.	%
Normal	42	65.6
Change present	22	34.4
Total	**64**	**100**

Table VII shows 42(65.6%) were normal ECG and 22(34.4%) showed ECG changes out of 64 COPD cases.

DISCUSSION

Chronic obstructive pulmonary disease (COPD) is a major health problem and causes chronic morbidity and mortality throughout the globe including Bangladesh.

According to GOLD[2] (Global Initiative for Chronic Obstructive Lung Disease) in its Global Strategy for diagnosis, management and prevention executive summary, update 2009, the risk of developing COPD is inversely related to socioeconomic status, i.e., COPD occurs more in lower education, occupation and income groups of people in risk. Our study result was consistent with this because our study showed that COPD had occurred more among the farmers with lower socioeconomic status.

According to a study conducted on Burden of Obstructive Lung Diseases in Bangladesh,[1] the main age group involved by COPD was 40-50 years (42.0%). For the age group 51-60 years involvement was 26.6% and for 61-70 years, it was 20-7%. But in our study, it was 29.7%, 28.1%, 42.2% for the age group 40-50 years, 51-60 years and 61-70 years respectively.

The study in India[6] showed peaked p-wave in 35.7%, QRS axis deviation 14.3% patients and normal QRS complex in 85% of their cases.

In our study, 7.8% COPD cases were right axis deviation (RAD) but no left axis deviation (LAD), 34.4% were having peaked p-wave and 65.6% were normal QRS complex and 34.4% cases were right ventricular hypertrophy (RVH).

The study in VSS Medical College[7] showed in their study that right ventricular dilatation was 60% in COPD cases. In our study, 34.4% showed right ventricular dilatation in COPD cases. In our study, 42 (65.6%) showed normal ECG and 22(34.4%) showed ECG changes.

CONCLUSION

In this study, ECG changes were 34.4% in COPD patients. So, while treating COPD patients, physician should be aware of the cardiac condition also.

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ORIGINAL ARTICLE

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Age of Introduction of Complementary Feeding for under-Two Years Children in a Rural Area of Bangladesh

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ABSTRACT

Introduction: *Proper human growth and development builds social capital, the foundation of which is laid in childhood through exclusive effective breastfeeding for the first six months, and thereafter complementary feeding. This study explored the time of introduction of complementary feeding in a rural setting of Bangladesh to contribute to policy guidelines.* ***Methods:*** *This cross-sectional descriptive epidemiological study was conducted among under-two years children in a rural area of Jashore district. Considering available resources, purposive sampling technique picked up peer-reviewed sample size of 234 under-two years children, whose mothers were interviewed on their child's complementary feeding practices. The information generated from analyzed data was interpreted through ethic approach. All ethical issues including avoiding plagiarism were taken care of.* ***Results:*** *Findings on mothers of under-two years children show that 143 (61.1%) had completed 6-10 years of schooling,220 (94.0%) were involved in household chores, and majority 94 (40.2%) had monthly family income of Taka 5,000-10,000. Among the under-two years children, 71 (30.3%) were in modal age 19-24 months with mean of 13.4 months; and 108 (46.2%) were female and 126 (53.8 %) were male. Among under-six months children, 11 (22.9%) were initiated with complementary feeding. Among 6-24 months children, complementary feeding for almost all (94.7%) was introduced at 6-9 months age, where the mean age was 7.7 months.* ***Conclusion:*** *About one-fourth of the under six months children were being fed complementary food, while 162 (94.7%) of 6-24 months children were getting complementary food by 6-9 months age. Child-feeding practices appear as a complex of biological, psychosocial and economical phenomena. Further studies may be undertaken among those who initiate early and/or late complimentary feeding to identify causal constellation of factors in child-feeding practices in rural Bangladesh.*

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NTRODUCTION

The World Health Organization (WHO) currently recommends exclusive breastfeeding for the children during first 6 months of life, followed by introduction of adequate and balanced complementary food.[1] The complementary feeding period accompanies a critical window of vulnerability, when energy-yielding food and micronutrient deficiencies can occur, because children have higher demands relative to increased requirements.[2] The Govern-ment of Bangladesh is implementing policy to sensitize its population to adopt timely comple-mentary feeding for children.[3]

Bangladesh is a developing country in South Asia, where the population living in rural areas is more than in urban areas. The health care practices of rural people are different from those of urban people in some aspects. Also, within rural population there is variation among communities.[4] This variation in practices is reflected in child-feeding practices too in terms of breastfeeding and complementary feeding.[5] A rural area in Jashore district of Bangladesh was selected as the study area to explore the complementary feeding practices for under-two years children.

