It's Safe to Stop Antiglaucoma Drugs

Dr. Sourabh Sharma, Dr. Bhupesh Singh, Dr. S. Bharti

Bharti Eye Hospital and Foundation, New Delhi, India

Glaucoma is the leading cause of irreversible blindness worldwide. Globally, over 64.3 million people were estimated to be affected by glaucoma in 2013 and these numbers are expected to increase over time to 76.0 million by 2020 and 111.8 million by 2040[1]. In India, the estimated number of cases of glaucoma is 12 million and nearly 1.2 million people are blind from the disease[2].

Many studies have reported that a large percentage of glaucoma patients remain undiagnosed and are therefore at risk of progressive visual loss. The early detection of glaucoma is important in order to enable appropriate monitoring and treatment, and to minimize the risk of irreversible optic nerve damage[3].

Although measures to improve early glaucoma diagnosis are unquestionably the primary objective, the inclusive management of glaucoma may also be examined from a different perspective. Elevated intraocular pressure (IOP) is the main risk factor for glaucoma and the most widely-used treatment for glaucoma is daily eye-drops to lower IOP. Drugs for glaucoma need to be taken life-long and consistent follow-up with an ophthalmologist is needed to continuously modify the therapy for maximum effect. Once a diagnosis of glaucoma has been made and eye drops are started, it may be challenging for subsequent examining doctors to question its rationality and take responsibility for discontinuing medications. Thereby, a vicious circle is developed with periodic re-examination and continued medications and it becomes difficult to break its continuity.

BUT higher-than-normal eye pressure doesn't always mean that one has glaucoma. In fact, some people with normal pressure can have glaucoma, while others with higher levels may not. It is observed that nearly half of the glaucoma patients using ocular hypotensive medication do not need the medications or are over-diagnosed and treated[4]. Some practitioners may rely too heavily on newer technology, such as Optical Coherence Tomography (OCT)[5] and diagnosis is sometimes based on suspicious appearance of the optic disc, increased cup-disc ratio as in physiological cupping (Figure 1) reduced OCT parameters due to peri-papillary nerve thickness measurements (Figure 2)[6]. Disorders of the optic nerve can also produce visual field findings, nerve fiber layer loss and disc appearance that can mimic glaucoma. The false negative changes in visual field due to eyelid defects, rim artifacts, unreliability can also lead to glaucoma misdiagnosis. Over-reliance on glaucoma diagnostics in isolation without taking into consideration the complete clinical picture compounds the problem. One has to be careful before starting glaucoma medications and proper optic disc examination with repeat tests is necessary before diagnosis of glaucoma is made.

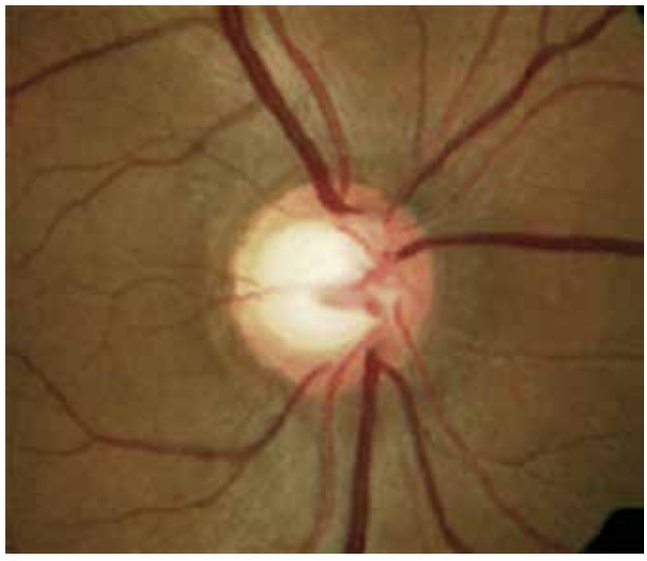

Figure 1

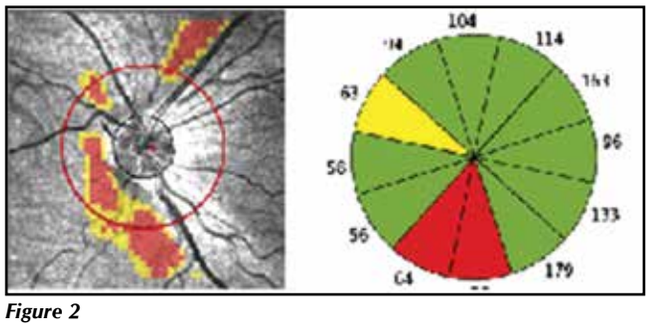

Figure 2

When taking the IOP reading, it is also advisable to consider central corneal thickness (CCT). It is a common practice to start medications just on the basis of high IOP measurements while the optic disc and visual field shows no changes. It is not wrong to treat such ocular hypertensive patients, but presence of other risk factors like family history, myopia, migraine have to be taken into account before starting lifelong treatment. Similarly, primary angle closure and primary angle closure suspects can also be observed if IOP is constantly maintained after laser iridotomy.

Starting glaucoma medication is very easy but stopping isn't. There will always a doubt in clinicians mind regarding stopping glaucoma medications, particularly if the patient is using it for a very long time. Liberal use of anti-glaucomatous medications also add a substantial economic burden to patients and health care systems. This can also cause significant ocular surface morbidity and can compromise the success of any medical or surgical anti-glaucomatous treatment that may

Standard drug	Class of medication	Washout period
Brimonidine[7]	Alpha-2 agonists	5 weeks
Latanoprost	Prostaglandin analogues	4-6 weeks
Pilocarpine[8]	Cholinergics/Miotics	3 days
Dorzolamide[9]	Carbonic anhydrase inhibitors	1-2 weeks
Timolol[10,11]	Beta blockers	4 weeks

actually be required in the future.

So, it is sometimes wise to stop glaucoma medications and keep a close watch on IOP.

Knowledge of the washout periods for topical medications is crucial for the evaluation of the effects of their withdrawal and subsequent discontinuation of medical therapy. This information is important to determine the optimal timing of follow-up visits for the patient. Though only few studies involving standard drugs have been done and it is assumed that other drugs belonging to the same class of medication behave similarly. The following table gives us a rough idea about the washout period of some standard glaucoma drugs

One should exercise patience and prudence in making a glaucoma diagnosis or amplifying therapy. Regular comprehensive eye exams are the best form of prevention against glaucoma and other eye diseases, but we believe that the treating physicians should be more aware of the perils of glaucoma over-diagnosis and long term medication use, as well as the risk of missing undiagnosed glaucoma cases and subsequent progression.

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Correspondence to:
Dr. Sourabh Sharma
Bharti Eye Hospital and Foundation, New Delhi, India