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Authors are requested to submit their papers to the editor "Journal of Bangladesh Academyof Ophthalmology" OSB Bhaban, Mirpur, Dhaka. Papers should be written in English and three copies must be submitted with three sets of illustrations. Manuscripts should be typed on one side of white paper (size 8.5 X 11 inches) with margins of at least one inch. Double spacing should be used throughout. Each of the following sections should begin on separate pages as : title pages, abstract and key words, text, acknowledgments, references, individual tables and legends. Pages should be numbered consecutively beginning with the title page. The title page should carry (a) the title of the article, (b) name of each author with highest academic degree (s) and institutional affiliation, (c) name of the department and institute where the work was carried out and (d) name and address of the author to whom correspondence should be addressed and to whom reprints should be sent.

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A Summary / Abstract of the work should be of less than 200 words. Each table should be typed double spaced on a separate sheet. These should be numbered in Roman numerical consecutively in order of their first citation in the text. A brief title of each table should be supplied. Figures should be professionally drawn and / or photographed. photographs should be on glossy papers (usually 5 X 7 inch) in black and white. these should not be inserted into the text but marked on the back with the figure numbers, title of the paper and name of author. The top of the figure should be indicated. All Photographs, diagrams should be referred to as figure and numbered consecutively in the text in arabic numerical. The legends for figures should be typed on a separate sheet.

Ethical aspects will be considered in the assessment of papers and authors should indicate in methods whether permission of relevant ethical committee hjave been taken if

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EDITORIAL

Community ophthalmology or Public health ophthalmology is a relatively new field in Ophthalmology and yet a new concept for many countries. It is also known as Preventive eye care/ preventive Ophthalmology.

Community may be defined as a group of people with a common characteristic or interest living together within a larger society. And **Ophthalmology** is that branch of medicine that deals with eye diseases and it's management. Therefore it may be said that community ophthalmology is the discipline where **"The traditional care applied to an individual patient is diverted to the population with a prominence placed on preventive aspects"**

The goal of Clinical ophthalmology is the cure of a patient. It's an one to one interaction. Community ophthalmology examines the problem of blindness from the perspective of the community. The burden of eye diseases and blindness are identified by population based surveys. Preventive Ophthalmology looks the answer to the queries like,

HOW MANY? How many people are affected?

WHO? Who the people are affected? Male? Female? Poor? Rich? Ethnic? Non-ethnic? Etc.

WHY? Why are they vulnerable? Cause? Why are the people not up taking the services? Is the service available? Accessible? Affordable? Acceptable?

WHERE? Where do the problems get more serious? Location?

HOW? How to deliver services to them?

Community Ophthalmology gives an insight into the problem and explores solution through research (Operational/RCT etc) and executes through Planning and management. There is a strong need for monitoring and evaluation. . For delivering a comprehensive eye care it is required to investigate the size of the problem, the causes of blindness and eye disease in the community, the availability of eye services, the attitudes of the people towards visual disability or eye diseases, the attitudes of the people towards the services, and the many barriers that prevent people from using services. When these issues are defined, then solutions can be sought, agreements can be reached among all those concerned, and programs can be implemented to put solutions in place.

Community ophthalmology training complements clinical ophthalmology; it includes training in survey methodology, needs assessments, proper data collection and interpretation, program design and implementation, management, and communication and effective teaching. Blind and visually impaired people must come from communities to receive medical care; we must look at the processes they go through to receive care if we hope to make a significant decrease in the number of blind and visually impaired.

The Prevalence of blindness in Bangladesh is 1.53% according to the National low vision and Blindness Survey of 2000 giving the estimated number of Blind people of 7,50,000. Eighty percent (80%) of the Blindness is due to Cataract. The Cataract Surgical Rate, CSR has been increased from 957/million/year to 1164/million/year. But the large backlog of 6,50,000 cataract remains un operated. With current manpower, infrastructure, technology we are addressing the incidence of cataract only. Diabetic Retinopathy, Glaucoma, ARMD are emerging as important causes of blindness in recent years. Bangladesh needs an all out drive towards blindness to achieve VISION 2020 by 2020. Here comes the importance of Community Ophthalmology. It's time for us, the Ophthalmologists of Bangladesh to look at the problem at large and find ways to solve and to come forward with surveys and researches and apply the result with appropriate technology with generation of awareness. We have to shift our view to Bird's eye view and be a part of the national initiative of Prevention of Blindness.

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CHARACTERIZATION OF IDIOPATHIC MACULAR TELANGIECTASIA TYPE 2 BY FUNDUS FLUORESCEIN ANGIOGRAPHY IN A TERTIARY EYE CARE CENTRE OF BANGLADESH

Tariq Reza Ali[1], M. Mostafizur Rahman[2], Nazmun Nahar[3]

PURPOSE. To characterize the variations in fundus fluorescein angiography (FFA) features in idiopathic macular telangiectasia (IMT) type 2.

DESIGN. Retrospective observational study.

METHODS. The authors included 7 consecutive patients with IMT type 2 who underwent FFA during the period from October 2010 to May 2011. The main outcome measures were subretinal neovascularization and number of telangiectasia.

RESULTS. The mean age of 7 patients included in the study was 51.0±9.7 years. There were 5 women and 2 men. 4 patients had a history of diabetes mellitus. Subretinal neovascularization (SRN) was observed in 2 (14.28%) eyes. Subretinal plaque of pigment hyperplasia in the macula was found in 3 (21.43%) eyes, and crystalline yellowish deposits on the retinal surface were seen in 5 (35.71%) eyes. OCT showed hyporeflective spaces in inner retina in two cases and in outer retina in one case. Outer segment/ inner segment abnormality (OS/IS) was found in 2 cases. Only one eye had visible retinal telangiectasia. Most had more than 5 telangiectatic lesions in the macular area and the supero-temporal macula was most commonly involved.

CONCLUSIONS. In IMT type 2, telangiectasia is mostly found in supero- temporal region of macula.

KEY WORDS. Fundus fluorescein angiography, Idiopathic macular telangiectasia type

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INTRODUCTION

In 1993, Gass and Blodi established a classification of cases that had retinal capillary telangiectasia in the perifoveal area without any known cause (1). They described these cases as idiopathic juxtafoveolar retinal telangiectasis, and divided them into groups and stages. Among the three groups, type 2 is the most common and is further subdivided into two subgroups, A and B. There are very few cases of Type 2B that have been reported in the literature, which is characterized by the young age at onset and may have a familial occurrence.

Recently, Yannuzzi et al coined a new term for this disease based on newly recognized clinical and imaging characteristics, referring to the disease as idiopathic macular telangiectasia (IMT) (2). They proposed a new classification which does not include the type 3 group from the original classification due to its rarity, and also because macular ischemia is the primary abnormality in this group.The original classification of type 1 (aneurysmal telangiectasia) and type 2 (perifoveal telangiectasia) has been retained in the new classification. Type 2 has been further subdivided into nonproliferative (exudation and foveal atrophy) and proliferative disease (subretinal neovascularization [SRN] or fibrosis).

Type 2 IMT is more common than type 1 disease. It is characterized by onset in middle age with bilateral occurrence of telangiectasia mainly in the temporal perifoveal area (2). The associated macular changes in type 2 IMT include perifoveal loss of transparency, RPE atrophy, pigment epithelial hyperplasia, crystalline deposits at the vitreoretinal interface, right-angled vessel, and SRN. Type 2 IMT can be associated with visual impairment either due to foveal atrophy or SRN. Based on this new classification, we retrospectively analyzed the fundus photographs, fundus fluorescein angiograms (FFA) and optical coherence tomography (OCT) to determine the nature of lesions, and to specifically look for the number and location of telangiectatic vessels in the macula.

METHODS

Medical records of patients clinically diagnosed with retinal telangiectasia by International Classification of Diseases (ICD-9) and who underwent FFA from October, 2010, through April 30, 2011, were retrieved. Demographic data and medical history including diabetes mellitus were recorded. Fundus photographs, FFAs and OCTs of the patients were reviewed. Further, classification of type 2 IMT patients into subgroups of nonproliferative and proliferative perifoveal macular telangiectasia was performed based on Yannuzzi's modification of the Gass-Blodi classification. Digital FFA (Topcon, Japan) of each patient was reviewed. OCT (Zeiss Stratus Domain) was performed in each patient and was analyzed. The number of telangiectasia in each eye was noted and grouped into categories of less than 5, 5 to 10, 10 to 20, or >20 telangiectasias. The location of the telangiectasia with respect to the fovea—temporal, superior, nasal, and inferior—was recorded. Late phase angiograms were also evaluated for any leakage of dye into the foveal avascular zone (FAZ). Color fundus photographs were reviewed for retinal hemorrhage, pigment hyperplasia, retinal pigment epithelial atrophy, crystalline

deposits at vitreoretinal interface, and subretinal neovascularization or disciform scar. OCT findings were analyzed for the presence of small hyporeflective lesions under the fovea. The search for any thinning and separation of RPE layer from the underlying layer of choriocapillaries also done. Outer segment and inner segment abnormalities of photoreceptors also noted. Mathematical and statistical analysis was performed with Microsoft Excel.

RESULTS

14 eyes of 7 consecutive patients were newly diagnosed with type 2 IMT and had undergone FFA and OCT during the study period.

Demographic data:

14 eyes of 7 patients with type 2 IMT were included. The mean age of patients was 51.0±9.7 years. The mean age of diabetics with macular telangiectasia was 58.8±8.0 years compared to 50.5±6.6 years among non-diabetics. The mean age of patients without SRN was 52.4±7.8 years, whereas the mean age of patients with SRN was 56.2±8.1 years. There were 5 women and 2 men. 4 out of the 7 patients had a history of diabetes mellitus. All the patients were Bangladeshis and came to Islamia Eye Hospital with the complaints of defective vision. The mean duration of symptoms were 8.0±3.5 months.

Fundus fluorescein angiogram:

Proliferative changes (Tab. I).—SRN was seen in 2 out of 14 eyes (14.3%) and 1 out of 14 eyes (7.14%) had a disciform scar. The lesion types were variable. Six out of 14 eyes (42.87%) had a predominantly classic lesion of late hyperfluorescence, 2 out of 14 eyes (14.29%) minimally classic, and 1 out of 14 eyes (7.14%) had an occult lesion. Three patients out of 7 patients (42.8%) had bilateral proliferative changes, including one eye with a disciform scar. Nonproliferative changes (Tab. I).—of the remaining 12 eyes without SRN, 8 eyes of 4 patients had dot hemorrhage in the retina, and these patients had history of diabetes mellitus. Subretinal plaque of pigment hyperplasia in the macula was observed in 3 (21.43%) eyes.

TABLE I – FUNDUS FEATURES OF PATIENTS WITH TYPE 2 IDIOPATHIC MACULAR TELANGIECTASIA

Fundus Feature	No of Eyes (%)	No of Patients (%)
Proliferative changes	2 (14.28%)	2 (28.57)
Sub retinal pigment plaque	3 (21.43)	2 (28.57)
Retinal Pigment epithelial atrophy	8 (57.14)	5 (71.43)
Crystalline yellowish deposits	7 (50)	5 (71.43)
Visible retinal telangiectasia	1 (7.14)	1 (14.28)
Diabetic retinopathy	8 (57.14)	4 (57.14)
Retinal vein occlusion	4 (28.57)	2 (28.57)

Retinal pigment epithelial atrophic changes were identified in 8 (57.14%) eyes. Crystalline yellowish deposits on the retinal surface were present in 7 (50.0%) eyes (Fig. 3). Among the 6 patients with diabetes mellitus, 4 patients had mild to moderate nonproliferative diabetic retinopathy bilaterally. Only one of the 14 eyes with type 2 IMT had visible retinal telangiectasia.

Optical coherence tomography:
Classic intra-retinal hyporeflective lesions were found in 5 eyes (35.71%). Intra-retinal cystoid spaces with macular oedema was found in 4 eye (28.57%). The highest macular oedema was 568 micron and that eye resembled impending macular hole formation. Retinal thinning was found in 4 eyes (28.57%), macular thickness was as low as 131 micron. Outer segment and inner segment abnormality (OS/IS) of photoreceptor was found in 6 eyes (42.86%) of 3 patients.

TABLE II- OCT FINDINGS OF PATIENTS WITH TYPE 2 IDIOPATHIC MACULAR TELANGIECTASIA

OCT findings	No of Eyes (%)	No of Patients (%)
Intra retinal hyporeflective spaces	5 (35.71%)	4 (57.14)
Intra retinal cystoid spaces	4 (28.57)	2 (28.57)
Retinal thinning	4 (28.57)	2 (28.57)
OS/IS abnormality	6 (42.86)	3 (42.86)

A majority of the eyes had >5 telangiectatic lesions. The supero-temporal macula was involved in 12/14 (85.71%) eyes. The inferior macula was least commonly affected (3 out of 14 eyes, 21.43%), and was the predominant site of lesion in only one eye. Leakage of fluorescein into the FAZ was present in 11 eyes. There was no correlation between age and number of lesions, distance of the lesions from the FAZ or SRN, although the number of subjects in this study is too small to provide any meaningful statistical analysis.

DISCUSSION

Idiopathic macular telangiectasia, Leber military aneurysms, and Coats disease are three types of retinal telangiectasias that may represent a continuum of the same disease. Group 1 IMT patients are primarily male; the telangiectasia is unilateral in most cases and easily visible. It is suspected that this form of IMT may be a mild presentation of Coats disease. Leber miliary aneurysms represent a more severe form of telangiectasia. The nomenclature of parafoveal telangiectasia has been recently changed to macular telangiectasia (2).

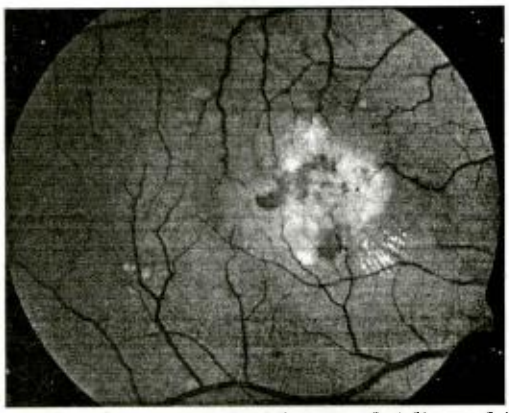

Fig. 1 - *Red-free photograph of a patient with type 2 idiopathic macular telangiectasia showing subretinal hemorrhage and exudates due to subretinal neovascularization.*

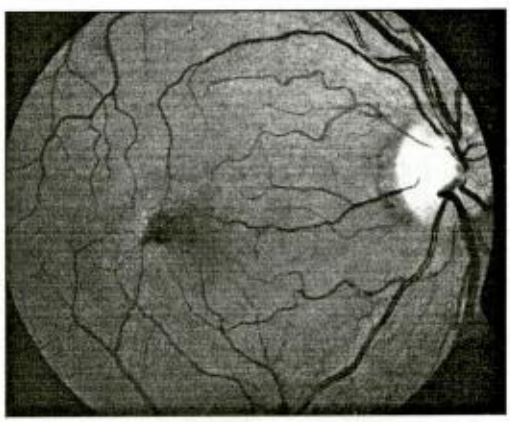

Fig. 2 - *Red-free photograph of the right eye of a patient with subretinal pigment plaque with crystalline deposits on the vitreoretinal interface.*

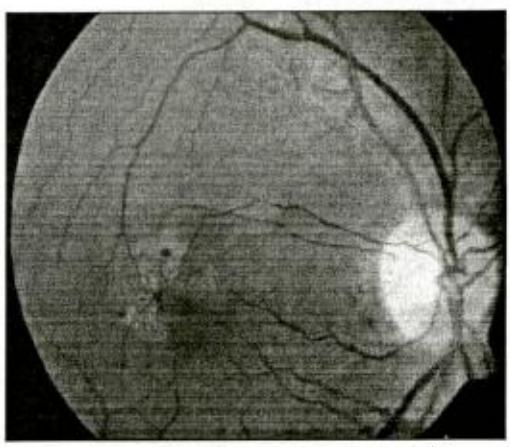

Fig. 3 - *Color fundus photograph of a patient with type 2 idiopathic macular telangiectasia showing perifoveal halo, retinal pigment epithelium (RPE) atrophic changes, RPE hyperplasia, and yellowish crystalline deposits on the retina.*

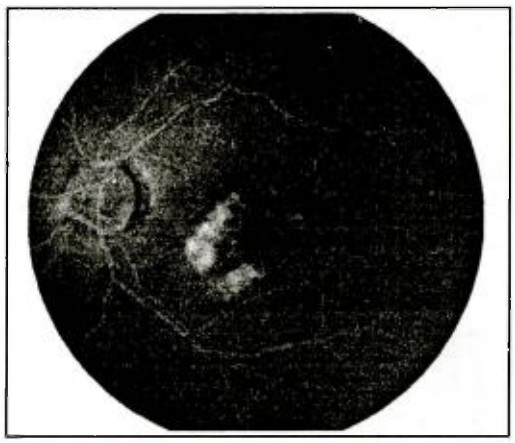

Fig. 4: *FFA findings show classic hyperfluorescence due to leakage at late phase*

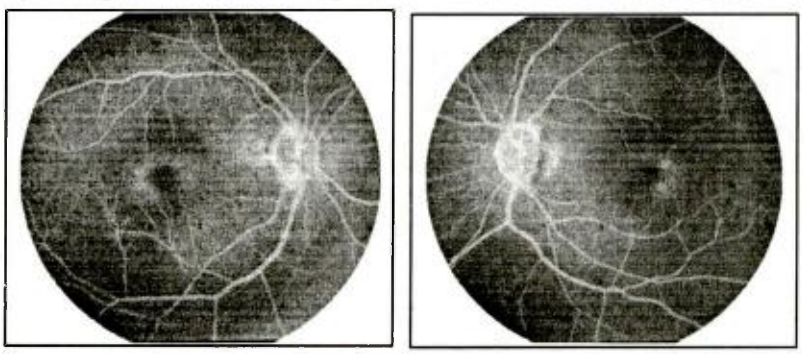

Fig 5: *FFA findings of a case with CNVM due to PFT*

The present study demonstrates that the telangiectasia can be present far from the fovea, but still within the anatomic macula (3600 μm). Hence, the term macular telangiectasia seems to be appropriate.