Adequate nutrition during infancy is essential to ensure the growth, health, and development of children to their full potential.[6] Too early or too late introduction of complementary feeding may lead to nutritional deficiencies of essential minerals and vitamins.[7] The intention of this survey was to explore the age of introduction of complementary food among under-two years children of a selected rural area of Bangladesh. This study was expected to give baseline data on breastfeeding practices in a selected area, so that the concerned can take measures accordingly. The findings of this survey may not be generalized for all children of Bangladesh, as only a selected population was studied. The type and amount of complementary food, and reasons for early or late introduction of complementary food were kept out of purview of this study. More extensive issues could be brought under the study, but resource constraints limited its purview.

METHODS

This cross-sectional descriptive epidemiological study was executed in a rural setting of Chowgacha sub-district of Jashore district in Bangladesh during 2016. Under-two years children were the study population, and their mothers were the data source. Considering available resources, purposive sampling technique picked up peer-reviewed sample size of 234 under-two years children, whose mothers were interviewed on their child's complementary feeding practices. Face-to-face interview was the method of data collection using interviewer administered structured questionnaire. The data collection instrument was pretested before its finalization.At the end of each day of data collection, the data were sieved through for appropriateness and cohesiveness. Data were entered in computer for compilation for descriptive statistical analysis. The information generated from analysis was interpreted through ethic approach. Ethical issues as informed verbal consent; maintenance of anonymity and confidentiality; avoidance of deception; avoida-nce of physical, chemical, biological and psycho-social intervention; and avoidance of plagiarism were taken care of.

RESULTS

Majority 160 (68.4%) of the mothers of children were in the age group 20-30 years as depicted in Table I. The mean age of mothers was 24.2 years with a standard deviation of 1.8. About 9 (3.8%) mothers were illiterate. The modal group of years of completed schooling was 6-10 years which accounted for 143 (61.1%) of the mothers, is shown in Table II.

Table I: Age distribution of mothers of <2 years child (n-234)

Age group (in years)	Number	%	Mean (in years)	Standard deviation
<20	47	20.1	24.2	1.8
20-30	160	68.4		
30-40	25	10.7		
>40	2	0.9		
Total	**234**	**100.00**		

Table II: Educational status of mothers of <2 years child (n-234)

Educational status (completed years of schooling)	Number	%
0 (Illiterate)	9	3.8
<1	0	0.0
1-5	43	18.4
6-10	143	61.1
11-12	22	9.4
13-16	14	6.0
16+	3	1.3
Total	**234**	**100.0**

The highest 220 (94.0%) of the mothers' occupation was household chores as shown in Table III. The modal family income of the mothers was in the class interval of Tk. 5,000-10,000, which accounted for 94 (40.2%) of mothers. The mean monthly family income of mothers was Taka 11,773.50 as shown in Table IV. Table V shows that the modal age of under-two years children was 19-24 months, which accounted for 71 (30.3%). The mean age of children was 13.4 months, with a standard deviation of 0.9. Sex distribution of under-two years children in Figure-1 shows that 108 (46.2%) were female, while the rest 126 (53.8%) were male. Among the under 6 months child, 54 (22.9%) were initiated with complementary feeding, while 180 (77.1%) were not initiated, as shown in Figure 2. On attempts to find the age at which complementary feeding was introduced among less than 6 months child, it was seen that about 1-2 (10-20%) were initiated at any one month, as shown in Figure 3.

Delving into exclusive breastfeeding history in the first 6 months of life among 6-24 months children, Figure 4 reveals that 25 (13.4%) were exclusively breastfed, while the rest were not.

Table III: Occupation of mothers of <2 years child (n-234)

Occupation	Number	%
Household chore	220	94.0
Service-holder	5	2.1
Student	9	3.8
Total	**234**	**100.00**

Table IV: Monthly family income of mothers of <2 years child (n-234)

Income (Taka)	Number	%	Mean (Taka)
<5,000	37	15.8	11773.5
5,000-10,000	94	40.2	
10,001-15,000	47	20.1	
15,001-20,000	16	6.8	
20,001-25,000	18	7.7	
25,001-30,000	6	2.6	
30,001-35,000	16	6.8	
Total	**234**	**100.0**	

Table V: Age distribution of < 2 years child (n-234)

Age (in months)	Number	%	Mean (in months)	SD
0-6	48	20.5	13.4	0.9
7-12	53	22.6		
13-18	62	26.5		
19-24	71	30.3		
Total	**234**	**100.0**		

