Constipation-an aggravating factor of an established glaucoma: An urban study
Murad MAU, Moktad SA, Basory R, Chowdhury FI

Abstract
Objective: We study the effect of constipation in glaucoma. Method: This was a descriptive type of cross sectional study conducted on 32 patient attended at the OPD on Islamia Eye Hospital, Al-Ashraf General Hospital Dhaka, International Medical College and Hospital Tongi, Gazipur, Central Hospital, Hobiganj during the period from January 2000 to August 2005. Data were collected through periodic oberservation and was analyzed manually. Results: Relation between Constipation with Glaucoma is 93.8% and relation between Non-constipation with Glaucoma is 6.3%. On male 43.8% and female (56.3%). Age between 18 years to 75 year on typing of Glaucoma, Chronic Simple Glaucoma is 62.5% and Acute Congestive Glaucoma is 37.5%. Conclusion: In this study itwas found that constipation is a one of the aggravating factor in case of glaucoma.

Key Word
Glaucoma, Constipation.

Introduction
Glaucoma term comes from the Greek word glaucos. It is a progressive disease cause reversible or irreversible change of the eyeball due to increased intra ocular pressure. Clinical feature of glaucoma is congestion of the conjunctiva, dimness of vision, repeated changes of glasses. Headache sometimes watering. Cardinal sign's are deep anterior chamber, mid dilated pupil, changes in visual field. Changes in intraocular pressure, changes of cup disc ratio. Incidence of glaucoma about 66.8 million people worldwide more then one half of individuals with glaucoma are unaware. About 2% of the total eye patient s are suffering from glaucoma.

On classification
Primary-primary open angle glaucoma and primary closed angle glaucoma. Secondary-about 6 million people of the world are suffering from secondary glaucoma 3. Congenital.

Source
Adapted from MB Shields(ed). Textbook of glaucoma (3rd ed). Baltimore: Williams & Wilkins, 1992; 70. In our study we saw that constipation aggravate the glaucoma's signs and symptoms especially intraocular pressure but it is not the cause of glaucoma .to establish the

1. Dr. Md. Akhter Uddin Murad, MBBS, DO (Eye), Asst. Professor, Dept. of Ophthalmology, International Medical College, Gazipur.
2. Dr. Sheikh Abdul Moktad, MBBS, DO, FCPS (Part-1) , Asst. Professor, Dept. of Ophthalmology, Jalalabad Ragib-Rabeya Medical College and Hospital, Sylhet.
3. Dr. Rabeya Basory, MBBS , Asst. Register, Dept. of Ophthalmology, International Medical College, Gazipur.
4. Dr. Fakrul Islam Chowdhury, MBBS, FCPS (Part-1), CMO, Al Asraf General Hospital, Dhaka.

Table 1: Factors that may lead to increased intraocular pressure.

<table>
<thead>
<tr>
<th>Systemic influences: Hypertension [Specially systolic pressure]</th>
<th>Decreased intraocular pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: Female</td>
<td>Age: &lt; 40</td>
</tr>
<tr>
<td>Race: African, American</td>
<td>Refractive Error: Myopia</td>
</tr>
<tr>
<td>Genetics: Family history of elevated intraocular pressure</td>
<td>Season: Higher intraocular pressure in winter months</td>
</tr>
<tr>
<td>Excessive influences: Valsalva's maneuver, Electroshock therapy</td>
<td>Pupil: Small, constant</td>
</tr>
<tr>
<td>Excessive influences: Valsalva's maneuver, Electroshock therapy</td>
<td>Pupil: Small, constant</td>
</tr>
<tr>
<td>Lid and eye movement: Blinking, lid squeezing</td>
<td>Pupil: Small, constant</td>
</tr>
<tr>
<td>Intraocular conditions: secondary glaucoma, Increased corneal thickness</td>
<td>Pupil: Small, constant</td>
</tr>
</tbody>
</table>

The ORION Medical Journal 2006 Jan; 23:332-333
above statement we followed the following methods to identify it.