In this study, SRN was seen in few patients (2/14). There are findings higher than this incidence in the literature, which is from 14% to 17% (2, 3). Narayanan et al., found 9 of 52 (17.3%) cases SRN. They presumed this might be due to geographical variation. (5) . However, this difference should be interpreted with caution as this study was performed at a tertiary care center, introducing selection bias, and due to the small sample size of the study. In our study the sample size was also inadequate to perform a statistical test of significance among the age difference seen in patients with respect to diabetic status and SRN. The higher age at diagnosis of patients with diabetes mellitus may be due to a referral delay; however, this could not be evaluated in the present study. Retinal hemorrhage and pigment hyperplasia were uncommon in this study, whereas RPE atrophic changes were seen in majority of the patients. Crystalline deposits at the vitreoretinal interface have been described as inconsistent but characteristic findings in

IMT (2). The incidence of this feature has not been well reported in the literature. We found crystalline deposits in about 50% or our nonproliferative eyes with IMT. Subretinal plaques of pigmentation are characteristic, but only occurred in approximately 20% of our eyes with nonproliferative lesions.

OCT findings are typical like other studies in literature. In a recent study Baumuller S et al., showed that hyperreflective spots were identified in outer retinal layers of patients with macular telangiectasia type 2 in all stages of the disease. They suggested this phenomenon might represent an early sign of a neurodegenerative process. (6)

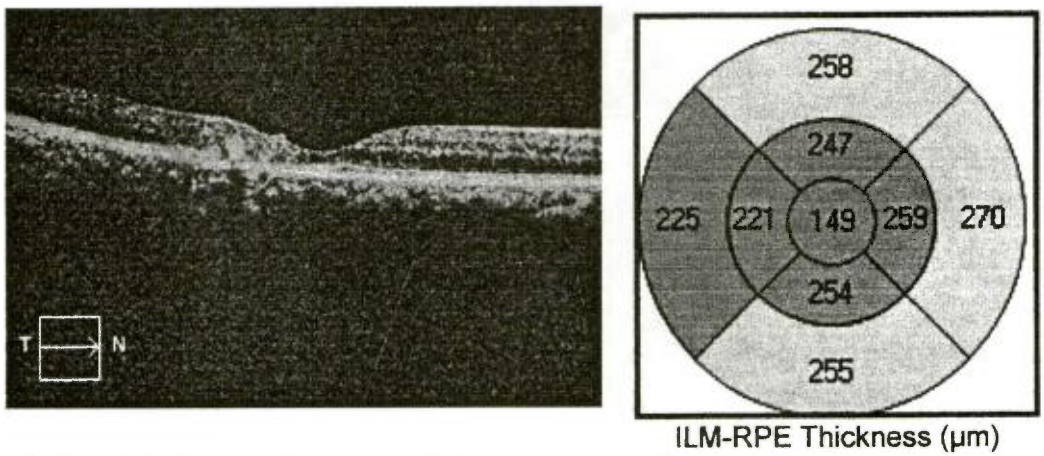

Fig 6 – OCT finding shows foveal thinning upto 149 micron

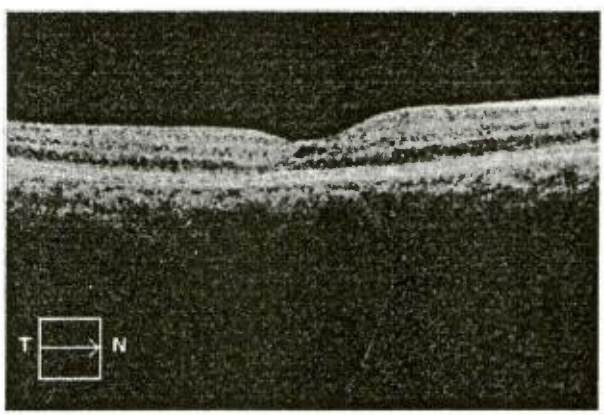

Fig 7: Typical hyporeflective intra-retinal space in inner retinal layer

Most of our eyes with type 2 IMT had more than 5 telangiectatic lesions, and a significant percentage had more than 20 lesions. Supero-temporal retina was involved in majority (85.71%) cases. The smaller number of lesions and lesser distance from the center of the FAZ could represent an earlier stage of the disease, and more lesions along with a larger spread of the lesions could signify a later stage in the natural history of the disease.

CONCLUSIONS:

Type 2 Parafoveal telangiectasia is not uncommon. Probably we are not looking for it and not giving proper attention to diagnose it. The modern treatment facilities are beyond this article and not discussed. FFA and OCT are the very important tools for proper diagnosis along with clinical interpretation. We suggest a study with more samples to reveal the correct pathogenesis of this disease in our community.

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Oral Tranexamic acid in reducing peroperative and post operative haemorrhage in DCR surgery

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Aims: To evaluate the efficacy of oral tranexamic acid in reducing peroperative haemorrhage (and time required for the surgery) and post operative haemorrhage in DCR surgery.

Methods: 60 Patient with chronic dacryocistitis attending OPD of Dhaka medical college were included in this prospective, double blind, placebo controlled study.during this 2 year long study 30 patients (group A) received oraltranexamic acid pre and post operatively and the other 30 patients (group B) received placebo.

Results: The mean blood loss was 9.5ml with a maximal blood loss of 24ml in group A and mean blood loss was 32ml in group B with maximum blood loss of 56 ml. The mean operative duration was 32minutes (range 25 to 46minutes) in group A and mean operative duration was 56minutes (range, 45to 86min) group B. Both the differences are statistically significant.

Conclusion: This study suggests that Oral tranexamic acid 500mg 2tab one hour prior to DCR surgery and one tab 12 hourly for 2 post operative days significantly reduces preoperative and post operative haemorrhage and thus reduces the duration of sugery and improves the quality of DCR surgery.

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INTRODUCTION:

Normal drainage of tear from the conjunctival sac into the nose is dependent on patency of the nasolacrimal passage that includes the lacrimal puncta, the lacrimal canaliculi, the common canaliculus, the lacrimal sac and the nasolacrimal duct, which opens into the inferior meatus of the nose. Blockage of any portion this passage, from puncti down to the nasolacrimal duct, by inflammation and scarring, trauma, stone or neoplasm results in epiphora. In cases of obstruction of the nasolacrimal duct dacryocystorhinostomy (DCR) has been the standard surgical recourse. This operation is designed to drain the tears and the infected secretion from lacrimal sac into the middle meatus of the nose through an ostium in the lacrimal bone and the nasal mucosa. Toti originally described dacryocystorhinostomy (DCR) in 1904[1]. Since then DCR surgery through an external approach has been the gold standard for the treatment of nasolacrimal duct obstruction with a success rate of over 90%[2]. In recent years, endoscopic endonasal DCR ,endo-laser DCR has gained popularity, although it is considered more technically challenging and has a prolonged learning curve and a possibly lower rate of success than external DCR.1,2,5-7 Surgery on Lacrimal Sac like Dacryocystorhinostomy (DCR), are associated with severe hemorrhage during operation often displeasing to almost all the surgeons.

To reduce bleeding the following measures are important Adrenaline, 1: 80,000 in local infiltration anesthesia helps to reduce hemorrhage by constricting blood vessels. Adrenaline with 4% Lignocaine in nasal pack also helps reduce the hemorrhage from nasal mucosa. Half hour must pass after nasal pack for proper vasoconstriction and hence reducing bleeding. A watch on angular vein and if present in the field of dissecton, avoid sharp instruments and previous injury. Restricted bone window to area between anterior and posterior lacrimal crest i.e., lacrimal fossa as going beyond it may cause opening in PNS. Time spent in surgery is important as initial vasoconstriction induced by adrenaline passes away and vessels return back to original diameter within 1 and ½ to 2 hours. Hence to avoid bleeding we should try to complete surgery within 1 toland ½ hour[8]. Despite the above mentioned precautions often peroperative haemorrhage effects the quality and outcome of DCR surgery and post operative haemorrhage. .The purpose of our study is to evaluate the efficacy of oral tranexamic acid in reducing peroperative haemorrhage (and time required for the surgery) and post operative haemorrhage in DCR surgey. Tranexamic acid is a synthetic derivative of the aminoacid lysine that inhibits fibrinolysis by blocking the lysine binding sites on plasminogen. Urinary excretion is the mainroute of elimination via glomerular filtration.

MATERIALS AND METHOD:

This prospective, double blind, placebo controlled study.was conducted in Dhaka medical college, Dhaka from April 2009 to April 2011. 60 Patient with chronic dacryocistitis attending OPD of Dhaka medical college were included. Written informed consent was taken from each patients and a thorough ocular examination was done.

Each of the patient was randomly included in either of the following two groups by simple lottery method;

Group A: 30 Patients receiving tab tranexamic acid prior to DCR and two days postaperatively

Group B: 30 Patients receiving Placebo (tab vit B complex)

Patients and evaluators were masked to the medications

Demographic variables: Age, Sex,

Outcome variables:

Primary Outcome Measures: Duration of DCR surgery in minutes and amount of blood loss in milliliters during surgery. (Time Frame: Blood loss was measured at the end of DCR operation from the suction bowel. Duration of surgery was calculated by registering time of operation start and end.) .

Secondary Outcome Measures: Late onset postoperative epistaxis (Time Frame: 7 days)

Eligibility

Ages Eligible for Study: 20 Years and older

Genders Eligible for Study: Both

Inclusion Criteria: Obstruction of nasolacrimal pathway eligible for DCR surgery.

Exclusion Criteria: Warfarin treatment , renal insufficiency, Pregnancy, mental retardation. tendency to bleed, thromboembolic disease, thrombophillia.

SURGICAL TECHNIQUE

The external DCR was performed in a standardized fashion as described in detail elsewhere.2 Briefly, a skin flap was elevated over the medial canthal tendon, which was identified and incised. A periosteal incision was performed at the level of the incised tendon 2 mm above the medial canthal tendon superiorly and 2 mm toward the inferior orbital rim inferiorly.

Large osteotomies were performed using bone punches for removing lacrimal bone the frontal process of the maxilla, and the medial wall of the upper nasolacrimal duct. Anterior ethmoid air cells(agger nasi) were often exposed intra-operatively. Posterior flaps were always fashioned, and both anterior and posterior flaps were sutured. Silicone tubes were inserted almost routinely. The silicone tube was sutured with two 6-0 silk sutures to form a closed loop and removed 12 weeks postoperatively[9]. 1hour prior to DCR surgery patients in group A were given tab tranexamic acid 500mg 2 tab orally and patients in group B were given tab vitamin B complex. Both the patient and the evaluator was masked from the medication. Per operative blood loss was measured from suction bowl in ml and the time required for surgery was recorded in minutes.

OBSERVATIONS AND RESULTS:

A total of 60 patients were operated. Among them 25 were male and 35 were female. 30 patients (Group A)were given cap tranexamic acid I hour prior to surgery and other 30 patients (GroupB) were given placebo.Age and sex distribution is given in table I.

Age in years	Group A		Group B	
	Male	Female	Male	Female
21-40	07 (23.33%)	09 (30%)	06 (20%)	08 (26.66)
40 and above	05 (16.66%)	09 (30%)	07 (23.33%)	09 (30%)
Total	12	18	13	17

Table I – Age and sex distribution of the study subjects.

We recorded a mean blood loss of 9.5ml with a maximal blood loss of 24ml in group A and mean blood loss of 32ml in group B with maximum blood loss of 56 ml. Table II shows the distribution of mean blood loss in 2 groups.

Table II. Distribution of intra operative mean blood loss in ml in the study subjects.

Period	Blood loss in ml		t / p value
	Group – A	*Group -B*	
Intra operative	9.5	32	29.29/ 0.001^{s}

P value reached from unpaired 't' test; s =significant

The mean operative duration was 32minutes(range 25 to 46minutes) in groupA and mean operative duration was 56minutes (range, 45to 86min) group B. Table III shows the duration of operation in minutes.

Table II : Distribution of mean duration of surgery required in the study subjects.

Period	Time required in minutes		t / p value
	Group – A	*Group -B*	
Intra operative	32	56	8.85/ 0.001^{s}

P value reached from unpaired 't' test; s =significant

The patients were followed up on 1st ,7th , 30th , 90th post operative day and after 6 months. Post operative haemorrhage was noted in both groups . Table IV shows distribution of post operative haemorrhage in the study groups.

Table IV: shows distribution of post operative haemorrhage in the study groups.

Period	Haemorrhage		t / p value
	Group – A	*Group -B*	
1st POD	02	14	12.26/ 0.001^{s}
7thPOD	00	03	1.66/0.50^{ns}

P value reached from x^2 test; s = significant./ ns = not significant

Silicon tube was removed after 3months.After 6 months they were followed up to observe failure rate. In Group A there 1 failure and in group B there was 4 patients with failure. Though group B had a higher rate of failure the difference is not statistically significant.

DISCUSSION :

(DCR) is a relatively successful surgery for nasolacrimal duct obstruction.[1,2] .The basic principle of creating a large bypass above the obstruction by connecting the lacrimal sac through a bone ostium to the nasal cavity has remained the same since it was described over a century ago.[3,4] .In recent years, endoscopic endonasal DCR has gained popularity, although it is considered more technically challenging and has a prolonged learning curve and a possibly lower rate of success than external DCR.[1,2,5-7] .Early postoperative complications of externalDCRinclude hemorrhage within the first 24 hours that normally subsides spontaneously. Delayed epistaxis may occur 2 to 8 days after surgery. Surgery on Lacrimal Sac like Dacryocystorhinostomy (DCR), are associated with severe hemorrhage during operation often displeasing to almost all the surgeons.

Tranexamic acid is an antifibrinolytic compound which is a potent competitive inhibitor of the activation of plasminogen to plasmin. At much higher concentrations it is a non-competitive inhibitor of plasmin. The antifibrinolytic activity of tranexamic acid is approximately ten times greater than that of aminocaproic acid.The purpose of this study is to observe the efficacy of oral tranexamic acid in DCR which might reduce the intraoperative and postoperative bleeding in DCR surgery, and might reduce the duration of the surgery. This prospective, double blind, placebo controlled study.was conducted in Dhaka medical college Dhaka from April 2009 to April 2011. 60 Patient with chronic dacryocistitis attending OPD of Dhaka medical college were included. Written informed consent was taken from each patients and a thorough ocular examination was done. Each of the patient was randomly included in either of the following two groups by simple lottery method; In *Group A:* 30 Patients receiving tab tranexamic acid prior to DCR and two days postoperatively and in *Group B:* 30 Patients receiving Placebo (tab vit B complex).Patients and evaluators were masked to the medications. Blood loss during surgery was measured in milliliters . Caesar RH, McNab AA.found the mean blood loss was 4.5 ml (range, 1 to 14 ml). The mean operative duration was 36 minutes (range, 25 to 65 minutes) in external DCR surgery[10]. We recorded a mean blood loss of 9.5ml with a maximal blood loss of 24ml in group A and mean blood loss of 32ml in group B with maximum blood loss of 46 ml. The blood loss was more in the placebo group. P value reached from unpaired 't' test which was statistically highly significant (p =0.001).

Duration of surgery was noted in minutes. In group A The mean operative duration was 32minutes(range 25 to 46minutes) and in group B mean operative duration was 56minutes (range, 45to 86min. the duration of operation in minutes was much higher in the placebo group which is statistically highly significant. Wellington K, Wagstaff AJ. found that women with idiopathic menorrhagia, tranexamic acid 2-4.5 g/day for 4-7 days reduced menstrual blood loss by 34-59% over 2-3 cycles, significantly more so than placebo[11]. In our study we find 20%-25% reduction in blood loss from placebo group. This reduction in blood loss also reduces the duration of surgery by35-40% and improves the surgical outcome. Post operative haemorrhage was observed in 02 patient in group A and in 14 patients in group B in the first postoperative day. The difference was statistically significant (p= 0.001), but the difference in haemorrhage in the 7th POD was not statistically significant. The failure rate was higher in group B , but the difference was not statistically significant.

CONCLUSION:

Oral tranexamic acid 500mg 2tab one hour prior to DCR surgery and one tab 12 hourly for 2 post operative days significantly reduces preoperative and post operative haemorrhage and thus reduces the duration of surgery and improves the quality of DCR surgery.

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Retinal Nerve Fiber Layer thickness in normal Bangladeshi population measurement by Cirrus HD Optical Coherence Tomography

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Abstract

Objective: To assess the peri-papillary retinal nerve fiber layer (RNFL) thickness in Bangladeshi healthy eyes.

Methods: 50 normal subjects age 18 to 70 years presenting to glaucoma clinic were included in this Randomize, Observational, and Prospective study was done in glaucoma clinic of National Institute of Ophthalmology from 1st November 2010 to 31st May 2011. Peri-papillary (3.4mm circle diameter around disc) Retinal nerve fiber layer (RNFL) thickness was measurement with Crrus HD optical coherence tomography for all subjects, average and quadrants RNFL values were noted. Binocular Corrected Visual acuity, Slit lamp Biomicroscopy, Gonioscopy, intraocular pressure measurement and fundal exam were also done for all subjects.

Results: Out of 50 subject 56% was male and & 44%was female, age ranges from 18 to 70 years (Mean 49.25+/_10.26). Average RNFL thickness was 110.03+/_9.56 micro-meter with maximum thickness in inferior quadrant followed by superior, nasal and temporal quadrants. There was no significant difference in RNFL thickness between male and female. Negative correlation was found between age and average RNFL thickness.