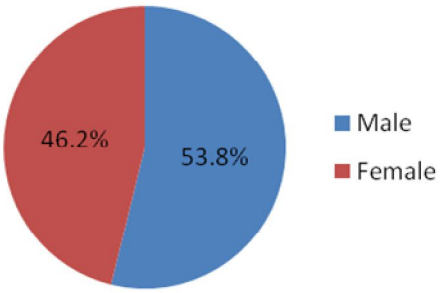

Figure 1: Pie chart showing sex distribution of <2 years child (n-234)

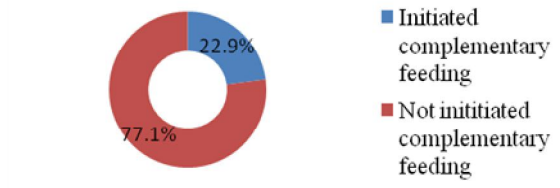

Figure 2: Doughnut showing initiation of complementary feeding of < 6months child (n-48)

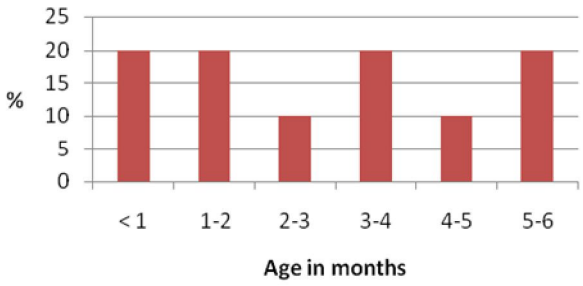

Figure 3: Bar chart showing age of introduction of complementary feeding of <6 months child (n-10)

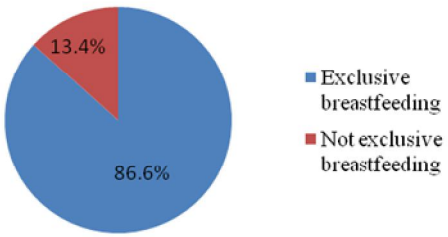

Figure 4: Pie chart showing history of exclusive breast feeding in first 6 months among 6-24 months child (n-186)

History of initiation of complementary feeding among 6-24 months child shows that 171 (91.9%) had initiated complementary feeding during the period, while the rest had delayed beyond this time period. This is shown in Figure 5. On attempts to find the age at which complementary feeding was introduced among 6-24 months child, it was seen that majority 162 (94.7%) initiated at 6-9 months age, as shown in Figure-6. The mean age of introducing complementary feeding among 6-24 months child was 7.7 months.

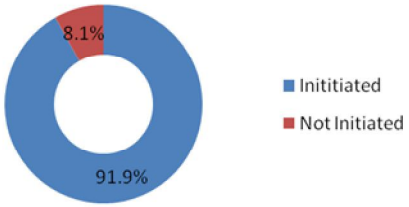

Figure 5: Doughnut showing initiation of complementary feeding among 6-24 months child (n-186)

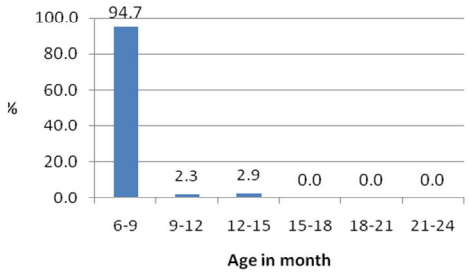

Figure 6: Bar chart showing age of introduction of complementary feeding among 6-24 months child (n-171)

DISCUSSION

The study in rural setting of Jashore shows that majority 160 (68.4%) of the mothers of under-two years children were in the age group 20-30 years. The mean age of mothers was 24.2 years. According to a report, the highest number of females were in the age group 25-54 years in Bangladesh.[8] Majority of mothers of the study group include females within and past their

reproductive years. In Bangladesh, it appears that there is a norm of universality of marriage, where the legal age of marriage for females is 18 years, though some cases occur before the legal age.[9]The highest age group and mean age of mothers indicate that after marriage, within next few years, the females prefer to give birth to children. About 9 (3.8%) mothers were illiterate. The modal group of years of completed schooling is 6-10, which accounts for 143 (61.1%) of the mothers. A study in the rural area of Bangladesh shows that about 60.0% mothers have completed 6-10 years of schooling,[10] which corroborates the findings of this study. This probably points to gradually increasing trend in female education. It has been found that child survival is proportional to mothers' educational status.[11] In this study, the highest 220 (94.0%) of the mothers' occupation was household chores. Women's participation in labour market has shown a rising trend over the past years.[12]Besides the female wage earning labour, household chores is also considered as work with invisible wages. The modal family income of the mothers was in the class interval of Taka. 5,000-10,000, which accounted for 94 (40.2%) of mothers. The mean monthly family income of mothers was Taka 11,773.50. National data shows that the average monthly income of a family is Taka 11,480.00,[13] which approximates the findings of this study. This probably implies that the area under survey is economically almost a nationally representative area.