**Methodology**
This was a descriptive of cross sectional study, during the study period 32 patients were selected in OPD for first time. Who reported to OPD with glaucoma. Thorough history of the patient's particularly cardiovascular, respiratory and urinary diseases were taken. *Local examination and investigations were done as follows*-  
- Vision  
- Slit lamp examination  
- Intraocular pressure [IOP]- Schiotz Tonometer.  
- Fundoscopy by direct ophthalmoscope  
- Laboratory examination-Blood sugar was done, ECG was done.  
- Details of bowel habit and diet habit [vegetarian. Non-vegetarian, medication]

**Following glaucoma patient were excluded from our study**-  
- Who were already treated 2nd and 3rd time.  
- Filtration operation done.  
- Patient above 75-year age.  
- Any corneal opacities or suspected any other intraocular pathology.

Treatment of glaucoma in our country usually is conservative by pilocarpine HCl2%, Timolol Maleate 0.5%, Acetazolamide 250 mg. with K-supplement. If it failed we go for Filtration Surgery. Follow up on 24 hours, 72 hours, 1 week, 3 weeks and 6 months was maintained. In our practice we use above medication along with laxatives [Bisacodyl 5mg, 2 tab at H/S], those patients have habit of constipation [Duration of 5 to 7 days]

**Results**
Out of 32 patients 30 patients were constipated. Usually their bowel opened every 5 to 7 days. 2 patients were not constipated. Usually their bowel opened at least once in a day. So all the patients were prescribed laxatives. 15 patients with antiglaucoma, drugs and laxative, 15 patients with antiglaucoma drugs without laxatives to open the bowel.

We follow up to 6 months to 1 year. They are happy enough with their treatment along with relieve of constipation. We also advised to take the fleshy and cellulose like food, to relieve their chronic constipation.

**Discussion**
Production of aqueous humour from non-pigment epithelium [NPE] of ciliary process → to the posterior chamber → through pupil to come out to the anterior chamber and then through schlem's canal → scleral venous plexus → episcleral veins → vortex veins and conjunctival veins to maintain the normal function of the eye, it needs pressure. Which we call intraocular pressure. Outside the eye the pressure in the ocular veins is lower than the
IOP\(^4\). Normally mean pressure in human eye is 7 to 8 mmHg. The pressure in the vortex veins just outside the eye may be expected to be similar to that in the episcleral veins on ocular veins 5 to 10 mmHg\(^4\). But during voluntary defecation can be initiated by voluntarily relaxing the external sphincter and contracting the abdominal muscles [straining], thus aiding the reflex emptying of the distended rectum\(^5\).

During such process- central pressure is increased. It is increased by positive pressure breathing, straining expansion of blood volume\(^3\). So these effect on ocular veins and obstruction of the out flow of the aqueous. Which may aggravate the intraocular pressure, in case of glaucoma, which is more dangerous and causes irreversible changes in eyeball.

**Conclusion**

In our study of 30 constipated patient group A [with laxative] had the IOP fall quick and effective. In group B [with out laxative] the pressure fall was there but not as sufficient and quickly as a group A. so our recommendation is that any patient coming for the treatment of glaucoma his history for bowel habit to assessed properly and a laxative to prescribed with other medication and operation [if any].

**Acknowledgement**

For his kind cooperation, his inspiration and guidance Professor Shamsul Alam. MBBS, DA (London) Ex- Head of the Department of anesthesiology. International Medical College & Hospital, Tongi, Dhaka.

**Reference**

1. Prof Mustafizur Rahman, MBBS, DO, FRCS, FRCophth, Ex-Chief Consultant of Islamia eye hospital, Lecture on DO/FCPS COURSE.
2. DR. Rafiquer Rahman khan. MBBS, DO, MRCophth, FRCS. Asso.Prof of Islamia eye hospital. , Lecture on DO/FCPS COURSE.