Conclusions: Study provides a normative database of Peri-papillary retinal nerve fiber layer (RNFL) thickness in Bangladeshi healthy eyes which could serve as a guideline for future research in diseases those involving RNFL. It is also evident that RNFL thickness decreases with age but there is no relationship with gender.

Introduction

Retina contains approximately 1.0-1.5 million ganglion cell bodies. Each cell body sends an axon across the retina in the NFL (Nerve Fiber Layer) towards the optic disc. The NFL lies superficial in the retina, just beneath the internal limiting membrane. In normal eye NFL thickness distribution is regionally unevenly distributed. NFL in upper and lower pole of optic disc is thicker than nasal and temporal pole.

Evaluation of the RNFL (Retinal Nerve Fiber Layer) is one method of assessing the health of the ganglion cell axons before they reach the optic nerve. Defect in the NFL may precede glaucomatous visual field loss and structural changes to the optic nerve [1,2,3]

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Average thickness of RNFL means average value of NFL of the calculating circle (3.4mm) and provides an overall assessment of peripapillary RNFL. Quadrant plot means four quadrants value of NFL in micro meter. Most paper show the average RNFL thickness is 100-120 micro meter. By the time a patient develop early glaucoma, the RNFL thickness usually fall below 80 micro meter.

Average value of RNFL thickness guidelines in glaucoma assessment:

- >80 micro-meter= Normal
- 70-79 micro-meter=Borderline , GL Suspect
- 60-69 micro-meter=Early thinning, Early GL
- 50-59 micro-meter=Moderate thinning, Moderate GL
- 40-49 micro-meter=Advance thinning, Advance GL
- <30 micro-meter=Advance thinning, Primary retinal diseases

Considering that glaucoma has a prediction for localized inferior and superior RNFL loss. The localized inferior and superior RNFL quadrant average is important indicator of glaucoma. The normal superior and inferior quadrant average value is 140 micro meter and in early glaucoma the value is near 100 micro meter [4,5].

Methods
Study design: Cross sectional Observational study.
Sample size: 50
Sampling: Random
Place of study: Glaucoma clinic, National Institute of Ophthalmology (NIO). Sher-e-Bangla Nogar , Dhaka.
Study duration: 1st November 2010 to 31st May 2011.
Inclusion criteria: Healthy adult person more than 18 years are included in this study.
Exclusion criteria: All primary open angle glaucoma, primary angle closure glaucoma, 2^0 Glaucoma's, and all types of Retinopathies are excluded from the study.
Proper clinical History was noted.
Initially following examinations were done for all patients:

- Best Corrected Visual Acuity (BCVA)
- Limbal A/C depth Meatured by Van Herick theory.
- Tonomerty by GAT.
- Gonioscopy for angle status by Goldmann 3-mirror.
- Disc assessment by 78/90 D.
- Automated Visual Field Analysis by Humphrey was done if needed.

- Peri-papillary (3.4mm circle diameter around disc) Retinal nerve fiber layer (RNFL) thickness was measurement with Cirrus HD optical coherence tomography (Spetral OCT) for all subjects , average and quadrant RNFL values were noted.

Results

Demographic pattern

Table 1. Gender distribution:

sex	n	%
Male	28	56
Female	22	44

Table 2. Age distribution:

Age	n	%
18-45 years	21	42
>/_46 years	29	56

Mean age of the study sample was 42.64+/-13.63.

Table 3. RNFL thickness:

Distribution	Mean value micro meter	SD
Avarage	110.03	+/-9.56
Inferior	132.36	+/-16.75
superior	128.51	+/-16.67
Nasal	80.84	+/-14.58
Temporal	71.23	+/-10.27

Abbreviation: SD standard deviation

Table 4. Relation between Average RNFL with sex

sex	Mean	SD
M	114.03	+/-9.56
F	114.04	+/-9.57

Abbreviation: SD standard deviation

Table 5. Relation between Average RNFL with age

Age	Mean value	SD
18-45	115.33	+/-4.56
>/_46	113.15	+/-3.63

Abbreviation: SD standard deviation

Discussion

Out of 50 subject 56% was male and & 44%was female (Table 1), age ranges from 18 to 70 years (Mean 49.25+/_10.26) (Table 2). Average RNFL thickness was 110.03+/_9.56 micro-meter with maximum thickness in inferior quadrant followed by superior, nasal and temporal quadrants (Table 3). There was no significant difference in RNFL thickness between male and female (Table 4). Negative correlation was found between age and average RNFL thickness (Table 5).On comparing with Caucasian population average RNFL thickness in Bangladeshi is significantly more than that of Caucasian and almost same with other Asian countries [6]

Conclusion

Study provides a normative database of Peri-papillary retinal nerve fiber layer (RNFL) thickness in Bangladeshi healthy eyes which could serve as a guideline for future research in diseases those involving RNFL. It is also evident that RNFL thickness decreases with age but there is no relationship with gender.

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CORRELATION BETWEEN CENTRAL CORNEAL THICKNESS AND VISUAL FIELD DAMAGE IN PRIMARY OPEN ANGLE GLAUCOMA

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AIMS: To find out correlation between central corneal thickness (CCT) and visual field damages in patients with primary open angle Glaucoma (POAG).

Introduction: Glaucoma is a leading cause of irreversible blindness throughout the world. An important parameter in the detection and monitoring of glaucoma is the intraocular pressure. Increase corneal thickness can produce falsely high IOP reading and decrease corneal thickness produce falsely low IOP reading. Pachymetry measured central corneal thickness has a significant effect on the clinical management of patients with glaucoma and glaucoma suspects.The Ocular Hypertension Treatment Study (OHTS) found CCT to be a risk factor for progression independent of IOP level. The visual field analysis is one of the principal components used in diagnosis and management of glaucoma.

Patients and Method

This Cross-sectional observational study was conducted in Glaucoma clinic at National Institute of Ophthalmology and Hospital, Dhaka during 1st Nov 2006- 31st March 2007. A total of 30 established POAG patients age above 40 years were included in the study. Automated perimetry was performed by Humphrey field analyzer, 30-2 SITA Standard program. After proper education to the patient when reliability indices was found within normal limit then reading was taken. Mean deviation (MD) and pattern standard deviation (PSD) was taken into account. Central corneal thickness (CCT) was measured by ultrasound pachymetry and expressed in micrometer (μm).

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Result

Of 30 patients, 18 (60%) were between 40 - 60 years age group and the rest 12 (40%) were above 60 years old. Mean age was 58.34 years ± 3.37 (SD). Of 30 cases, 14 (46.67%) were male and 16 (53.33%) were female. 80% patients had visual acuity 6/12 or better. Of 30 patients, 20 (66.67%) patients had IOP between 22 and 25 mm of Hg and the rest 10 (33.33%) had IOP above 25 mm of Hg. The mean CCT was 550.96 mm ± 33.63 (SD). Maximum value was 615 mm and minimum was 490 mm. Mean MD was - 6.10 dB ± 1.61 (SD). Maximum value was - 9.50 dB and minimum was - 3.50 dB.
Thinner cornea gives false impression of lower IOP by applanation method which mislead an ophthalmologist to take care of the patient and thus field damage progresses; the reverse happens in case of thick cornea.

Discussion

An important parameter in the detection and monitoring of glaucoma is the intraocular pressure. The Goldmann applanation tonometer has become the international "gold standard" for IOP measurement. Of the currently available devices, the Goldmann applanation tonometer is the most valid and reliable because applanation does not displace much fluid (approximately 0.5 µL) or substantially increase the pressure in the eye. This method is relatively unaffected by ocular rigidity. Corneal pachymetry is useful in determining risk of developing glaucoma and interpreting unexpected intraocular pressure measurement result. Increase corneal thickness can produce falsely high IOP reading and decrease corneal thickness produce falsely low IOP reading. Corneal pachymetry appears to be an essential tool in predicting the progression from ocular hypertension to POAG2.

Based on the studies by Goldmann and Schmidt19 and Ehlers et al.,20 previous studies have reemphasized the importance of central corneal thickness in applanation measurement of intraocular pressure.21 In the Ocular Hypertension Treatment Study (OHTS), central corneal thickness was found to be a powerful predictor for the development of primary open-angle glaucoma.22 In a recent investigation by Herndon et al.,23 an association of central corneal thickness and severity of primary open-angle glaucoma was reported. Patients with primary open-angle glaucoma who had thinner corneas tended to have more severe glaucomatous damage on initial examination by a glaucoma specialist. Central corneal thickness was the most consistent predictor of degree of glaucomatous damage. In other studies, the effect of central corneal thickness on ocular hypertension and normal-tension glaucoma was evaluated.24,25,26,27

This study was conducted in the glaucoma clinic at National Institute of Ophthalmology and Hospital, Dhaka.with the aim to observe the correlation of central corneal thickness with the visual field parameters mainly the mean deviation (MD) and pattern standard deviation (PSD).
A total of 30 established POAG patients age above 40 years were included in the study.

normal limit then reading was taken. Mean deviation (MD) and pattern standard deviation (PSD) was taken into account.
Central corneal thickness (CCT) was measured by ultrasound pachymetry and expressed in micrometer (μm).The study subjects. Of 30 patients, 18 (60%) were between 40 – 60 years age group and the rest 12 (40%) were above 60 years old. Mean age was 58.34 years ± 3.37 (SD). This age incidence correlates with other studies. In the study of Chauhan *et al* (2005)[12] mean age was found as 56.5 years ±9.8 (SD).
The distribution of sex among the study subjects. Of 30 cases, 14 (46.67%) were male and 16 (53.33%) were female. There is no specific sex association of POAG exists in the literatures. In the current study female cases of POAG was found more.

The distribution of visual acuity among the study subjects. In POAG central vision is not affected unless POAG appears to its very advanced stage. This has been reflected in the current study. 80% patients had visual acuity 6/12 or better.

The distribution of intraocular pressure among the study subjects. Of 30 patients, 20 (66.67%) patients had IOP between 22 and 25 mm of Hg and the rest 10 (33.33%) had IOP above 25 mm of Hg. In the study of Papadia *et al* [8] mean IOP was lower, 18.02mm of Hg ± 4.66 mm of Hg in thick cornea group and 17.79 mm of Hg ± 3.57mm of Hg in thin cornea group.The distribution of central corneal thickness (CCT) among the study subjects. Mean CCT was 550.96 μm ± 33.63 (SD). Maximum value was 615 μm and minimum was 490 μm.
Distribution of mean deviation (MD) of visual field among the study subjects. Mean MD was – 6.10 dB ± 1.61 (SD). Maximum value was – 9.50 dB and minimum was – 3.50 dB.
Distribution of pattern standard deviation (PSD) of visual field among the study subjects. Mean PSD was 5.32 dB ± 1.77 (SD). Maximum value was 8.0 dB and minimum was 3.00 dB.
Papadia *et al* (2006)[8] selected total 99 eyes with POAG based on visual field and optic head nerve damage based on CCT value the sample was split in two groups Group-I < 535μm, Group-II Corneal thickness more than or = 535μm; they found in Group-I, CCT was 504.8μm ±30.8μm, mean deviation -9.01dB ± 8.72; PSD 6.38 ± 3.99, IOP 18.02mm of Hg ± 4.66mm of Hg. Group-II mean, CCT 574.6μm ± 35.03; Mean deviation - 4.39 dB ± 4.70; PSD 4.25 ± 3.19; IOP 17.79 mm of Hg ± 3.57mm of Hg. A significant difference was found between the two groups for both MD and PSD; patients with thin cornea had a worse MD and PSD[8]. This is supported by the current study.
Thinner cornea gives false impression of lower IOP by applanation method which mislead an ophthalmologist to take care of the patient and thus field damage progresses; the reverse happens in case of thick cornea.
In the current study, the correlation of CCT with mean deviation (MD) a Significant inverse correlation exists between CCT and MD. Same result has been shown for PSD and CCT. That is, Thinner cornea is associated with worse visual field condition and for thicker cornea the reverse condition occurs.

CONCLUSION

The analytical result of this study shows that central corneal thickness is inversely correlated with mean deviation (MD) and pattern standard deviation (PSD) of Humphrey automated perimetry. Thinner cornea gives false impression of lower IOP by applanation method which mislead an ophthalmologist to take care of the patient and thus field damage progresses (high MD and PSD); the reverse happens in case of thick cornea. So, to get the actual IOP one should measure the CCT to avoid underestimation or overestimation of IOP and thus to prevent further progression of field damage.

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STEROID (PREDNISOLONE) INDUCED COMPLICATIONS FOLLOWING CATARACT SURGERY & INTRAOCULAR LENS IMPLANTATION.

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Abstract :
Cataract is the leading cause of blindness throughout the world. This prospective study was conducted in the department of ophthalmology, Mymensingh Medical college Hospital. Patients of both sexes 50 to 70 years of age range admitted for cataract surgery were selected for this study. Patients were randomly selected during period June 2010 to December 2010 with age related cataract. Total 50 patients were included in the study. Patients were treated with prednisolone acetate 1% eye drop-1 drop-2 hourly for 1 week, 1 drop 4 hourly for 2 weeks than 1 drop 6 hourly up to 30 days after cataract surgery. Male were 60% and female 40%. Patients were evaluated 1st, 7th and 30th postoperative day. Visual acuity was recorded in all post operative visits. In final visit visual acuity with pin hole were 6/6 60% , 6/9 30% and 6/12 10% patients. Wound were healthy in all patients. Prednisolone were well tolerated in all patients. Mean intraocular pressure in preoperative patients were 13.75mm of Hg, in 2nd visit 14mm of Hg, in 3rd visit 14.25mm of Hg.

Key words :
Prednisolone acetate, small incision cataract surgery (SICS), VA (Visual acuity), IOP (Intraocular Pressure)

Introduction:
According to WHO cataract is the leading cause of blindness and visual impairment throughout the world[1]. It is the commonest cause of curable blindness. Cataract surgery is the only way to revive vision back. In order to achieve the best possible results after any cataract surgery successful management of post operative complications is a must[2]. Post operative inflammation after cataract surgery which impedes visual rehabilitation is a paramount concern for both patients and surgeons. It is often associated with IOL implantation or inflammatory reaction to retained lens materials. Retained lens materials

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in the anterior chamber or vitreous may be associated with severe anterior uveitis[3]. Recent advancement in cataract surgery such as phaecoemulsification and manual SICS have significantly decreased the extend of ocular injury. But they have not eliminated the trauma induced synthesis and release of inflammatory mediators. Therefore most patients still experience some degree of post operative inflammation. Corticosteroids are commonly used to decrease inflammation after cataract surgery. Corticosteroids dramatically reduce the manifestation of inflammation[4] .

Methods :

This prospective study was conducted during the period of June 2010 to December 2010. Cases were selected randomly among the patients admitted in the department of Ophthalmology, Mymensingh Medical College Hospital with age related cataract. Data were collected by data collection sheet. 50 patients were selected for the study. Patients were treated with prednisolone acetate 1% eye drop- 1 drop 2 hourly 1 week, 1 drop 4 hourly for 2 weeks than 1 drop 6 hourly up to 30 days. All the patients were operated by small incision cataract surgery (SICS) technique with posterior chamber intraocular lens implantation. All operation were done by single surgeon under peribulbar anesthesia. Three post operative follow up were done (1^{st} POD, I week, 30 days). Patients other than age related cataract, having previous history of uveitis, other ocular diseases like glaucoma, optic atrophy, previous ocular trauma or previous intraocular surgery were excluded from the study. After taking written consent from the patients history and clinical examinations (general, systemic and ocular examinations) were recorded.

Ocular examination done by snellen's chart, torch light, slit lamp, applanation tonometer, direct and indirect ophthalmoscope etc. Parameters were studied- visual acuity, intraocular pressure (IOP), wound, tolerability of prednisolone.

Results :

Objectives of the study were to evaluate the steroid (Prednisolone induced complication after cataract surgery and IOL implantation. Patients were in age group 50-70 years, patients 30 (60%) were male and 20 (40%) were female.

Visual acuity with pin hole at final visit- 6/6 were 30 patients (60%), 6/9 15 (30%), 6/12 5 (10%) patients. Final visual outcome were good. Wound was healthy in all patients in 1^{st}, 2^{nd} & 3^{rd} visit. Post operative IOP were measured in all patients in 2^{nd} & 3^{rd} visit by applanation tonometer. Mean IOP in preoperative visit were 13.75 mm of Hg, in 2^{nd} visit 14 mm of Hg & in 3^{rd} visit 14.25 mm of Hg, no significant rice of post operative IOP in 2^{nd} & 3^{rd} visit.

Prednisolone were well tolerated in all post operative patients.

Table-i: Visual acuity with pinhole at final post operative visit.

VA	Number of patients	Percentage (%)
6/6	30	60%
6/9	15	30%
6/12	5	10%

Table-ii: Intraocular pressure in preoperative and post operative visits.

IOP	Mean IOP
Preoperative	13.75 mm of Hg
Postoperative	
2nd visit	14 mm of Hg
3rd visit	14.25 mm of Hg

Table-iii: Status of wound.

Visit	Wound	Number
1st (100%)	Healthy	50
2nd (100%)	Healthy	50
3rd (100%)	Healthy	50

Table-iv: Tolerability of predinisolone.

Visit	Tolerable	Number
1st	Well tolerated	50 (100%)
2nd	Well tolerated	50 (100%)
3rd	Well tolerated	50 (100%)

Discussion :

Post operative inflammatory reaction occurs in all intraocular procedure on previous quiet eye. The routine reaction is low grade iridocyclitis consisting of few cells and mild flare. Anti inflammatory agents like corticosteroids and nonsteroidal anti inflammatory agents play a significant role of in the inhibition of miosis during cataract surgery and the reduction of postoperative inflammation following cataract surgery[5]. Corticosteroid block the synthesis of protaglandin by inhibiting phospholipase A_2 at an early stage in the arachidonic acid cascade[6]. The study was conducted in the department of ophthalmology Mymensingh Medical College Hospital. In this study 50 patients were included Age range of patients varied from 50 to 70 years. Patients received 1% prednisolone acetate eye drops after cataract surgery and intraocular lens implantation.