The modal age of under-two years children was 19-24 months, which accounted for 71 (30.3%), and the mean age was 13.4 months. The mean age is not within the modal age group which may be due to the cumulative number in the other age groups of under-two years children. There were 108 (46.2%) female and 126 (53.8%) male among the under-two years children. The variation from the national figures of male: female ratio is probably due to chance and/or the non-probability sampling technique used for picking up the study population. Complementary feeding was initiated in about 11 (22.9%) of under-six months children, while 37 (77.1%) did not receive complementary feeding. This is encouraging as majority appear to continue breast-feeding, probably exclusively, up to 6 months. This situation can be further improved through encouraging health literacy and health communication by field level health workforce. On attempts to find the age at which complementary feeding was introduced among under-six months children, it was seen that about 1-2 (10-20%) were initiated at any one month. This early initiation of complementary feeding is probably influenced by multifaceted social, economical, psychological, and biological factors, which calls for further probing.

Delving into exclusive breastfeeding history in the first six months of life among 6-24 months children, 25 (13.4%) were exclusively breastfed, while the rest were not. According to WHO, a child should be exclusively breastfed in the first six months of life.[14] The findings of this study indicates that exclusive breastfeeding is not practiced routinely. The reasons behind such practice may be further delved into, and thereafter sensitization and awareness raising campaign may be undertaken. History of initiation of complementary feeding among 6-24 months children showed that 171 (91.9%) had initiated complementary feeding during the period, while the rest had delayed beyond this time period. On attempts to find the age at which complementary feeding was introduced among 6-24 months child, it was seen that almost all (94.7%) initiated at 6-9 months age. The mean age of introducing complementary feeding among 6-24 months children was 7.7 months. According to WHO, complementary food should be introduced in the child's diet soon after 6 months of age.[15] This study finding corroborates

the WHO requirements in that the child is on complementary food after 6 months, where some may have initiated complementary food before completion of 6 months, while the rest initiated soon after 6 months. Reasons for initiation of complementary food before 6 months of the child need to be further investigated, and corrective social measures taken accordingly through health education

RECOMMENDATIONS

Child-feeding practices are the outcome of complex phenomena of biological, psychosocial and economical factors. The recommendations arrived at from this study are: (a) studies among those who initiate early complimentary feeding before 6 months or delay much after 6 months may be undertaken to understand the multifaceted factors that influence child-feeding practices; and (b) field level health workforce may be further trained to communicate with the mothers and/or primary care-givers of under-two years children on the standard appropriate feeding practice according to the age of the child.

Acknowledgements

The authors are very grateful to the data collectors, and those who agreed to be the data source for this research in spite of their busy schedule.

Conflict of Interest: There is no conflict of interest.

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CASE REPORT NORTH BENGAL MEDICAL COLLEGE JOURNAL [2019], VOL., 5, No. 2 : 33-37

Orbital Non-Hodgkin Lymphoma (NHL) - A rare case report

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ABSTRACT

Lymphoproliferative tumuors of the ocular adnexa encompass a wide spectrum of lesions that range from reactive benign hyperplasia to malignant lymphoma which comprises 6-8% of orbital tumors and 10-15% of adnexal lesions. An 84 years old lady was presented in the Department of Ophthalmology, Khwaja Yunus Ali Medical College and Hospital, Enayetpur, Sirajganj with complaints of swelling and outwards bulging of left eye ball for last six months. On examination, salmon or flesh-pink colored lesion was found in superolateral aspect of eyeball. MRI revealed minimal enhancing T1WI isointense, T2WI hyperintense lesion in lateral aspect of eye ball, encasing lacrimal gland, superior, lateral recti muscles, causing proptosis and was diagnosed as lymphoma with differential diagnosis of malignancy of lacrimal gland and Sjogren syndrome. Finally, biopsy from the lesion confirmed left orbital non-Hodgkin lymphoma (NHL). Although this was a rare case for 84 years old female patient, the importance of this case report is to make aware the ophthalmologists as well as radiologists and oncologists to keep lymphoma in differential diagnosis, if such type of patient comes in day to day practice.

