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Guest Editorial

# Challenges in diagnosis and management of glaucoma: Indian scenario

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Glaucoma is a leading cause of irreversible visual loss and is the second leading cause of blindness worldwide.[1] Affecting 70 million people, which will be 111.8 million by 2040, majority will have open angle glaucoma (74%). Bilateral blindness from glaucoma is projected to affect > 11 million individual worldwide. In India it is estimated that glaucoma affects 12 million people and causes 12.8% of the total blindness in the country and around one fifth of the global burden of glaucoma. The prevalence, demographics and clinical pattern differ in urban and rural India. Population based study from south India revealed that 90% of glaucoma cases in India remain undiagnosed which is much higher than reports from developed countries where rate of undiagnosed cases is 40-60%.[2] These higher rates of undiagnosed cases are responsible for significant rise of glaucoma blindness in our country.[3] According to Hoogly River Glaucoma Study (HRGS) 95% of the subjects in the urban population and 98% in rural population were unaware of their disease.[4]

This is a fact that now a days majority of glaucoma patients are being treated by comprehensive ophthalmologists as compared to the glaucoma specialists however, the complicated cases are managed by glaucomatologist more often.[5] Before starting any treatment the diagnosis of glaucoma should be well established. Diagnosis of glaucoma is not straight forward in early stages. There is no single test which can diagnose glaucoma, hence one has to integrate various examinations /tests to make a diagnosis. The various examinations, required for proper diagnosis include proper history, comprehensive eye examination, Slit lamp examination, intra ocular pressure (IOP) recording reading by applanation tonometer, gonioscopy, stereoscopic optic disc evaluation with dilated pupil and perimetry. If imaging modalities are available, the help of optical coherence tomography (OCT) of posterior segmented also can be incorporated with its limitation in mind. The OCT examination cannot replace perimetry. Before starting treatment, except in acute stages, one must establish a good baseline IOP, Perimetry and optic disc evaluation. Repeated measurements of IOP on many occasions will provide a good baseline of IOP. Glaucoma is not a malignant disease, hence a delay in starting treatment by couple of days is not harmful in majority. The perimetric defect to be considered as genuine, we must get two consecutive fields with repeatable defect.

While putting patients on medical therapy, we should make sure that least amount of medication which is necessary should be given. To achieve this one must start monotherapy first and based on the efficacy and target IOP and second medication can be added if required. If a patient is on two medication and both are efficacious, we can substitute it with the fixed dose combination if available. We should never start fixed dose combinations to begin with as we will not be able to ascertain which medication is effective and which is not. The first combination should always be from the two different class of drug to have maximum effect.

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It has been noticed that the compliance by the patient goes on decreasing as the number of medications are increased. That is why we should aim at prescribing the minimum medication required to control the IOP. Treatment should be cost effective.

In the beginning before starting medication, target pressure of the patient should be calculated. We should remember that target pressure has to be readjusted in due course of time based on the findings of the follow up examination. IOP and optic disc should be evaluated at each follow up visit. IOP guides us about the efficacy of treatment but disc and Perimetry help us in knowing the sufficiency of treatment. To detect deterioration on perimetry, the two consecutive fields should show similar deterioration from the baseline. When the patient still deteriorates with seemingly well control of IOP, we must consider diurnal variation and central corneal thickness if not considered earlier.

Patients always want to know about the disease, the treatment options, the side-effects of medication and how to tackle them, the long term outcome and the cost of treatment. As the patients require frequent visits, we should try not to make them wait for long in the clinic and some of the follow ups can even be recommended in nearby clinic of the patient.

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