Visual acuity was recorded in all post operative visits. Visual rehabilitation were good in final visits. Wound were healthy in all patients in 1st 2nd and 3rd visits. Prednisolone acetate eye drops were well tolerated in all patients. This study is similar to Demco TA et al. (1997)[7].

Intraocular pressure were measured in all patients in 2nd & 3rd visits. Analysis revealed that IOP was slightly increased from preoperative pressure in 2nd and than 3rd visits. This study is similar to EL-Harazi SM, et al (1998)[8].

Conclusion:
Ophthalmologists prescribe topical steroids to reduce post cataract surgical inflammation. Topical steroid have few risks of side effects such as increase IOP, delayed wound healing or greater incidence of infection . Short term application of topical steroid have no such side effects. This study conclude that prednisolone is an effective and safe steroid that may be useful and acceptable after cataract surgery.

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Cosmetic Evaluation of Baseball Implantation following Eviceration.

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ABSTRACT

Purpose: To provide better cosmetic result, ocular movement and healing social and psychological problems for the sightless ugly eyes.

Introduction: Evisceration is a destructive surgical process which is done in septic cases and some aseptic cases where vision is not present. Infection is threatening to life and presence of ugly eye is cosmetically unacceptable.

Method: This randomized clinical trial was conducted at the National Institute of Ophthalmology and Hospital, Dhaka, from February 2003 to December 2004. Fifty patients were selected randomly who had painful blind eye, badly injured eye, sightless ugly eyes and perforated corneal ulcer, panophthalmitis and endophthalmitis.
For better cosmetic purposes, the procedure of evisceration in which a plastic or silicone baseball was implanted in the scleral socket after removing the corneal button and scooping out the intraocular contents. Sclera was sutured over the implant with absorbable suture. Conjunctive and tenon capsule were sutured together. Confirmer was applied for proper formation of conjunctival fornices where eye shell was applied later on.

Results: Out of 50 patients, 30 (60%) had free movement of the eyeball, 17 (34%) had partial movement of eyeball. Thirty eight (76%) patients had binocular similarity and 9 (18%) had near-binocular similarity. Thirty eight (76%) patients had quite satisfactory external appearance and 9 (18%) had satisfactory external appearance. Forty (80%) patients were very happy and 7 (14%) were happy. Only 3 (6%) patient developed postoperative complications.

Conclusion: Evisceration with baseball implant provides an excellent external appearance of binocular similarity as well as ocular movements. It can eliminate psychological trauma and social problem with highly cosmetic satisfaction of the patient.

Key word: Evisceration, blind dye, plastic and silicone ball.

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INTRODUCTION

Evisceration is a destructive surgical process which is done in septic cases and some aseptic cases where vision is not present, presence of infection is threatening to life and presence of ugly eye is cosmetically unacceptable.

Evisceration is conventionally done by cutting the anterior two-thirds of the sclera and removing the intraocular contents including retina, uvea and vitreous by living posterior one-third of the sclera and optic nerve. Conjunctiva and tenon's capsule were sutured without any implant. Eye shell was applied after 1 or 2 months of operation, which is fixed in primary position. Ocular movement was very minimum with poor cosmesis. Late complication of this procedure is contracted socket.

For better cosmetic outcome, the procedure of evisceration is changed. After removing of the corneal button and scooping out the intraocular contents a plastic or silicon baseball is implanted in scleral socket. Proper haemostatis ensures. Sclera is sutured over the implant with absorbable suture. Conjunctiva and tenon's capsule are sutured. Confirmer is applied for proper formation of conjunctival fornices where eye shell is applied later on.

MATERIALS AND METHODS

This randomized clinical trial was carried out at the National Institute of Ophthalmology and Hospital (NIO&H), Dhaka. Age of the patients ranged from 2 to 60 years (Table-I). Fifty patients of both sexes suffering from different diseases were included in this study (Table-Il and III). Duration of study was from February 2003 to December 2004.

Inclusion criteria

a) Age of the patients between 2 and 60 years.
b) Both sexes
c) Patients who suffering from staphyloma, painful blind dye, endophthalmitis, badly ocular injury, corneal ulcer and panophthalmitis.

Exclusion criteria

a) Patients with malignant condition
b) Patients age less than 2 and more than 60 years

The procedure of Evisceration :

After removing of the corneal button and scooping out the intraocular contents a plastic or silicon baseball is implanted in scleral socket. Proper haemostatis ensures. Sclera is sutured over the implant with absorbable suture. Conjunctiva and tenon's capsule are sutured. Confirmer is applied for proper formation of conjunctival fornices where eye shell is applied later on.

RESULTS

Fifty patients underwent evisceration with baseball implantation. Out of 50 patients, 30 patients (60%) had free movement of eyeball and 17 patients (34%) had partial movement of eyeball (Table-TV). 38 patients (76%) had binocular similarity and 9 patients (18%) had near binocular similarity (Table-V). 38 patients (76%) had quite satisfactory external appearance and 9 patients (18 %) had satisfactory external appearance (Table-VT). 40 patients (80%) were very happy and 7 patients (14%) were happy (Table-Vu). Out of 50 patients, 47 patients (94%) had no postoperative complication and 3 patients (6%) developed postoperative complications like extrusion of baseball (Table-VIII).

Table -I. ***Age distribution of the patient*** *(n=50)*

Age in years	Number of patients	Percentage
2-20	18	36
41-60	24	48
41-60	8	16

Table -II. ***Sex distribution of the patient*** *(n=50)*

Sex	Number of patients	Percentage
Male	30	60
Female	20	40

Table -III. ***Indication of evisceration*** *(n=50)*

Disease	Number of patients	Percentage
Staphyloma	15	30
Painful blind eye	15	30
Endophthalmitis	05	10
Ocular injury C U/ Panophthalmitis	05 10	10 20

Table -IV. ***Status of post-operative ocular motility of all patients*** *(n=50)*

Ocular motility	*Number of patients*	*Percentage*
Free moving	30	60
Partially moving	17	34
No movement	03	06

Table -V. ***Status of post-operative binocular similarity*** (n=50)

Status of similarity	Number of patients	Percentage
Similar	38	76
Near similar	09	18
No satisfactory similarity	03	06

Table -VI. ***Status of post-operative external appearance of all patients*** *(n=50)*

Status of satisfaction	Number of patients	Percentage
Quite satisfactory	38	76
Satisfactory	09	18
Not satisfactory	03	06

Table -VII. ***Status of post-operative satisfaction of all patients*** *(n=50)*

Status of *satisfaction*	Number of patients	Percentage
Very happy	40	80
Happy	07	14
Not happy	03	06

Table -VIII. ***Status of post-operative results (complication)*** *(n=50)*

Complications	Number of patients	Percentage
No complication	47	94
Complication present (baseball extrusion)	03	06

DISCUSSION

Evisceration is the procedure for removing the intraocular contents of diseased eye and has been practiced for more than 100 years. Evisceration has recently gained more interest and acceptance.

In 1960, Hughes[1] advocated simple evisceration without placing an alloplastic implant. In 1980, Shore et al.[2] described delayed primary closure of evisceration for endophthalmitis with secondary alloplastic implant. This technique, however, takes prolonged hospitalization and all these measures were taken to good sockets and to good prosthetic movements in respect to the patient's cosmetic point of view.

To improve cosmetic result to restore binocular movement, to reduce psychological trauma and social problem, result of evisceration with baseball implantation is excellent.

We performed evisceration with baseball implantation in 50 patients age ranging from 2 to 60 years (Table-I), in which male were 30 (60%) and female 20 (40%) (Table-Il). Patients were suffering from staphyloma 15 (30%), painful blind eye 15 (30%), endophthalmitis 5 (10%), ocular injury 5 (10%) and corneal ulcer/panophthalmitis 10 (20%) (Table-Ill).

In our country male works outdoor and are more vulnerable to various trauma, e.g. agriculture trauma while engaged in agricultural work, industrial trauma, etc. So,

incidence of evisceration with baseball implantation was more in male, 30 patients (60%) (Table-II).

Age incidence of evisceration with baseball implantation was more between 21-40 years of age (Table-I). As this age group was young and cosmetically aware, so evisceration with baseball implantation was more in this age group.

We performed evisceration with baseball implantation both in septic and aseptic cases.

Roper-Hall[1] suggested evisceration with baseball implantation only after controlling active inflammation of the globe for one year.

In our study, 5 patients (10%) were suffering from endophthalmitis, 5 patients (10%) were suffering from ocular injury and 10 patients (20%) were suffering from corneal ulcer/panophthalmitis and 30 (60%) patients from staphyloma and painful blind eye who had undergone evisceration with baseball implantation and 47 patients (94%) had no postoperative complication and 3 patients (6 %) developed postoperative complication, e.g. extrusion of baseball. Out of 3 complicated cases, one was suffering from endophthalmitis, one from panophthalmitis and one from painful blind eye. This complication was due to faulty surgical technique.

Here we performed evisceration with baseball implantation with appropriate size of baseball and with proper stitching, thereby we can prevent complication like extrusion of baseball.

Dresner and Karesh[3], Department of Ophthalmology, The Jules Stein Eye Institute. Los Angeles, California, USA, who performed evisceration with primary orbital implant placement in scleral socket in 11 patients with endophthalmitis and blind eye. Results were improved postoperative fornices, good implant mobility and generally improved cosmesis.

In our study, out of 50 patients, 5 patients (10%) were suffering from endophthalmitis (Table-Ill). One patient developed postoperative complication, e.g. extrusion of baseball. Four patients had good postoperative outcome in context of movement of the globe, binocular similarity, colour with the fellow eye.

Kostic and Linberg[4], Department of Ophthalmology, West Virginia University, Morgan Town, USA, performed evisceration with hydroxyapatite implant in the scieral pocket in 31 patients suffering from painful blind eye and had good success.

In our study, out of 50 patients, 15 patients (30%) were suffering from painful blind dye (Table-III). Out of 15 patients, 14 patients had good postoperative outcome in context of ocular movement, binocular similarity, external appearance. One patient developed postoperative complication, e.g. extrusion of the baseball.

Yuan *et al.*[6], Zhongshan Ophthalmic Center, Sun Yet-Sen University of Medical Sciences, Guangzhou, China, who performed evisceration with hydroxyapatite implant in the scleral pocket in 78 patients suffering from painful blind eye and atrophic eye. All patients underwent successful surgery with good cosmetic outcome. There was no major complications.

In our study 15 patients (30 %) were suffering from painful blind eye and 15 patients (30%) were suffering from anterior staphyloma (Table-Ill). One patient with painful blind eye developed complication, e.g. extrusion of baseball. Patients with anterior staphyloma developed no complication. Result of both grafts was good regarding cosmetic point of

view which include mobility of the globe, binocular similarity, colour with the fellow eye, lids position and external appearance.

Dada *et al.*[7], Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS, New Delhi, India, evaluated the demographic pattern and indications for evisceration in North India. They have found that panophthalmitis and severe ocular injury are the major indications of evisceration in North India. The result of evisceration with baseball implantation was good.

In our study, 10 (20 %) patients were suffering from panophthalmitis and 5 patients (10%) were suffering from badly ocular injury (Table-Ill). One patient with panophthalmitis developed postoperative complication, e.g. extrusion of baseball. Patients with ocular injury developed no postoperative complication. Result of both groups was good regarding cosmetic point of view.

Shah-Desai *et al*[8], Eye Department, Salisbury District Hospital, Odstock, UK, performed evisceration with orbital implant in 24 patients with intractable ocular pain due to painful blind eye. Complete pain relief was achieved in all patients at an average time of 3 months. Seven patients developed recurrent pain due to complications of surgery and orbital implants.

In our study, 15 patients (30%) were suffering from painful blind eye (Table-III). One patient developed postoperative complication, e.g. extrusion of baseball. No patient developed recurrent pain postoperatively.

Rosner *et al*[9], Goldschleger Eye Institute, Tel-Aviv University, Sheba Medical Center, Israel, performed evisceiation with intrascieral implantation of glass beads in 17 patients. All patients achieved good cosmetic results with good motility of the prosthesis. Complications included transient chemosis in 3 patients and one patient developed local dehiscence of the wound.

In our study, out of 50 patients, 47 (94 %) patients achieved good cosmetic result with good motility of the prosthesis and 3 (6%) patients developed extrusion of baseball (Table-VIII).

Buettner *et al*[10]. Department of Ophthalmology, Mayo Clinic, Rochester, Minnesota, who performed evisceration with hydroxyapatite implant in scieral sockets in 6 patients suffering from painful blind eye and endophthalmitis. Four patients developed tissue breakdown and exposure of a hydroxyapatite implant. Tissue breakdown over a hydroxyapatite implant may be related to delayed ingrowth of fibrovascular tissue and possibly related to an inflammatory reaction incited by the hydroxyapatite.

In our study, out of 50 patients 47 patients (94%) had uneventful postoperative course and 03(6 %) patients developed postoperative complication, e.g. baseball extrusion.

Shore *et al.*[11], Department of Ophthalmology, Wilford Hall USAF Medical Center, San Antonio, Texas, who used delayed primary wound closure in 3 cases of bacterial endophthalmitis to minimize the risk of implant extrusion following evisceration. In the 4th case, the wound was closed primarily but wound dehiscence and implant extrusion occurred 6 weeks postoperatively and reoperation was required.

In our study, 5 (10%) patients were suffering from endophthalmitis (Table-III), who had undergone evisceration with baseball implantation, where the wound was closed

primarily. One patient developed postoperative complication, e.g. extrusion of baseball, and 4 patients had uneventful course.

Haider *et al.*[2] at NIO&H, Dhaka, performed orbital baseball implantation after evisceration in 123 cases and the result was very good regarding motility and cosmetic point of view than that of the conventional surgery without implant.

In our study of 50 patients, overall results were 30 patients (60 %) had free movement of eyeball, 17 patients (34%) had partial movement of eyeball and 3 patients (6 %) had no movement due to complication (Table-TV). 38 patients (76 %) had binocular similarity, 9 patients 18 %) had near binocular similarity and 3 patients (6 %) had no binocular similarity (Table-V). 38 patients (76%) had quite satisfactory external appearance, 9 patients (18 %) had satisfactory external appearance and 3 patients (6 %) had no satisfactory external appearance (Table-VT). Regarding patients satisfaction, 40 patients (80%) were very happy, 7 patients (14%) were happy and 3 patients (6 %) were not happy (Table-VII).

Website, www.mrcophth.com/oculoplasticgallery showed evisceration with silicone ball implantation in the scleral pocket of a painful blind eye with recurrent corneal ulcer where result was satisfactory regarding the cosmetic point of view. Surgical process of evisceration and cosmetic result of our study was similar to that website.

In our study, out of 50 patients, 47 patients (94%) had no complication and 3 patients (6%) developed complication like extrusion of baseball (Table-VIII). Overall success rate depends on several factors: appropriate selection of patients, skilled surgical hand, proper size of baseball, type of orbital implant, proper aseptic procedure of operation, proper sterilization of orbital implants, all contribute good success. In our study, complication was due to improper selection of baseball where large size of baseball was implanted in small scleral pocket and stitches were given tightly. So baseballs were extruded as a result of pressure necrosis.

Ocularist who made prosthetic eye which was implanted later on, on conjunctival fornices, plays an important role. Prosthetic eye is available in two forms, readymade and custom-made. Custom-made prosthetic eye is costly and is made by ocularist by matching the colour of the fellow eye and by matching the size of the anophthalmic socket, Readymade prosthetic eye is cheap and is available in the market in different sizes, shape and different colours. Near appropriate size and colour was implanted in anophthalmia socket. So, external appearance and ocular movement was not as good as custom-made prosthetic eye.

CONCLUSION

Evisceration with baseball implantation is such a procedure, if it is performed meticulously, there will excellent external appearance of the eyes in context of binocular similarity, binocular movement. Patients will be highly satisfied by which we can reduce psychological trauma and social problem.

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Association of Microalbuminuria with Diabetic Retinopathy in Type 2 Diabetic Patients

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Abstract

Introduction: Diabetic retinopathy is one of the leading cause of blindness world wide, individuals with this condition run a 25 time higher risk of loosing the sight than do normal individuals. [1] Using new surgical and medical techniques, the incidence of blindness can be reduced by 90%. [2] Decrease in visual acuity in diabetic retinopathy is earlier associated with maculopathy or its proliferative complication. **Aim:** The aim of this study was to identify the relation of Microalbumunia and development of retinopathy in type 2 diabetic patients and also other risk factors such as hyperglycemia, hypertension, duration of diabetes in type 2 diabetic patients. **Materials and Methods:** This cross sectional study was carried out among the patients with non insulin dependent diabetic patient during the period of January 2010 to July 2010. One hundred fifty non-insulin dependent diabetic patients were examined. Eveluation of the presence of microalbuminuria was done by immunoanalysis. And patients were evaluated by director and indirect ophthalmoscopy and classified as no retinopathy, mild non proliferative, moderate non proliferatire, severe non proliferative and proliferative retinopathy.