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INTRODUCTION

Although uncommon, lymphoproliferative disease of the orbit usually presents later in life and causes symptoms due to gradually increasing mass effect. Proptosis and visible conjunctival mass are the common modes of presentation. It tends to be localized to the orbit at the time of diagnosis and responds well to local or systemic therapy.[1] Where as, Hodgkin lymphoma very rarely causes ocular disease, non-Hodgkin lymphoma (NHL) is the most common type of ocular lymphoma. Depending on the site of involvement, ocular lymphoma can be either intraocular or orbital and adnexal. Over the years, different systems have been used to classify lymphomas, including the Rappaport Classifica-

tion (used until the 1970s), the Working Formulation, the National Cancer Institute Working Formulation, and the Revised European-American Lymphoma Classification (REAL). In 2001, a modern comprehensive classification system was published under the auspices of the World Health Organization (WHO); this represents the first worldwide consensus document on the classification of lymphoma.[2] The lifetime risk of being diagnosed with non-Hodgkin lymphoma (NHL) is 2.08%. From 1975-2001, a rapid and steady increase occurred in the incidence of ocular NHL, with annual increases of 6.2% and 6.5% among white males and white females, respectively.[3] Intraocular lymphoma is rare, with fewer than 200 cases being reported. This type of lymphoma is estimated to represent 1% of NHLs, 1% of intracranial tumors, and less than 1% of intraocular tumors. However, over the past 20 years, a steady rise has occurred in the number of reported cases in both immunocompetent patients and immunocompromised patients.[4,5] Incidence of ocular lymphoma increases with advancing age. Intraocular lymphoma typically affects elderly patients; with reported series having mean ages in the seventh decade of life.[3] The median age at presentation for orbital and adnexal lymphoma is older than 60 years. In a study conducted in the United States, malignant lymphoma was the most common orbital tumor in the elderly age group, accounting for 24% of cases.[6] No sex predilection was noted for ocular lymphomas in some studies. However, in cases of intraocular lymphoma, women are known to be affected up to twice as often as men. Orbital lymphoma was found to have a female preponderance. During 1992–2001, ocular NHL rates per 100,000 person-years for both sexes were highest among Asians/Pacific Islanders, lower in whites, and still lower in blacks. Orbital and ocular adnexal lymphoma has an insidious onset and can progress slowly for over a year before producing symptoms. Symptoms are usually secondary to pressure effects on surrounding structures. Clinical features include painless proptosis with or without motility disturbances, double vision, ptosis, and, rarely, decreased vision. The lesions can be unilateral or bilateral. Lymphomatous lesions can involve the preseptal portion of the eyelid.[3,4,6] Orbital lymphomas present with painless proptosis, the lesions being more common in the anterior superior orbit. The mass is usually rubbery to firm on palpation with no palpable bony destruction. The lacrimal gland, lacrimal sac, and extraocular muscles can also be similarly involved. Conjunctival lymphoma has a characteristic salmon-pink appearance. It may be an extension of orbital or intraocular lymphoma. The presence of cervical or preauricular lymphadenopathy, parotid gland swelling, or an abdominal mass can signify systemic disease. Hence, a thorough physical evaluation should be carried out in all patients with ocular lymphoma.[2,4,6] Ocular lymphoma typically affects elderly patients, with reported series having mean ages in the seventh decade of life.[3] B-scan ultrasonography can show the presence of an intraocular mass. In addition, retinal detachment may be seen. Both computed tomography (CT) and magnetic resonance imaging (MRI) have a low sensitivity for intraocular lymphoma and do not facilitate differentiating the diagnosis against uveitis or ocular melanoma. On CT scan (Figure 3, after Flanders et al.[7]) of the orbits, orbital lymphomas are seen as well-defined, lobulated or nodular, homogeneous masses of relatively high density and sharp margins. The lesions mold themselves to pre-existing structures without eroding the bone. The lesion is usually extraconal but can extend intraconally as well. Lacrimal gland disease may involve both orbital lobes and palpebral lobes. The lacrimal sac and extraocular muscles may also be involved. A streaky appearance may be seen, which represents

irregular infiltration of the microfascial structure of retrobulbar fat. Calcification is rarely seen. Heterogeneous lesions with bony destruction are indicative of high-grade lymphomas. Bilateral lesions are possible and can signify systemic disease. MRI of the orbits possesses good soft tissue definition; however, it lacks the ability to delineate bone destruction, which can be seen in high-grade lymphomas. MRI may miss conjunctival disease. Orbital lesions are usually hypointense or isointense on T1-weighted MRI and hyperintense on T2-weighted images. Gadolinium enhancement is seen on T1-weighted images. This is indicative of high cellularity. Fluorine-18 deoxyglucose PET (FDG-PET) can sometimes find systemic extranodal lymphomatous sites that are not detected with conventional imaging studies.[7.8] The prognosis for ocular lymphoma depends on the tumour's histologic type and stage, as well as on the treatment employed. In general, with modern treatment of patients with NHL, the overall survival rate at 5 years is approximately 60%.[2, 3, 5]

THE CASE

An 84 years old lady was presented in the Department of Ophthalmology, Khwaja Yunus Ali Medical College and Hospital, Enayetpur, Sirajganj with complaints of swelling and outwards bulging of left eye ball for last six months. She had no eye ache or visual disturbance. On examination salmon or flesh-pink colored lesion was found in superolateral aspect of eyeball, and photography was taken after informed written consent from the patient (Figure 1).

Visual acuity was normal for her age. Intraoccular pressure was within normal range for her age. Imaging study by MRI (Figure 2) showed minimal enhancing T1WI isointense, T2WI hyperintense lesion in lateral aspect of eye ball encasing lacrimal gland, superior, lateral recti muscles causing proptosis and diagnosed as lymphoma with differential diagnosis of malignancy of lacrimal gland and Sjogren syndrome. Finally, biopsy from the lesion confirmed left orbital non-Hodgkin lymphoma (NHL). Immunohistochemistry was advised, but patient could not do it due to financial constrain.

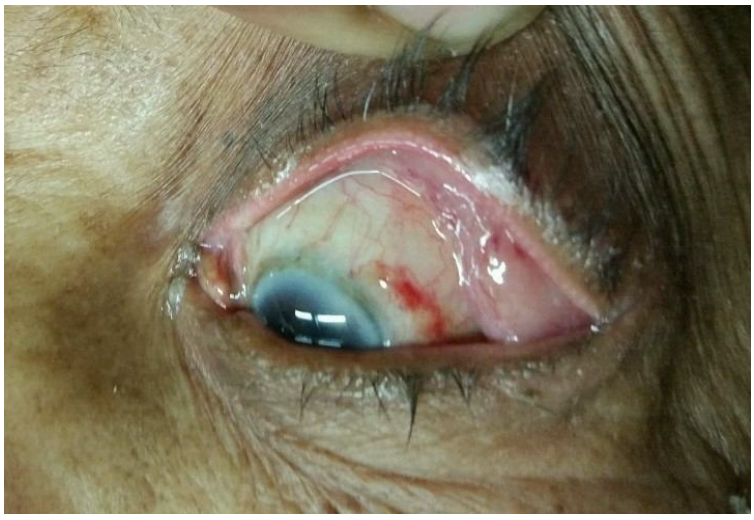

Figure 1: Salmon or flesh-pink colored lesion in superolateral aspect of eyeball on examination

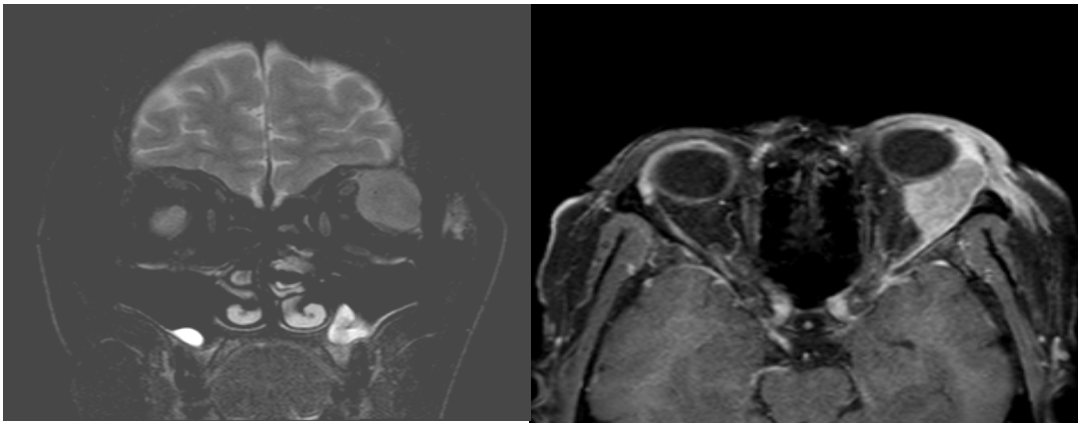

Figure 2: Coronal T2 weighted, axial post-contrast T1 weighted images revealed minimal enhancing T1WI isointense, T2WI hyperintense lesion in lateral aspect of eye ball encasing lacrimal gland, superior, lateral recti muscles causing proptosis