Results: The diabetic retinopathy had significant correlation with age and duration of diabetes, where the mean duration of DM was 7.7±3.8 years in no retinopathy, 8.2±2.1 years, in mild nonproliferative retinopathy, 10.0±3.5 years in severe non proliferative retinopathy and 12.9± 5.5 years in proliferative retinopathy group. Hypertension was found 10.0% in no retinopathy, 13.3% in mild non proliferative retinopathy 16.7% in moderate non proliferative retinopathy, 16.7 in severe non proliferative retinopathy and 26.7% in proliferative retinopathy group. The HbA1c and S Cretanine level significantly ($p<0.05$) increased with severity of retinopathy in type 2 diabetic painets. The mean micro albumunuria was 19.8± 56 mg/L in no retinopathy, 29.3 ±11 mg/L in mild

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nonproliferative retinopathy, 53.3± 69 mg/L in moderate, 110.2±92.2 mg/L in severe nonproliferative retinopathy and 185.8±99.8 mg/L in proliferative diabetic retinopathy group. The mean ACR was 17.6±8.2 mg/gm in no retinopathy, 22.5±9.4 mg/gm in mild non proliferative retinopathy, 29.7±23.1 mg/gm in moderate nonproliferative retinopathy, 61.5±56.3 mg/gm in severe nonproliferative retinopathyand 117.0± 69.8 mg/gm in proliferative diabetic retinopathy group. The micro albuminuria and ACR were significantly ($p<0.05$) increased with severity of retinopathy in type 2 diabetic subjects.

Conclusion: Microalbuminuria is associated with diabetic retinopathy in type 2 diabetic patients and is a reliable marker of retinopathy. All patients with non insulin dependent diabetes of at least five years should undergo an evaluation of renal function including test for microalbuminuria in the presence of microalbuminuria. In the presence of Microalbuminuria an ophthalmologic follow up is particularly important.

Key Words: Intracameral Carbachol; Intraocular Pressure; Clear Corneal Phacoemulsification; Cataract Surgery

Introduction

Diabetes Mellitus is one of the most common metabolic diseases in which either the hormone insulin is lacking or body's cells are insensitive to insulin effect. The multi system complication of diabetes such as retinopathy, nephropathy, neuropathy and cadiovascular diseases are considered important, impinging on public health.

Diabetic retinopathy may be defined as the retinal changes-results from tissue ischemia which in turn leads to increased vascular permeability, formation of exudates, hemorrhages and microaneurysms. [1]

Diabetic retinopathy is one of the leading cause of blindness world wide, individuals with this condition run a 25 time higher risk of loosing the sight than do normal individuals. [2] Using new surgical and medical techniques, the incidence of blindness can be reduced by 90%. [3] Decrease in visual acuity in diabetic retinopathy is earlier associated with maculopathy or its proliferative complication.

Many studies have been undertaken to determine the precipitation factors of retinopathy such as duration and type of diabetes, hyperglycemia, change in hormonal levels, genetics and microalbuminuria.

The occurrence of Microalbuminuria in type 1 diabetes is highly predictive of renal and cardiovascular diseases whereas in diabetes type 2, lesser association is observed. [4]

Aims and Objectives

The present study was undertaken to evaluate the incidence of microalbuminuria and its association with diabetic retinopathy and also other risk factor such as hyperglycemia, hypertension, duration of diabetes in type 2 diabetic patients.

Materials and Methods:

It was a cross sectional study which was analytical in nature. The study was carried out at Out-Patient Department of Ophthalmology in BIRDEM, a tertiary care hospital in

Bangladesh in the period of January 2010 to July 2010. One hundred and fifty patients were selected randomly from the Out-Patient Department of Ophthalmology and written consent was taken from the patients. The study was approved by the Ethical Committee of the Diabetic Association of Bangladesh. The study subjects were divided into five categories.

Group A- Consisted of patient with no retinopathy, Group B- Consisted of patient with mild non proliferative retinopathy, Group C- Consisted of patient with moderate non proliferative retinopathy, Group D- Consisted of patient with severe non proliferative retinopathy, Group E- Consisted of patient proliferative retinopathy

The ***inclusion criteria*** of the study subjects were: The patients aged above 30 years with both sex willing to come under the study.

The ***exclusion criteria*** of the study subjects were: The patients with type 1 diabetes who have microabuminuria due to other causes, hypertensive retinopathy and patients with liver or heart disease and moreover those who are pregnant.

The diagnosis of diabetes mellitus was performed according to the EDTRS classification.

Socioeconomic status, the patients ophthalmologic examination and clinical & biochemical parameters were measured. Clinitek 100 (made by Bager Corporation_Elkhart, In 46515, USA) was use to measure microalbuminurea.

Table 1: Sex Distribution of the study subjects

Sex	Group A		Group B		Group C		Group D		Group E	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Male	16	53.3	18	60.0	20	66.7	17	56.7	21	70.0
Female	14	46.7	12	40.0	10	33.3	13	43.3	09	30.0
Total	**30**	**100**	**30**	**100**	**30**	**100**	**30**	**100**	**30**	**100**

A total of 150 patients were included in this study, out of which92 male and 58 female. In no retinopathy group 16(53.3%) and 14(46.7%) were male and female respectively. In mild nonproliferative retinopathy 18(60.0%) male and 12(40.0%) female. In moderate nonproliferative retinopathy 20(66.7%) male and 10(33.3%) female. In severe nonproliferative retinopathy 17(56.7%) male and 13(43.3%) female. In proliferative diabetic retinopathy group male was 21(7.00%) and female was 9(30.0%). Male female ratio was 1.6:1 in the whole study patients.

Table 2: Age Distribution of the study subjects

Age	Group A		Group B		Group C		Group D		Group E	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
30-40	02	6.7	08	26.7	01	3.3	04	13.3	02	6.7
41-50	17	56.7	18	60.0	19	63.4	13	43.4	16	53.3

51-60	10	33.3	04	3.3	00	20.0	12	40.0	11	36.7
> 60	01	3.3	00	0.0	04	13.3	01	3.3	01	3.3
Total	**30**	**100**	**30**	**100**	**30**	**100**	**30**	**100**	**30**	**100**

The study included 150 patients having type 2 diabetic and they were divided into four age groups. The age range from 30 to 65 years and most of patients belonged to age group 41 to 50 years in all five study groups. The mean age was 48.2 years with standard deviation (SD) ±7.4 years in whole study patients. The age distribution of 150 patients shown in table 2.

Table 3: Distribution of duration among the study subjects

Duration of Years	**Group A**		**Group B**		**Group C**		**Group D**		**Group E**	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
0-5	15	50.0	15	50.0	12	40.3	02	6.7	00	0.0
6-10	13	43.3	09	30.0	10	33.3	04	13.3	04	13.3
11-15	02	6.7	06	20.0	04	13.3	07	23.3	06	20.0
16-20	00	0.0	00	0.0	03	10.0	09	30.0	09	30.0
>20	00	0.0	00	0.0	01	3.3	08	26.7	11	36.7
Mean± SD	7.7± 3.8		8.2±2.1		8.3±5.2		10.0±3.5		12.9±5.5	
Range	(1-15)		(1-14)		(1-24)		(1-35)		(1-54)	

P Value=0.009[s], F Value=3.531 df=4, 144

The studied patients divided into five groups according to their duration of diabetes. The duration of diabetes ranged from 1 to 54 years and most of patients belonged to 1 to 5 in no retinopathy, mild nonproliferative retinopathy and moderate nonproliferative retinopathy group, but in severe nonproliferative retinopathy group was 16 – 20 years and > 20 years inproliferative diabetic retinopathy group. The mean duration of diabetes was 7.7±3.8 years in no retinopathy, 8.2±2.1 years, in mild nonproliferative retinopathy, 8.3±5.2 years, in moderate nonproliferative retinopathy, 10.0±3.5 years in severe nonproliferative retinopathy and 12.9±5.5 years in proliferative diabetic retinopathy group. The duration of diabetes was statistically significant ($p<0.05$) in five groups in ANOVA test.The distribution of duration of diabetes of 150 patients shown in table 3.

Table 4: Distribution of Anthropometric Parameter (Blood Pressure) among the study subjects

HTN	**Group A**		**Group B**		**Group C**		**Group D**		**Group E**	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Yes (Presence)	03	10.0	04	13.3	5	16.7	5	16.7	08	26.7
No (Absent)	27	90.0	26	86.7	25	83.3	25	83.3	22	73.3

Chi Square Value=3036, df=4, p Value=0.499

Hypertension was found 3(10.0%) in no retinopathy, 4(13.3%) in mild nonproliferative retonopathy, 5(16.7%) in moderate nonproliferative retinopathy, 5(16.7%) in severe nonproliferative retinopathy and 8(26.7%) in proliferative diabetic retinopathy group. The BP was not statistically significant ($p>0.05$) in five groups in chi square test. The distribution of BP of 150 patients shown in table 4.

Table V: Distribution of HbA1c of the study patients

Group	Group A	Group B	Group C	Group D	Group E
	Mean +SD	Mean +SD	Mean +SD	Mean+SD	Mean+SD
HbA1c (%)	9.3+2.4	9.6+2.7	11.3+2.7	13+2.4	13.9+3.8
Range	(6-15)	(6-14)	(6-16)	(6-16)	(10-30)

P value = 0.001s, F value = 15.200 df=4, 144

The mean HbA1c was 9.3±2.4% in no retinopathy, 9.6±2.4 %, in mild nonproliferative retinopathy, 11.3±2.7% in moderate nonproliferative retinopathy, 13.0±2.4% in severe nonproliferative retinopathy and 13.9±3.8% in proliferative diabetic retinopathy group. The HbA1c level was statistically significant ($p<0.05$) in five groups in ANOVA test. The distribution of mean HbA1c of 150 patients shown in table V.

Table VI: Mean Distribution of S. Creatinine of the study patients

	Group A	Group B	Group C	Group D	Group E
	Mean +SD	Mean +SD	Mean +SD	Mean +SD	Mean +SD
S. Creatinine	0.8+0.5	1.3+0.6	1.4+0.7	1.9+0.7	1.7+0.7
Range	(1-3)	(0-3)	(1-3)	(1-3)	(1-4)

P value = 0.001^s, F value = 11.102, df =4, 144

The mean S. Creatinine was mg/L in 0.8±0.5 no retinopathy, 1.3±0.6 mg/L in mild nonproliferative retinopathy, 1.4±0.7 mg/L in moderate nonproliferative retinopathy, 1.9±o.7 mg/L in severe nonproliferative retinopathy and 1.7±0.7 mg/L in proliferative diabetic retinopathy group. The S. Creatinine level was statistically significant ($p<0.05$) in five groups in ANOVA test. The distribution of mean S. Creatinine of 150 patients shown in table VI.

Table VII: Distribution of Albuminuria of the study patients

Micro Albuminuria	Group A	Group B	Group C	Group D	Group E
(Mg/L)	n %	n %	n %	n %	n%

Normoalbuminuria	25	30.9	23	28.4	20	24.7	10	12.3	3	3.7
Microalbuminuria	5	7.2	7	10.1	10	14.5	20	29.0	27	39.1
Macroalbuminuria	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mean+ SD										
Range(min-max)										

P Value = 0.001 S, F Value= 25.638, df = 4, 144
Normoalbuminuria : <30mg/L
Microalbuminuria : 30-300 mg/L
Macroalbuminuria : >300 mg/L

Micro albuminuria of the 150 patients was classified as three groups, < 30 mg/L micro albuminuria considered as normoalbuminuria, 30-300 mg/L considered as microalbuminuria and >300 mg/L considered as Macroalbuminuria. The macro albuminuria ranged from 11 to 280 mg/L. Most of the group A, group B and group C patients had Normoalbuminuria, however microalbuminuriawere predominent in group D and group E.

The mean micro albuminuria was 19.8± 56 mg/L in no retinopathy, 29.3 ±11 mg/L in mild nonproliferative retinopathy, 53.3± 69 mg/L in moderate, 110.2±92.2 mg/L in severe nonproliferative retinopathy and 185.8±99.8 mg/L in proliferative diabetic retinopathy group. The micro albuminuria level was statistically significant ($p<0.05$) in five groups in ANOVA test. The distribution of mean micro albuminuria of 150 patients shown in table 7.

Table VIII: Distribution of ACR of the study patients

ACR	Group A		Group B		Group C		Group D		Group E	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Normoalbuminuria	24	27.9	25	29.1	21	24.4	12	14.0	04	4.7
Microalbuminuria	06	9.4	05	7.8	09	14.1	18	28.1	26	40.6
Mean± SD	17.6± 8.2		22.5±9.4		29.7±23.1		61.5±56.3		117±69.8	
Range	(12-115)		(5-105)		(9-87)		(7-193)		(16-244)	

P Value = 0.001 S, F Value= 24.415, df = 4, 144

ACR of the 150 patients was classified as two groups, < 30 mg/gm ACR considered as normoalbuminuria and >30 mg/gm considered as microalbuminuria. The ACR ranged from 12 to 115 mg/mg. Most of the group A, group B, and group C patients had Normoalbuminuria, however microalbuminuria were prominent in group D and group E.

The mean ACR was 17.6±8.2 mg/gm in no retinopathy, 22.5±9.4 mg/gm in mild non proliferative retinopathy, 29.7±23.1 mg/gm in moderate nonproliferative retinopathy, 61.5±56.3 mg/gm in severe nonproliferative retinopathyand 117.0± 69.8 mg/gm in

proliferative diabetic retinopathy group. The ACR level was statistically significant ($p<0.05$) in five groups in ANOVA test. The distribution of mean micro albuminuria of 150 patients shown in Table 8

Discussion

This cross sectional study was carried out with an aim to identify the relation of Microalbuminuria and development of retinopathy in type 11 diabetic patients and also others risk factors such as hyperglycemia, hypertension, duration of diabetes in type 11 diabetic patients.

A total of 150 patients having type 11 diabetic ranging from 30 to 65 years were included in the study, who were attended in the out patients department of ophthalmology of BIRDEM during January, 2010-July, 2010.

The present study findings were discussed and compared with previously published relevant studies.

Manaviat et al.[5] had done a study on 590 patients, out of which 244 male and 346 female and male female ratio was 1:1.4. Asensiosanchez et al.[6] observed male female ratio was almost 1:1. In the current study it was observed that male female ratio was 1.6:1 in the whole study patients. Female patient is lesser in the current study, which is our country scenario, where female are not attended the health service in our country.

Manaviat et al.[5] shown in their series, the mean age of the patients having type 11 diabetic was 54.9± 10.2 years, which is a little higher with the current study, where the current study observed that the mean age was 48.2 years with standard deviation (SD) ± 7.4 years in whole study patients ranged from 30 to 65 years. Most of patients belonged to age group 41 to 50 years in five study groups.

Manaviat et al.[5] observed that the duration of diabetes was between 1 to 32 years and their mean duration of diabetes was 10.2 ± 6.6 years. Duration of diabetes was less than 5 years in 30.0% of their studied patients, between 6-10 years in 30.0% and more than 10 years in 40.0% of them. Duration of diabetes was a strong predictor of severity of retinopathy ($p = 0.001$), which is closely resembled with the current study, where the current study found the duration of diabetes ranged from 1to 54 years and most of patients belonged to 1 to 5 years in no retinopathy, mild nonproliferative retinopathy group, but in severe nonproliferative retinopathy group was 16-20 years and > 20 years in proliferative diabetes retinopathy group. The mean duration of diabetes was 7.7± 3.8 years in no retinopathy, 8.2± 2.1 years. in mild nonproliferative retinopathy, 8.3± 5.2 years, in moderate nonproliferative retinopathy, 10.0±3.5 years in sever nonproliferative retinopathy and 12.9± 5.5 years in proliferative diabetes retinopathy group, which is highly significantly ($p<0.001$) associated with the severity of retinopathy in type 11 diabetic patients in this study.

Asensio-sanchez et al. reported hypertension was more frequent among patients who had maculopathics and proliferating retinopathies than among the other groups ($p<0.01$) and was observed that hypertension was found 10.0% in no retinopathy, 13.3% in mild nonproliferative retinopathy, 16.7% in moderate nonproliferative retinopathy, 16.7% in severe nonproliferative retinopathy and 26.7% in proliferating diabetic retinopathy group but the difference was not statistically significant ($p<0.01$) groups. Similar results

obtained by Manaviaat et al. [5] Where the authors mentioned that there was no significant relationship (p= 0.37) between high blood pressure and different degrees of retinopathy.
Manaviaat et al reported that the relationship between different types of retinopathy with HbA1c is significantly (p<0.01) associated, thus support the current study, where the current study found the mean HbA1c was 9.3±2.4% in no retinopathy, 9.6 ± 2.4%, in mild nonprolifertive retionpathy, 11.3 ± 2.7% in moderate nonproliferative retinopathy, 13.0 ± 2.4% in severe nonproliferative retinopathy and 13.9 ± 3.8% in proliferative diabetic retinopathy group. The HbA1c level was signification (p<0.05) increased with severity of retinopathy in type ll diabetic patients.
In this current study it was observed that the S. Creatinine level also significantly (p<0.001) increased with severity of retinopathy in type ll diabetic patients. The present study found mean S. Creatinine was 1.3 ± 0.6% mg/L in no retinopathy, 0.8±0.5% mg/L. in mild nonproliferative retinopathy, 1.4±0.7 mg/L in moderate nonproliferatve retinopathy, 1.9±0.7 mg/L in severe nonproliferative retinopathy and 1.7±0.7 mg/L in proliferate diabetic retinopathy group.
In this study it was observed that 30.9% of no retinopathy patients. 28.4% of mild nonproliferative retinopathy patients and 24.7% of moderate nonproliferative retinopathy patients had Normoalbuminuria, however microalbuminuria were predominent in severe nonproliferative retinopathy and proliferative diabetic retinopathy group [7-13], which were 29.0% and 39.1% respectively. Similar observation regarding the microalbuminuria were also made by Manaviat et al. [13] In this study it was found that the mean micro albuminuria was 19.8± 56 mg/L in no retinopathy, 29.3± 11 mg/L in mild, 53.5 ±69 mg/L in moderate and 110.2 ±92.2 mg/L in severe nonproliferative retinopathy patients & 185.8±99.8 mg/L in proliferative diabetic retinopathy group. The micro albuminuria significantly (p<0.001) increased with severity of retinopathy in type 2 diabetic Patients.
In this study it was found that the ACR ranged from 12 to 115 mg/gm and normoalbuminuria was found 29.1% in no retinopathy, 27.1% in mild nonproliferative retinopathy patients and 24.4% in moderate nonproliferative retinopathy patients, but microalbuminuria were 28.1% found in severe nonproliferative retinopathy patients and 40.6% in proliferative diabetic retinopathy group. The mean ACR was found in this study 27.6±24.2 mg/gm in no retinopathy, 29.7±23.1 in moderate, 61.5±56.3 in severe nonproliferative retinopathy patients & 117.0±69.8 mg/gm in proliferative diabetic retinopathy group. The ACR level also significantly (p<0.05) increased with severity of retinopathy in type 2 diabetic patients.