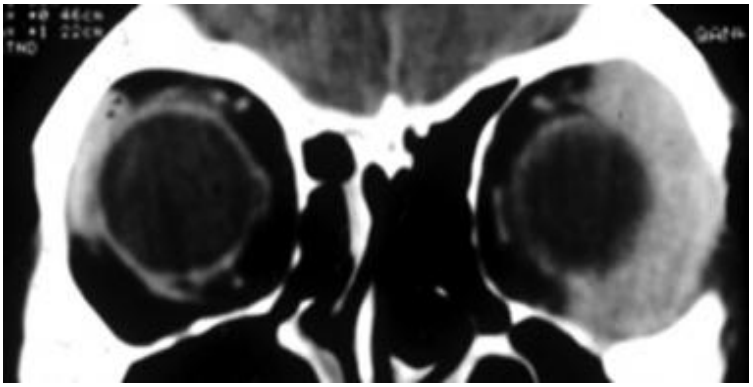

Figure 3: Coronal reformatted image showing homogeneous isodense enhancing sorbital mass molding around the lateral ocular surface (after Flanders et al.[7])

DISCUSSION

Owing to unspecific clinical symptoms, some diagnostic delay may occur in orbital lymphoma. If unspecific orbital symptoms are present, adequate imaging studies followed by early surgical biopsy would contribute to early diagnosis. Our present case of extra-ocular non-Hodgkin lymphoma (NHL) was 84 years old lady with no eye ache or visual disturbance and only gradual swelling of eye ball for last six months. Visual acuity and intraocular pressure was within normal range for her age. Examination revealed salmon or flesh-pink colored lesion in superolateral aspect of eyeball. Studies reported[4,5] increased incidence of ocular lymphoma with advancing age. No sex predilection was noted for ocular lymphomas in some studies. However, orbital lymphoma was found to have a female preponderanc.[4] This demographic finding is comparable with out current case. Researchers stated that many lesions of ocular NHL were asymptomatic but depending on the location of the mass, patients can complaint of exophthalmos, pain or diplopia, as well of conjunctival, eyelid, orbital or lacrimal gland mass. The differential diagnosis for orbital lymphoma include idiopathic inflammatory pseudotumor, orbital lymphoid hyperplasia, orbital sarcoidosis, Sjogren Syndrome, Wegener granulomatosis, and chronic dacryoadenitis.[9] MR imaging of the

patient showed minimal enhancing T1WI isointense, T2WI hyperintense lesion in lateral aspect of eye ball encasing lacrimal gland, superior, lateral recti muscles causing proptosis and diagnosed as lymphoma. Similar type of lesion on MRI went in favour of malignancy of lacrimal gland, Sjogren syndrome. In malignancy there might be bone destruction with more intra lesional in homogeneicity on T2WI. In Sjogren syndrome, MRI shows increased T2WI hyperintensity and homogeneous enhancement is observed in post contrast image. Radiotherapy is the most effective treatment for local disease either as the sole treatment for low-grade lymphoma or in combination with chemotherapy (CHOP or R-CHOP regimen) for intermediate- and high-grade lymphoma. Radiotherapy dose in range of 30-45 Gy administered in fractions are advised in treating the local orbital lymphomas.[10]

CONCLUSION

Success of treatment of ocular NHL depends on early diagnosis of disease. So, ophthalmologists as well as radiologists, oncologists should be aware of orbital lymphoma in older patient with orbital mass, specially female one.

Conflict of interest: None.

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CASE REPORT NORTH BENGAL MEDICAL COLLEGE JOURNAL [2019], VOL., 5, No. 2 : 38-40

Treatment of Chalazions with injection of a steroid suspension: A case report

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ABSTRACT

A chalazion is a chronic, sterile, granulomatous inflammatory lesion caused by retained sebaceous gland's secretion into adjacent stroma. Persistent chalazion may be treated by surgery or steroid injection into lesion. Steroid injection into lesion is preferable if close to lacrimal punctum. Triamcinolone Acetonide(TA) for the treatment of primary chalazion was equally effective in children and adults, without any significant complications, and the rate of clinical response did not appear to be dose dependent.

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INTRODUCTION

Chalazion is a chronic granuloma of an eyelid that develops because of retention of the secretions of a meibomian gland. After an acute inflammatory stage, it persists as a lump of a few millimetres in diameter that may slowly enlarge. The histopathological appearance may vary, but characteristically the lesion is a granuloma rich in epithelioid and giant cells. Lymphocytes, neutrophils, and eosinophils may also be plentiful. It is a common condition that affects people of all ages. The chief effects are cosmetic disfigurement with variable discomfort, and sometimes significant astigmatism.' In a recent study[2] it was shown that 25% or more of chalazions resolve spontaneously, but the rest are unlikely to disappear without intervention. The standard treatment of these lesions is by incision and curettage, which, though a minor procedure, often causes discomfort and some distress to the patient. It usually necessitates wearing a pad and bandage afterwards, which means that the patient should not drive. The aim of the trial was to determine the injecting chalazions with triamcinolone acetonide is an effective form of treatment, as well as quick and convenient.