Conclusions: Micro albuminuria is associated with the presence of retinopathy in patients with type 2 diabetes. The findings of the current study suggested that Microalbuminuria may be a marker for the risk of proliferative retinopathy development. If longitudinal studies confirm these findings, diabetic patients who have Microalbuminuria may benefit from close ophthalmologic follow up.

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Management of Congenital Nasolacrimal duct Obstruction (CNDO) in infant.

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Abstract:

Background:

The estimated incidence of congenital nasolacrimal duct obstruction is 5-20%. In this study success rate was examined treating Congenital Nasolacrimal duct obstruction with hydrostatic pressure (the Crigler's method) as an office procedure.

Purpose:

To reduce the morbidity associated with infant Congenital Nasolacrimal duct obstruction with hydrostatic pressure with out any invasive procedure.

Methods:

The study was conducted in NIO and in private practice from January to June 2008. A total of 50 Children with 60 eyes with Congenital Nasolacrimal Duct Obstruction initially treated none invasively with local hydrostatic pressure. The procedure was safely repeated up to 3 times with an interval of at least 1 week, if the condition persisted.

Results:

Success rates defined as no Epiphora and discharge. The success rate for the entire study group was 96%; the ducts were opened in 66% at the first attempts of hydrostatic pressure, in 20% at the second attempts and in 10% at the third attempts. When the maneuver was performed in patients younger than 2 months of age, the success rate of the first attempt was 98 %, decreasing to 84% in children 2 months to 6months of age and to 66% older than 6 months of age.

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Conclusion:
Hydrostatic pressure is a noninvasive, effective way of resolving infant Congenital Nasolacrimal duct obstruction and shortening the duration of the associated morbidity, without any hazard of anesthesia. The success rate is higher when the procedure is conducted in patients within 2 months of age. Nevertheless it is recommend that this approach for every infant presenting with Congenital Nasolacrimal duct obstruction at the first visit to the ophthalmologist, even after 6 months of age. Procedure can be repeated safely and successfully.

Key word: Nasolacrimal duct, Hydrostatic pressure, watering.

Introduction:
Tearing and discharge is most common ocular problem in infant and children. Congenital nasolacrimal duct obstruction is result of incomplete canalization with persistent fibrous layer at the junction of sac and opening of nasolacrimal duct. Lacrimal drainage system begins to develop at 6 weeks of gestational age and canalization of solid cord from eye lid to nose completed at or near the time of birth. Failure of canalization can be simple or complex variety. The lower end of of nasolacrimal duct (at the valve of Hasner) is the last portion of the lacrimal drainage system to canalize, complete canalization usually occurring soon after birth. Epiphora affects approximately[1] 20%. The estimated incidence of congenital duct obstruction is 5-20%. In this study success rate was examined treating Congenital Nasolacrimal duct obstruction with hydrostatic pressure (the Crigler's method) as an office procedure.

Patients and Method:
This prospective study was conducted in National Institute of Ophthalmology and Hospital and in private practice from January –June, 2008. A total of 50 Children with 60 eyes, 30 female and 20 male of congenital nasolacrimal duct Obstruction initially treated with non invasively with only local hydrostatic pressure but no massage by the parents. Parent who was not able to follow up visit was excluded in this study. The age of the patients was below 12 months. The procedure was safely repeated up to 3 times with an interval of at least 1 week, if the condition persisted. Patients was diagnosed on the basis of history of tearing and with or without discharge from parents.
After proper positioning of the baby on mother lap and parent was well informed regarding the procedure and sudden smooth pressure was applied by index finger placed over the common canaliculus to block reflux through the puncta and massaged downward and medially[1]. This sudden smooth pressure increase the hydrostatic pressure in sac confirming that there should be no regurgitation in conjunctival sac that helped in removal of the obstruction. There was a feeling of sudden release of obstruction or click sound or disappearing of sac swelling indicating success of the procedure. After the procedure there was skin swelling at the pressure point which disappears in hours. Antibiotic drop and ointment was routinely given but no massage by parents. The procedure was repeated after seven days if symptoms persisted.

Results:
Success rates defined as no watering and discharge. Age range was 1-7 months and mean age was 2.0±0.52 months. Out of 50 patients, 0-2 months age were 38, 2-6 months were 10 patients and 6-12 months were 2 patient. The success rate for the entire study group was 96% (58/60) and 4% (2/60) needed digital massage followed by probing after one and half year. The ducts were opened in 66% (40/60) at the first attempts of hydrostatic pressure, in 20% (12/60) at the second attempts and in 10% (6/60) at the third attempts. When this maneuver was performed in patients younger than 2 months of age, the success rate of the first attempt was 98 %, decreasing to 84% in children 2 months to 6 months of age and to 66% older than 6 months of age.

Discussion:
Congenital Nasolacrimal duct obstruction is one of the common paediatric ophthalmic problem has to overcome by the practicing ophthalmologist. Parents remain worried and anxious. Proper treatment is necessary to solve this problem. 96% cases spontaneous resolution occurs with in the first 12 months of age[1].
Clark[2] in his study, dilation and probing as primary treatment for congenital nasolacrimal duct obstruction and found that probing has a high success rate in all children. Age does not appear to have an impact on success of probing.
Sturrock, MacEwen and Young[3] in 1994, long term results of probing for congenital nasolacrimal duct obstruction and found that 30% of patient still had symptoms of epiphora or discharge. They concluded a policy of delay before further intervention in patients with mild residual symptoms after a technically successful probing.
Schellini[4] et al., 2005 found that the relief of epiphora was worst when starting at age over 4 months need massage and probing with good results in children older than 3 years. Stolovitch and Michaeli[5], 2006 and their success rate was 45%. In their study a total of 742 children, ducts were opened in 46% at the first attempt, 35% at the second attempts, in 38% at the third attempt. Patients younger than 2 months success rate of first attempt was 56%, decreasing to 46% in children age 2-6 months and to 28% older than 6 months of age.
In this study the success rate for the entire study group was 96% and 4% needed digital massage followed by probing after one and half year. The ducts were opened in 66% at the first attempts of hydrostatic pressure, in 20% at the second attempts and in 10% at the third attempts. When the maneuver was performed in patients younger than 2 months of age, the success rate of the first attempt was
98 %, decreasing to 84% in children 2 months to 6 months of age and to 66% older than 6 months of age. In this study the success rate is more may be due to maximum patient of the study aged below 2 months and the sample is low. So studies with large sample needed to make any clear cut conclusion.

Conclusion:
Hydrostatic pressure is a noninvasive, effective way of resolving infant Congenital Nasolacrimal duct obstruction and shortening the duration of the associated morbidity, without any hazard of anesthesia. The success rate is higher when the procedure is

conducted in patients up to 2 months of age. Nevertheless it is recommend that this approach for every infant presenting with Congenital Nasolacrimal duct obstruction at the first visit to the ophthalmologist, even after 6 months of age. Procedure can be repeated safely and successfully.

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Effect of Topical Ketorolac Tromethamine(0.5%) in the treatment of Vernal Keratoconjunctivitis.

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Aims:
To investigate the efficacy and safety of ketorolac tromethamine ophthalmic solution in reducing the principal signs and symptoms of VKC (itching, burning/stinging, lacrimation, foreign body sensation, photophobia, swollen eyes) in individuals.

Methods:
Fifty cases of VKC with some pre-selected criteria received ketorolac tromethamine ophthalmic solution —one drop six hourly for four weeks. Follow up evaluation was done at the end of 1st week,2nd week and 4th week. A special scoring system of recording level of ocular symptoms and signs after Sharma et al (1997) before and after treatment with topical ketorolac tromethamine.

Results:
Baseline itching score was 2.80; after treatment with ketorolac mean score for itching at the end of 4th week 0.38.Baseline photophobia score was 1.84; after treatment with ketorolac mean score for photophobia was at the end of of 4th week 0.12.
Baseline discharge score was 1.52; after treatment with ketorolac mean score for discharge was at the end of 4th week 0.100. Baseline foreign body sensation score was 1.76; after treatment with ketorolac mean score for foreign body sensation was at the end of of 4th week 0.12. Baseline conjunctival hyperaemia score was 1.80; after treatment with ketorolac mean score for conjunctival hyperaemia was at the end of 4th week 0.16. Baseline papillary hypertrophy score was 1.86; after treatment with ketorolac mean score for papillary hypertrophy was at the end 0f4th week 0.16. Baseline limbal change score was 1.22; after treatment with ketorolac mean score for limbal change was at the end of 4th week 0.10.

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Baseline keratitis score was 0.32; after treatment with ketorolac mean score for keratitis at the end of 4th week 0.02. Punctate keratopathy was the main feature. Few trantas' dot and no schield ulcer was found in our case series.

Conclusion:
Analytical result of this study concludes that topical ketorolac tromethamine can alleviate ocular symptoms of vernal keratoconjunctivitis significantly and can reduce ocular signs of the disease sufficiently without producing any significant ocular or systemic untoward effects. Further study is necessary to assess long term efficacy and rate of recurrence after the use of topical ketorolac in VKC.

INTRODUCTION:

Vernal keratoconjunctivities (VKC) is a severe allergic conjunctivitis involving the conjunctiva and cornea characterized by intense itching, lacrimation, photophobia, foreign body sensation and burning usually bilateral and recurrent; primarily affecting boys and young adults living in warm, dry climates. Patients are usually between 5 and 14 years of age only rarely persisting beyond the age of 25 years. Males are predominating over female in a ration of 2:1 the patient may have personal or family history of atopy.[1] If it persists after puberty, the sex distribution equalizes. Its name originally was suggested on the assumption the disease manifests itself during the months from April to August; the chronic course of the disease persists all the year round with seasonal aggravation[2].

The disease is supposed to be self limiting, but the distressing symptoms of the disease make the child's life miserable and the parents very worried. With epitheliopathy and other corneal involvement, visual disturbance may be alarming. Vascular pannus or shield ulcer of the cornea may irreversibly affect vision[3]. The precise immunopathogenic mechanism of VKC is not known but traditionally it is considered as a Type-I hypersensitivity reaction. A personal or family history of atopy, increased serum level of total and specific IgE and the response to antiallergic therapy arc common features ascribed to VKC.

Although the disease is self limiting and eventually subsides signs and symptoms are often severe and difficult to control. Therapeutic measures for treating VKC have been mostly unsatisfactory. Symptoms of VKC usually persist despite treatment. Drugs using for the treatment of VKC are topical steroids, mast cell stabilizers, antihistamines, acetylcysteine 0.5%.cyclosporine 2 % & supratarsal steroid injection. Topical corticosteroids remain the mainstay of therapy. However, prolonged use of steroids may result in glaucoma, cataract, dry eye and secondary infections. Serious side effects seen with steroids and incomplete amelioration of symptoms with the use of vasoconstrictors and antihistamines necessitated the study of efficacy of other therapeutic agents.

After 4 weeks of treatment subjectively, 30% patients were much improved, 60% improved, 08% had described no change and in 02% cases condition worsened. But by objective assessment 32% cases found much improved, 62% improved, 06% showed no change and 00% cases found to be worsened after initiation of treatment. During the study period no cases presented with any documented local or systemic side effects.

Ketoralac tromethamine is a new nonsteroidal anti-inflammatory drug that blocks the cyclooxygenase enzyme that catalyzes the conversion of arachidonic acid to prostaglandins. Prostaglandins are believed to be the chemical mediators involved in the disease process. Ketorolac tromethamine 0.5 % ophthalmic solution has been shown to have anti-inflammatory effects when applied topically to the eye, but without the adverse effects associated with corticosteroid[4].

OBJECTIVE:

This prospective interventional study has been designed to investigate the efficacy and safety of ketorolac tromethamine ophthalmic solution in reducing the principal signs and symptoms of VKC (itching, burning/stinging, lacrimation, foreign body sensation, photophobia, swollen eyes) in individuals. Patients of vernal keratoconjunctivitis attending dept. of Ophthalmology of BSMMU, Dhaka were included in the study.

MATERIALS AND METHOD:

Patients of vernal keratoconjunctivitis attending dept. of Ophthalmology of BSMMU, Dhaka were included in the study. Samples with some pre-selected criteria received ketorolac tromethamine ophthalmic solution —one drop six hourly for four weeks. Follow up evaluation was done at the end of 1st week, 2nd week and 4th week. A special scoring system of recording level of ocular symptoms and signs after Sharma et at (1997) before and after treatment with topical ketorolac tromethamine[5]. At the end of the therapeutic trial overall therapeutic response was categorized according to Tinkelman et at (1993)[6].

Out of 50 patients, 15 (30 %) were below 10 years, 25 (50%) were between 10 — 20 years and 10 (20%) were above 20 years old. Mean age was 11.44 ± 5.30 (SD). Mean age was almost similar to Sharma et al (1997). Sharma et al (1997) also found 10-20 years as the most common age group.

In this study 33 (66%) patients were male and 17 (34%) were female. Male predominance was also noticed in the study of other researchers[7].

In the current study out of 50 patients, 22 (44%) were palpebral, 10 (20%) limbal and 18 (36 %) were mixed variety of VKC. Palpebral VKC is the commonest variety. (Kanski, 2003).

RESULTS:

Baseline itching score was found 2.80; after treatment with ketorolac mean score for itching was at the end of 1st week 1.36, at the end of 2nd week 0.96 and at the end 0f 4th week 0.38. In the study of Dallas et al (1993) after jst week score was 1.72, in the study of Tinkelman et a! (1993) mean itching score was 1.20. Mean itching score after 1 week treatment in the study of Sharma eta! (1997) was 1.48.

Baseline watering score was 1.44; after treatment with ketorolac mean score for watering was at the end of 1st week 1.08, at the end of 2nd week 0.28 and at the end of 4th week 0.08. This score was found consistent with the study of Sharma eta! (1997).

Baseline photophobia score was 1.84; after treatment with ketorolac mean score for photophobia was at the end of 1st week 1.18, at the end of 2nd week 0.34 and at the end

of 4th week 0.12. Mean photophobia score after 1 week in the study of Ballas et al (1997) was 0.93, in the study of Tinkelman et al (1993) it was 0.73. In the study of Sharma et al (1997), after 2nd weeks mean photophobia score was p.52. High Residual photophobia score may indicate more corneal involvement in our patients.

Baseline discharge score was 1.52; after treatment with ketorolac mean score for discharge was at the end of 1st week 1.00, at the end of 2nd week 0.40 and at the end of 4th week 0.100. Ropy discharge score after 2 weeks was 0.86 in the study of Sharma et al (1997); in the current study it was 0.40. In the current study baseline score was less than other study.

Baseline foreign body sensation score was 1.76; after treatment with ketorolac mean score for foreign body sensation was at the end of 1st week 0.96, at the end of 2nd week 0.36 and at the end of 4th week 0.12. Foreign body sensation score at the end of 1 week after Tinkelman et al (1993) was 0.73, after Ballas et al (1993) 0.86 and in the current study 0.96 [8].

Baseline conjunctiva hyperemia score was 1.80; after treatment with ketorolac means score for conjunctival hyperaemia was at the end of 1st week 0.94, at the end of 2nd week 0.38 and at the e.nd of 4th week 0.16. Conjunctival hyperaemia score in the study of Sharma et al (1997) after 2 weeks was 0.81, in the study of Tinkelman et al (1993) score after 1 week was 1.21, in the study of Ballas et al (1993) it was 1.25 and in the current study score after 1 week was 0.94. Our study is almost similar with the Indian study.

Baseline papillary hypertrophy score was 1.86; after treatment with ketorolac means score for papillary hypertrophy was at the end of 1st week 0.90, at the end of 2nd week 0.34 and at the end of 4th week 0.16. Papillary hypertrophy score after Sharma et al (1997) after 2 weeks of treatment was 1.62 but in the current study the score was 0.34. This discrepancy may be due the case selection in the study of Sharma et al (1997) as their most cases had giant papillary involvement.

Baseline limbal change score was 1.22; after treatment with ketorolac mean score for limbal change was at the end of 1st week 0.66, at the end of 2nd week 0.22 and at the end of 4th week 0.10. Limbal change score as found in the study of Sharma et al (1997) was 0.95 after 2 weeks of treatment; in the current study it was 0.22. In the current study limbal involvement was less in number and severity.

Baseline keratitis score was 0.32; after treatment with ketorolac mean score for keratitis was at the end of 1st week 0.12, at the end of 2nd week 0.06 and at the end of 4th week 0.02. Punctate keratopathy was the main feature. Few trantas' dot and no schield ulcer was found in our case series[9,10].

After 4 weeks of treatment subjectively, 30% patients were much improved, 60% improved, 08% had described no change and in 02% cases condition worsened. But by objective assessment 32% cases found much improved, 62% improved, 06% showed no change and 00% cases found to be worsened after initiation of treatment. Worsening was complained by patient but when investigators examined the signs that did not correlate with the symptoms. Tinkelman et al (1993) in their study showed that 20% patients have had much improvement, 51% had improvement, 27% showed no change and 1% had worsening of condition.

During the study period 03 (06%) cases presented with mild burning sensation and transient stinging sensation which was considered as local adverse effect of the drug which did not lead to any discontinuation of therapy. Difference of subjective evaluation (by analysis of symptoms stated by patients) and objective evaluation (by analysis of signs found by investigators) was not significant, in the current study it was 0.96.

DISCUSSION:

Because of the impact on the quality of life experienced by patients with vernal keratoconjunctivitis during the allergy season, this study were designed to study the effect of ketorolac, a potent NSAID to determine if it alleviated the redness, itching, watering, foreign body sensation, etc and reduced the signs like hyperemia, papillary hypertrophy, limbal changes etc. Differences of data collected before and after treatment were statistically highly significant and was comparable with the results of other researchers. (Sharma et al, 1997)

After 4 weeks of treatment subjectively, 30% patients were much improved, 60% improved, 08% had described no change and in 02% cases condition worsened. But by objective assessment 32% cases found much improved, 62% improved, 06% showed no change and 00% cases found to be worsened after initiation of treatment. During the study period no cases presented with any documented local or systemic side effects.

LIMITATION OF THE STUDY: This study has been done on both the primary VKC and recurrent VKC showing no representation of separate results. Follow up is also of short duration (one month).

CONCLUSION: Analytical result of this study concludes that topical ketorolac tromethamine can alleviate ocular symptoms of vernal keratoconjunctivitis significantly and can reduce ocular signs of the disease sufficiently without producing any significant ocular or systemic untoward effects. Further study is necessary to assess long term efficacy and rate of recurrence after the use of topical ketorolac in VKC.

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Effect of antioxidant on cataract- a paper review

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Abstract:

Purpose: This review aims to provide a literature survey of the association between Antioxidant and age-related cataract in laboratory studies using rodent models, in epidemiological and interventional studies in humans.

Materials and methods : A Medline search using initial search terms, antioxidant, lens, oxidation and diet was employed to search for research papers covering the areas noted above from 1995 to 2006. Literature cited in those papers was also reviewed to provide as comprehensive coverage of research work as possible.

Results: Dietary antioxidants are central in retarding cataractogenesis, although most evidence for this is gained from laboratory-based work on relatively unphysiologic rodent cataract models, using antioxidant regimes that could not be sustained in clinical practice. Lens protein photo-oxidation and lipid peroxidation are widely acknowledged as important steps in age-related cataractogenesis. Most research in humans is retrospective epidemiology although some interventional research has been undertaken, with mixed

Conclusions: Dietary antioxidants are likely to be important in retarding cataractogenesis in older animals and in humans. Work on companion animals could provide a valuable stepping stone between rodent-based laboratory work and human interventional studies which is very much important for people of third world and developing countries. Effects of ecological changes are more evident and require more attention in these countries including Bangladesh. Effect of UV rays is more significant for the people working in the field long hours and demand immediate attention and farther interventional studies.

Introduction:

The concentration of proteins damaged by oxidative processes rises with age in the human lens and is significantly higher in cataractous compared with normal transparent lenses [(1)]. Both light-induced protein oxidation and photoperoxidation of lens lipids [(2,3)] can be prevented by antioxidants [(4,5)] . The role of oxidative stress in cataract development and the importance of antioxidants in prevention of cataract has been accepted in human ophthalmology [(7)]. Age-related cataract is thus not the result of one metabolic reaction in the lens but rather a final common pathway of many cataractogenic effects. Several factors are postulated to be of importance in the

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generation of lens opacities in the older individual. The common pathway by which these different factors exert their influence is predominantly through oxidation of lens proteins [8,9] and peroxidation of lipids [10]. In addition, the deleterious effects of glucose metabolism in the lens and associated changes in lens epithelial cell redox potential cannot be overlooked [11]. We should not be looking for a scientific stand-off such as that between those considering light as the key factor, others considering dietary antioxidants as the critical factor and still others focusing on dehydration, as has sometimes seemed to be the case [12]. A complete assessment of factors in age-related cataractogenesis sees photo-oxidation as the key event and thus considers light on the one hand and antioxidants on the other as being central to the problem and its solution with dehydration as a critical third factor.

Methodology:

Here more general questions regarding the mechanisms of cataractogenesis, the role of oxidation in lens opacification, and of dietary antioxidants in preventing this have been investigated. The assessment of the contribution of laboratory-based studies to answering these questions and then review the results of epidemiological and interventional studies for a number of dietary antioxidants both in isolation and when used in combination were done. Both prospective and retrospective studies was reviewed, specifically interventional studies with active vitamin supplementation, and epidemiological research, which correlates tissue and plasma antioxidant levels with cataract prevalence and investigates cataract incidence and prevalence in populations using dietary supplements.

Findings:

Epidemiological studies on human populations can give useful indications regarding the effect of dietary antioxidants on cataract formation. Studies on laboratory rodents have the advantages of a much shorter timescale, more easily achievable control of dietary intake and fewer practical and ethical dilemmas. Studies of lens opacity induced by ultraviolet light also show the importance of exogenous antioxidants in preventing or at least reducing the development of such lenticular pathology, as reviewed by Colitz *et al.* vitamin C or ascorbic acid is considered first. Ascorbate plays an important part in lens biology, both as an antioxidant and as a UV filters when present in aqueous. The lenses of diurnal animals contain high levels of ascorbate, as has been recognized for over 40 years [13]. Dietary deficiency or prolonged marginal sufficiency of the vitamin C led to reduction in lens concentrations of ascorbate [14]. Oral intake of ascorbate is crucial in giving adequate levels of the vitamin in the lens, both in guinea pigs and in rats [15]. Ascorbate inhibits galactose cataract in guinea pigs [16] Ascorbate reduces heat-induced damage to lens proteins [16] and delays UV-induced damage to lens proteins [17], although neither of these models can be described as particularly physiologic. Ascorbate regeneration from ascorbate free radical by ascorbate free radical reductase and from dehydroascorbate by thiolreductase is essential to the maintenance of lens transparency, as is a high level of ascorbic acid itself. Tocopherol has an important part to play in lenticular antioxidant status. The same group that showed the influence of ascorbate on the diabetic rat lens above demonstrated the importance of tocopherol on retardation of

similar opacities in galactose-fed animals [18], while other groups have shown increased cataractogenesis in vitamin E-deficient animals [19]. Carotenoids may be important, although, of the large variety in the normal diet, only alpha and gamma tocopherol and the xanthophylls xanthin and zeaxanthin are found in the lens [20]. There has been more interest in the role of these xanthophylls. As high dietary xanthophylls intake is associated with reduced cataract prevalence [21,22]. In 1928 Salmon reported cataracts among the many defects in animals fed deficient diets [23], and within a few years the unique status of riboflavin was documented [24,25]. A number of studies have evaluated the anticataractogenic potential of various vegetable-derived nutrients and plant extracts. The antioxidant effects of curcumin, the active agent in the Indian spice turmeric have proved anticataractogenic in more than one experimental model system [26-27]. Tomato extract has been shown to have anticataractogenic properties [28], probably associated with the carotenoid lycopene [29]. Grape-seed extract (GSE), containing a novel and powerful antioxidant class, the proanthocyanidins, has been shown to have anticataractogenic effects in the rat [30], and Colitz *et al.* have shown that GSE inhibits UV-induced oxidative stress in lens epithelial cell (LEC) [31]. There are clearly a number of vegetable and fruit-derived antioxidants that are worthy of further evaluation as anticataractogenic agents in animals and humans.

Effects of dietary antioxidants on cataract: human

Studies of cataract incidence in humans using antioxidant dietary supplements have varied results depending on the design of the study. Recent studies illustrate the variation in relative risk of cataract formation depending on the group of individuals affected in the investigation and the dietary elements concerned. Ascorbate is given first priority for its antioxidant properties. One large study showed a relative risk (RR) of 0.23 (CI 0.09–0.60) in women taking approximately 300 mg/day compared with those taking an average of 77 mg/day [32]. This study evaluated individuals taking dietary supplements for over 10 years. Marles-Perlmann6 found that, while vitamin C supplementation reduced nuclear cataract (RR 0.7; CI 0.5–1.0) it seemed to increase cortical cataract (RR 1.8; CI 1.2–2.9). Robertson used visually impairing cataract as an end point and found a relative risk of 0.30 (CI 0.24–0.77) in consumers of over 300 mg/day compared with those not using any supplementation [63] Vitale showed no differences between patients taking over 260 mg/day and those taking less than 115 mg/day [8]. Jacques showed, however, that a RR of 0.29 was found when comparing patients with plasma levels of vitamin C over 90 μg with those with levels of less than 40 μg [6]. What of vitamin E? Again different groups yield different results. Robertson *et al* [33].showed an inverse relationship between cataract formation and vitamin E use above 400 iu/day. Leske showed an RR of 0.59 in the top 20th percentile of vitamin E users compared with the average of a large group[34]. In comparison, Marles-Perlman found only non-significant associations between vitamin E supplementation and nuclear cataract (RR 1.2; CI 0.6–2.3) and a positive, although again nonsignificant association, between the vitamin and cortical cataract (RR 1.2; CI 0.6–2.3) [35]. The VECAT study in Australia has recently reported disappointingly inconclusive findings:67 in 1193 members of the study group 3.25% (39 individuals) had cataract and there was no difference in progression of lens

opacity between those taking supplemental vitamin E and controls. However, in a study of 50 individuals with developing cataract the change in lens opacity was significantly less in those taking supplemental vitamin E [36]. Beta-carotene has also been evaluated with similarly varied results. Hankison *et al* [37]. found a relative risk of 0.73 (CI 0.55–0.97) between those with intakes of over 18,700 iu/day and those with intakes below 5700 iu/day. Jacques *et al.* found the relative risk to be 0.78 (CI 0.03–1.03) when correlating cataract risk at different plasma carotene levels (> 3.3 μg cf < 1.7 μg).in recent study in south india shows a positive effect of antioxidant on cataract.Table-1 indicates the result in different age groups. Here three age groups were considered, 35-39,40-44 and 45-50.Nuclear opalescence, nuclear color, cortical cataract and posterior sub-scapular cataract situation were studied. It was a double blind control trial. The P-value ranged from 0.08-0.93[38].

Table 1

Mean change per year in different LOCS III categories for all right eyes involved in the study, along with the associated p values. Left eye results were similar.

LOCS III category	Age group*	LOCS III score mean change per year placebo group	LOCS III score mean change per year vitamin group	Difference in slope between groups (95% CI)	p Value
Nuclear opalescence	35–39	0.057	0.048	−0.009 (−0.022 to 0.005)	0.20
	40–44	0.086	0.086	0.000 (−0.023 to 0.022)	0.93
	45–50	0.101	0.131	0.031 (0.007 to 0.055)	0.01
Nuclear colour	35–39	0.07	0.063	−0.007 (−0.019 to 0.005)	0.26
	40–44	0.089	0.083	−0.006 (−0.029 to 0.014)	0.49
	45–50	0.107	0.125	0.018 (−0.004 to 0.042)	0.12
Cortical cataract	35–39	0.026	0.025	−0.001 (−0.001 to 0.016)	0.92
	40–44	0.047	0.033	−0.014 (−0.036 to 0.010)	0.27
	45–50	0.078	0.07	−0.008 (−0.037 to 0.021)	0.57
Posterior subcapsular cataract	35–39	0.006	0.004	−0.002 (−0.012 to 0.008)	0.68
	40–44	0.019	0.024	0.005 (−0.021 to 0.031)	0.70
	45–50	0.029	0.011	−0.018 (−0.043 to 0.023)	0.08

Conclusion:

This review has shown the large amount of evidence, laboratory-based and epidemiological, demonstrating a link between lenticular oxidation processes and cataract and between antioxidant intake and retardation in age-related cataractogenesis. It is thus somewhat important to note the equivocal findings with regard to human interventional studies. One hope is that, exclusive studies in the future might be able to give more positive results and allow us to provide eventually effective measures to reduce the cataract incidence in third world countries like Bangladesh. Recent strategy of distributing Black glasses to the farmers to protect from UV rays at work will definitely help in diminishing or retarding risk of cataract development with addition of Vitamin C and E supplementation.

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Case Report

A typical presentation of pigmented keratitis and its diagnosis & management at Cornea clinic of Islamia Eye Hospital, Dhaka

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Purpose: To report a case of trauma & bandage contact lens related fungal keratitis caused by dematiaceous fungus, diagnosed at the Islamia Eye Hospital cornea clinic in 2010.

Method: Case report

Result: A 56 yrs old businessman referred with a history marked dimness of vision, pain, and pigmented mass like plague over right cornea since 15 day's .He had a history of corneal injury and use of bandage contact lens (BCL). He was quite well with BCL then he developed pain, brown pigmentation on cornea, dimness of vision not responded with medications. At presentation to our cornea clinic his right eye showed folded brownish mass like plague with BCL extended up to conjunctiva, hypopyon 4mm, vision only hand movement and left eye was normal in all respect. Corneal scraping found filamentous fungus& culture showed Curvularia form of dematiaceous fungi. Repeated therapeutic scraping and frequent antifungal medications cured the patient's conditions mostly and eye became salvaged with reasonable vision 6/24 , with 6/12p up to last follow up at 35 day.

Conclusion: Diagnosis of dematiaceous (Pigmented) fungal keratitis is mostly straightforward and repeated therapeutic scraping for fungal debulking and frequent antifungal medications are the primary mode of treatment.

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Introduction:

In the various published reports, mycotic keratitis has been found to account for 6% to 50% of all cases of ulcerative keratitis and from 22% to over 50% in the developing world. As a group, the dematiaceous fungi have gained importance as the agents causing keratitis in most incidence reports of corneal ulcer. [1]

Soft contact lens (SCL)-related atypical keratitis has increased in frequency over the past several years. Particularly, there was an outbreak of ***Fusarium*** keratitis between 2004 and 2006 associated with the use of ReNu with Moisture Loc (Bausch & Lomb, Rochester, NY) solution, which was withdrawn from the market worldwide in May 2006 [2].

Fungi thrive in hot & humid environment, rich in vegetable matter & organic decay. Fungi do not infect the cornea easily - they require trauma, immunological compromised state & tissue devitalization [3].

In our cornea clinic we regularly find **dematiaceous** fungal keratitis and easily diagnosed as its prominent pigmented nature but BCL related dematiaceous fungal keratitis is very rare.

The pigmented plaque-like infiltrate in dematiaceous fungal keratitis consists of surface colonization of pigmented fungal filaments associated with mild to moderate inflammation and tissue destruction of the underlying corneal stroma [4].

Case Report

A 56yrs old businessman referred with a history marked dimness of vision, pain, and pigmented mass like plague over right cornea since15 day's .He had a history of corneal injury by paddy and use of BCL along with antibiotics drops. He was quite well with BCL then he developed pain, brown pigmentation on cornea, dimness of vision, watering not responded with medications and conditions became deteriorate.

At presentation to our cornea clinic his right eye showed folded brownish mass like irregular plague extended up to conjunctiva, hypopyon 4mm(Pic1- a,b), vision only hand movement at 1 meter and left eye was normal in all respect. After removal of BCL, corneal scraping found filamentous fungus & culture showed Curvularia form of dematiaceous fungus. His general condition was normal. Repeated (2 days interval 6 scraping) therapeutic scraping and frequent (half hourly till epithelial healing then 2 hourly) antifungal medications cured the patients conditions and eye became salvaged with reasonable vision 6/24 with 6/12p up to last follow up at 35 day(Pic-4).

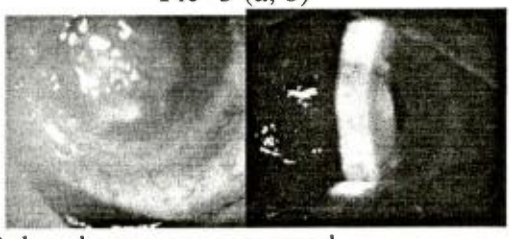
Pic1-a, b

Pigmented mass &hypopyon

Pic2 –a, b

after removal of BCL& scraping6 &9 days

Pic- 3 (a, b)



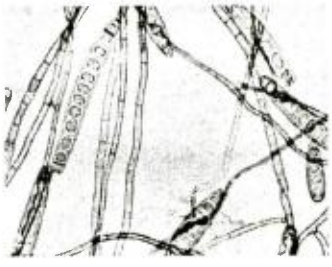
At 20 days hypopyon regressed

Pic -4

At 35 day healed keratitis

Microbiology Workup:

Corneal scrapings were obtained using a sterile no. 15surgical blade. Material obtained from the base and edges was evaluated microscopically using potassium hydroxide (KOH,10%), Gram and Giemsa staining methods, was inoculated blood agar, chocolate agar, Sabouraud dextrose agar, nonnutrient agar, brain heart infusion broth, and thioglycolate broth. The media were incubated under appropriate atmospheric conditions and were examined every day for at least 7 days before a negative report was given. Whenever there was a strong clinical suspicion of fungal keratitis, the Sabouraud dextrose agar was incubated for an additional 14 days.



Pic- dematiaceous fungi growth & isolation

Discussion

Filamentous fungi are the major cause of keratomycosis with *Fusarium* and *Aspergillus* being the most commonly implicated species, followed by pigmented dematiaceous fungi [5].

Of 557 cases of fungal keratitis seen during the study period(1991-1996) in LV Prasad Eye Institute, dematiaceous fungi were the etiologic agents in 88 (15.7%), after Fusarium in 210 (37.6%) and Aspergillus species in 170 cases (30.4%), respectively. Trauma was the most common predisposing factor (47.7%) [6].

Dematiaceous fungi are characterized by the development of a brown to olive to black color in the cell walls of their vegetative cells, conidia, or both, which results in pigmented colonies on culture [7].

These ubiquitous, cosmopolitan, and opportunistic pathogens are normally associated with soil or plants but have been isolated from various human infections including keratitis.

One of the clinical features of the keratitis caused by dematiaceous fungi pigmented infiltrate [8].

This presentation is characterized by a dry, raised, brown to black, plaque-like infiltrate that extends for a variable depth in the underlying stroma. The plaque comprises a thick carpet-like growth of fungal filaments in superficial layers of cornea.