The Case

An 18 years old young man presented to us with the complaints of multiple painless nodular

swelling in upper and lower eyelids of both eyes. On examination, there were multiple non tender, soft nodular swelling in upper and lower eyelids of both eyes. The patient was non-diabetic, normotensive and emmetropic. Systemic examination findings were normal. The conjunctiva was anaesthetized with a drop of oxybuprocaine (Benoxinate). The injection was given with a 1 ml insulin syringe with a 25 gauge needle. The eyelid with the lesion was everted with the use of a clamp, and the needle passed transconjunctivally into the chalazion in such a way that inadvertent perforation of the globe could not occur, even if the needle was passed too deeply (Figure 1). About 0-02 to 0.2 ml of a 10 mg/ml suspension of triamcinolone acetonide was injected, the amount depending on the size of the chalazion and the resistance felt on the syringe plunger. The eye was padded only for 1 hour after the procedure. The patient were given moxifloxacin eye ointment, three times per day, to apply over the lesion and advised to continue warm compression for 4 to 6 times per day for 10 minutes. The patient was reviewed every 2 weeks after the TA injection, until complete resolution of chalazion. Informed written consent was taken from patient for photography.

Figure 1: Multiple painless nodular swelling in lower lid (arrow)

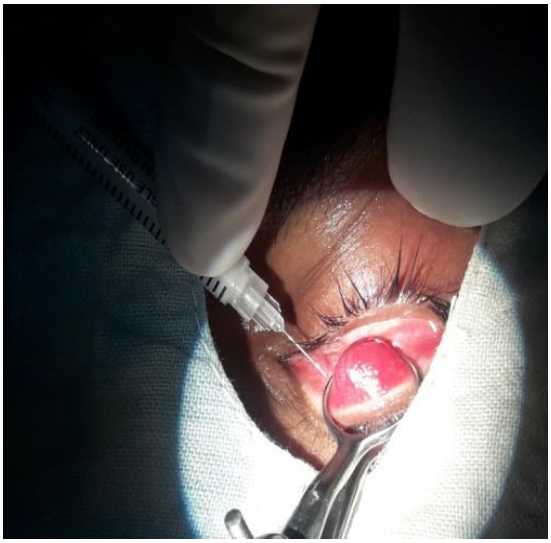

Figure 2: Intralesional steroid injection in lower lid

DISCUSSION

The incidence of chalazion is variable among the literature studies.[3-6] It generally ranges from 0.2% to 0.7%. In the United States, although the exact prevalence was not well-known, but it was commonly encountered among school children and adults between the ages of 30 and 50 years.[7] In Brazil, the incidence was reported to range from 0.2-0.3%.[8] One of the studies conducted in India reported an incidence of 0.24%. The incidence in Nigeria was reported to be 0.7% in one study.[9] Triamcinolone acetonide (Adcortyl) is an aqueous corticosteroid suspension (10mg/ml) with benzyl alcohol, sodium chloride, sodium carboxymethylcellulose and polysorbate. It is used for intra-articular injection of inflamed joints in conditions such as rheumatoid arthritis and for intradermal injection in conditions including acne cysts, psoriatic plaques, lichen planus, and alopecia.[10-12] Temporary atrophy of skin in the region of intradermal steroid injections is a recognised problem, though it did not occur in the two previously mentioned trials. Furthermore, a transconjunctival approach lessens the risk of inadvertent intradermal

injection when treating a chalazion. The advantages of injection over incision and curettage are that it is quicker, requires no special instruments, is less painful than injection of local anaesthetic, and does not require dressing (so that patients can drive immediately afterwards). No complications occurred in the trial. A disadvantage is that roughly half of the cases (54%) treated in this way may require a second injection for prompt resolution of the chalazion. However, this percentage is probably less than indicated, as in this trial drop-outs were not included as definite successes. In the great majority of these cases, the lesion had resolved. Furthermore, as the procedure is so quick, there are less total time spent giving two injections than in doing an incision and curettage.

Conflict of interest: None

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Include brief findings and authors suggestions on basis of findings of study.

Acknowledgments

List all sources of funding for the research with contributions of individuals.

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