Our case presented as raised, brownish, plaque-like infiltrate with history of paddy trauma. BCL use for corneal abrasion is common practice but its used here may exaggerate fungal growth of this patient [9].

In the presence of pigmented infiltrate, one could be confident of the treatment to be adopted for eliminating fungal agents [10].

This information can therefore be of great help to ophthalmologists treating cases of infectious keratitis on an empirical basis. Therapeutic debridement of the infiltrate followed by institution of antifungal therapy would be the best method.

The plaque was surgically excised under local anesthesia using a no. 15 surgical blade. The indication for keratectomy was the presence of a dry raised plaque-like lesion on the surface of cornea[11].

The lamellar dissection was started from one edge. Once the right plane was obtained, the excision could be easily accomplished. The pigmentation observed on clinical examination is also evident on microscopic examination of clinical specimens, i.e corneal scrapings and tissue sections, suggesting that the macroscopic pigmentation in such lesions may be caused by the presence of pigmented fungal filaments.

The initial medical treatment was based on the results of the microscopic examination of the corneal scraping. In cases where septate fungal filaments were observed on smear examination, treatment was started with topical natamycin 5% half hourly [12].

We prefer to use this antifungal agent because most of the isolates in this geographic region are filamentous fungi, and among antifungal agents natamycin is considered to have better activity against this fungus.

In addition, Oral therapy with antifungal agents was given in cases where the ulcer was large or posterior stroma was involved.

We used ketoconazole 200 mg twice a day in this case and assessed liver function tests every 2 weeks. Once the infiltrate started resolving, the frequency of topical natamycin was reduced to 2-hourly until the completion of resolution. The natamycin was continued for 2 weeks after the resolution of infection. Topical clotrimazole ointment, applied in addition to natamycin.

Trauma and contact lens both hamper corneal protection so observation is essential for early management.

Conclusion:

Presence of pigmented infiltrate can be an important diagnostic clue. Medical therapy and debridement of ulcer alone can be effective in eliminating pigmented fungi. After vegetative trauma, BCL use may exaggerate fungal growth.

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Bilateral Ocular Ischaemic Syndrome due to Takayasu's Arteritis: A Case Report

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ABSTRACT

Takayasu's arteritis, or "pulseless" disease is a rare, idiopathic, chronic granulomatous vasculitis that affects aorta and its major branches. Ocular manifestations occur due to ocular ischemia as a consequence of obliteration of the carotid artery.
A 57-year-old male with progressive visual loss and ocular ischemic syndrome secondary to Takayasu's disease came to Islamia Eye Hospital, a tertiary eye care centre of Bangladesh. Authors described different aspects and pit-falls of diagnosis and management of this rare disease.

INTRODUCTION

Takayasu's arteritis, also known as pulseless disease or occlusive thromboaortopathy, is an idiopathic chronic granulomatous inflammmation that typically affects the aorta and its primary branches. Diminished or absent pulses are present in 84--96% of patients, associated with limb claudication and blood pressure discrepancies between the two arms.[1] The symptoms are secondary to the involved artery, and it may evolve into a life-threatening condition.[2, 3] Involvement of the carotid artery results in ophthalmic artery hypoperfusion and causes ocular ischemic syndrome. Ocular ischemic syndrome may be bilateral and represent the initial manifestation of Takayasu's arteritis and the incidence varies from 13.5% to 33%.[2, 3, 4, 7]
This report describes a 57-year-old man who presented with gradual visual loss and had ocular findings that suggested bilateral ocular ischemic syndrome. He was later diagnosed as having Takayasu's disease.

CASE REPORT

A 57-year-old man had a gradual decline in visual acuity over the past 3 months in both eyes. The medical history was positive for generalized fatigue, numbness and pain in the upper extremities particularly on the left arm that worsened on exertion resembled ischemic pain.
Brachial and radial arterial pulses of left side and radial pulse of right side were absent on palpation. His blood pressure was measured 150/90 in right arm but blood pressure was non recordable on left arm.

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On ophthalmic examination, visual acuity was 6/36 in the right eye and counting fingers at 2 meter in the left eye. Pupilary reaction was normal in right eye but pupil was fixed, semi-dilated, nonreacting to light in left eye. Intraocular pressure was 16 mm Hg in both eyes. On slit lamp examination there were inflammatory cells in both eyes and iris neovacularisation in left eye. On gonioscopic examination there was 360^0 peripheral anterior synechiea in left eye and open angle in right eye.

Fundus examination showed microaneurysms, dot and blot hemorrhages in the mid periphery and extensive ischemic area of retina in both eyes and NVD in left eye (*Fig. 1*). Fundus fluorescein angiogram showed a delay in the arm-to-retina time (18 seconds), patchy choroidal filling (*Fig. 2*), increased arterio-venous transit time, vascular staining, and extensive area of capillary non-perfusion in both eyes and leakage from disc neovacularization in left eye (*Fig. 3*).

Results of different laboratory tests were normal except mild rise of total serum lipid. Carotid Duplex Ultrasound and Angiogram showed total occlusion of left common carotid and left subclavian artery, partial obstruction of the right common carotid artery and normal aorta, brachiocephlic trunk and right subclavian artery. Coronary and renal angiogram was normal.

The patient was evaluated by the cardiologist and the diagnosis of Takayasu's disease was made. The patient was given oral steroids on a tapered basis and anterior chamber inflammation was treated by topical steroid and mydriatic. The patient underwent panretinal photocoagulation in both eyes.

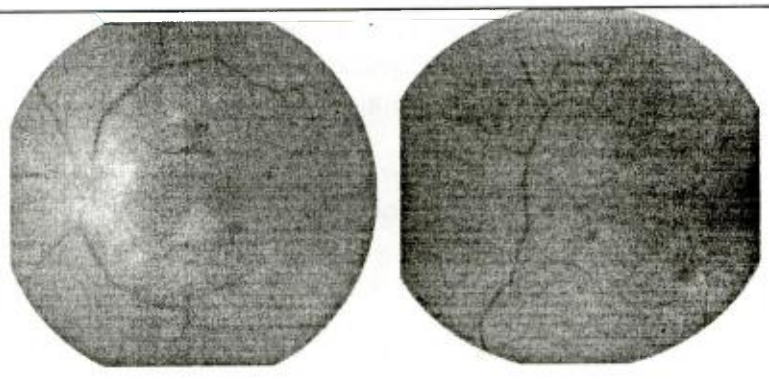

Fig. 1. colour fundus photography (left eye) shows NVD, cotton wool spot, dot & blot hemorrhages in mid periphery

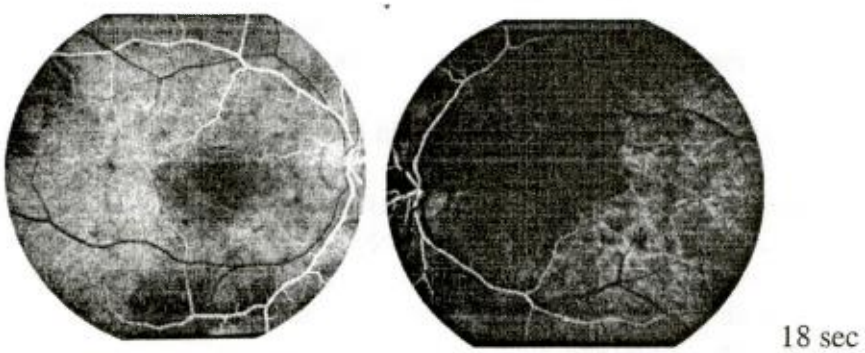

Fig. 2. FFA shows choroidal patchy filling & delay arm to retina time

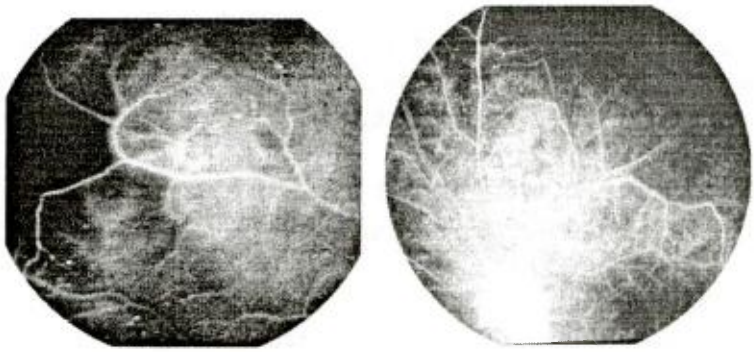

Fig. 3. FFA shows micro aneurysms, extensive area of capillary non perfusion (both eye) & leaking from NVD (left eye)

DISCUSSION

Takayasu's disease is seen in a wide geographic area, mainly in Asia and Africa. It is an autoimmune disease involving the arterial walls of large arteries, causing panarteritis.[2] The American Rheumatological Society considers three of the following six criteria necessary for a definite diagnosis of Takayasu's disease[3]:

1. Onset before 40 years
2. Claudication of the extremities
3. Decrease in the brachial pulse in one or both arms

4. Difference of 10 mm Hg or more in blood pressure measured in both arms
5. Audible bruit on auscultation of the aorta or subclavian artery
6. Narrowing at the aorta or its primary branches on arteriogram

The current patient met five of the six criteria leaving the onset of the disease.

Ocular ischemic syndrome may be bilateral and represent the initial manifestation of Takayasu arteritis. In mild ocular ischemia, retinal veins develop generalized vasodilation, and microaneurysms appear. In moderate ischemia, arteriovenous anastomoses and areas of capillary drop-out develop. In severe ischemia, retinal neovascularization, vitreous hemorrhage, neovascular glaucoma, traction retinal detachement, and optic atrophy develop.[5, 6]The current patient showed features of moderate ischemia in right eye and severe ischemia in left eye. Despite extensive neovascularization and synechieal angle closure of the anterior chamber angle in the right eye, intraocular pressure was within normal limits in that eye. In their case report M. Necati Demir et al found similar result and the authors believe that this is related to the decreased perfusion pressure and relative compensation noted in the two conditions.[8] Slusher and Richards showed an increase in ocular perfusion after surgery on the internal carotid artery.[9] Visual acuity improved and intraocular pressure increased almost twofold. Chun et al. observed arm-to-retina time and arteriovenous transit time was increased in patients with mild to severe ocular ischemia in their series of 78 patients with Takayasu's disease, consistent with the findings in the current case.[2]

HLA antigens HLA-B5, HLA-Bw52, and HLA-DHO have been described in patients with Takayasu's disease.[10, 11]But these antigens were not done in current patient.

CONCLUSIONS

Patients with Takayasu retinopathy have an increased mortality rate.[2] Imaging must be performed to identify possible life-threatening complications, and immediate immunosuppressive treatment should be initiated. Ophthalmic consequences should be considered, as with any other ocular ischemic syndrome, and extreme caution should be taken, especially when performing surgery. Despite secondary procedures, such as panretinal photocoagulation, cryoablation, and glaucoma procedures, Takayasu's disease may progress and cause loss of vision and loss of the eye.

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Orbital Prosthesis in Bangladesh; A clinical report

Mohammad Saiful Islam[1], Golam Haider[2]

Abstract: Silicone base orbital prosthesis is very expensive so, acrylic base orbital prosthesis is the first choice of treatment for the needing patient. This clinical report describes a prosthesis that is effective, noninvasive, tissue tolerant, esthetic to the patient , comfortable to use, easy to fabricate and hygienic.

Introduction

The orbital prosthesis restores the appearance when all of the orbital contents have been removed including the eyelid. The goal in to rehabilitation of a disfigure orbit is to restore a symmetrical appearance to the middle third of the face. Before fabricating an orbital prosthesis, the maxillofacial prosthodontist must have an understanding of what is involved in an orbital exenteration. The maxillofacial prosthodontist must be able to consult and advised the surgeon on which structures to preserve and protect to prepare the post surgical orbital defect for a successful prosthetic rehabilitation. For example, that's surgeon should be advised to maintain the eyebrow at its normal pre surgical level. Additionally, all sharp, bony edges in the defect cavity should be rounded and the defect lined with a split thickness skin graft. Adequate dept of the orbital area following exenteration must be maintained to achieve an aesthetic prosthesis.

A case report

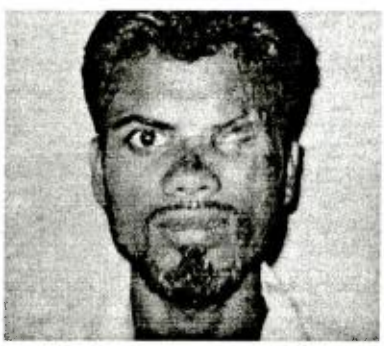

Fig 1: Left orbital defect

A 22-year male, was referred from. Dept of Oculoplasty, National Institute of Ophthalmology & Hospital, Dhaka. , Dhaka to the Prostho Dental center, Dhaka with the complaint of left orbital defect due to electric burn, needing rehabilitation.
He had undergone surgery at National Institute of Ophthalmology, Dhaka for orbital reconstruction and the defect was lined with a skin graft in 2009.

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The defect was examined. Contour of the prosthesis was discussed with the patient. Hence, a fabrication of adhesive retained acrylic resin prosthesis was planed. Impressions were obtained with irreversible hydrocolloid impression

Fig 2: Impression with alginate

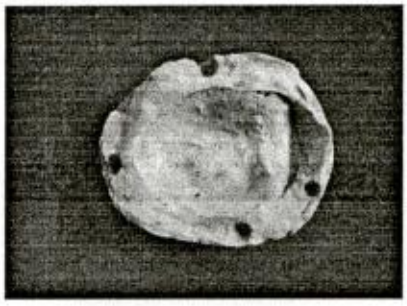

Fig 3: cast and base of the mold

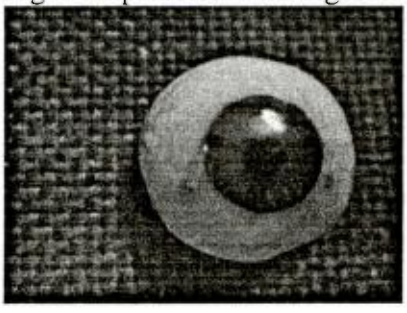

Fig 4: customized ocular prosthesis

Fig 5: ocular and key

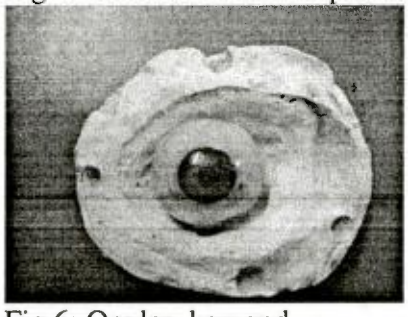

Fig 6: Ocular, key and modeling wax in the cast

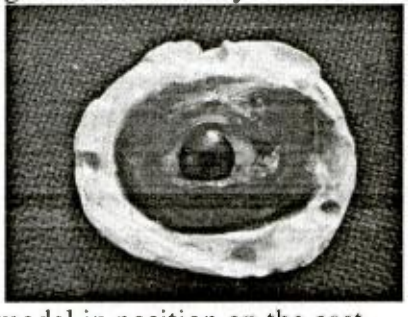

Fig 7: wax model in position on the cast

material on defect side of patients. Before making the impressions moist gauze was packed into the deepest portion of orbital defect. Instructions were given to breathe by mouth during the impression taking. Casts were prepared with dental stone. Before the sculpting begins, a customized ocular prosthesis was fabricated, on the tissue surface of the ocular prosthesis making a round depression area for the ocular key which helpful to be able to make adjustment to the position of the ocular in relation to the right eye of the patient. The ocular was registered on the key, which was embedded in the modeling wax,

which was anchored to the posterior surface of the defect site on the plaster master cast. Determined the ideal location with the help of ocular key and then the wax sculpted.

On completion, the wax prosthesis was verified at the trial insertion appointment, a mold was prepared. The prosthesis was processed using

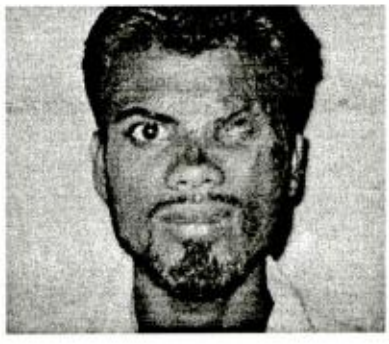

Fig 8: pre rehabilitated patient

Fig 9: Post rehabilitated patient

acrylic resin with intrinsic and extrinsic coloring incorporated to match the base tones, eyelashes was added to the prosthesis Acrylic resin adhesive was then delivered, at which time detailed instructions regarding care and use were provided to the patient.

Discussion

Fabrication of aesthetic orbital prosthesis is a most difficult challenge. Because conversation with others is often initiated with eye contact, slight discrepancy in the position of the eye, lid contour, or color of the prosthesis are immediately notices by the observer. In some patients it may not be possible to duplicate the appearance and contour of the remaining normal eye and adjacent orbital structures. In orbital defects in particular an unaesthetic prosthesis creates more psychological trauma for the patient then does no prosthesis at all.

Before the fabrication of an orbital prosthesis the patient must be carefully prepare and counseled. Orbital prosthesis while appearing natural will not move and the eyelid will not blink. Unrealistic expectation by the patient or his or her family must be evaluated and corrected to prevent psychological reaction that may lead to rejection of the restoration.

The success of an orbital prosthesis can be enhanced by careful pre surgical planning and communication involving the patient, the surgeon and the maxillofacial prosthosdontist. It is important for the maxillofacial prosthodontist to be aware of what is involved with an orbital exenteration.

Conclusion: The goal of orbital prosthesis is to return the patient to society with a normal appearance. The disfigurement resulting from orbital defect can cause significant psychological, as well as social, consequences.

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Key words: orbital prosthesis, exenteration,

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