Prostaglandin analogues in angle closure glaucoma

Dear Editor,

We read the article titled, "Efficacy of bimatoprost 0.03% in reducing intraocular pressure in patients with 360° synechial angle-closure glaucoma: A preliminary study,'' by Vyas *et al*. with great interest and applaud them for their lucid presentation.[1] There are precious few studies on the efficacy of prostaglandin analogues, especially in angle-closure glaucoma. We take this opportunity to put forth our observations on the subject based on our experiences with patients suffering from similar conditions.

Not only bimatoprost 0.03% (AGN 192024, a synthetic prostamide analogue) but other prostaglandin Analogues (PGAs) such as travoprost 0.004% (AL-6221) and latanoprost 0.005% PhXA41 (though the former drugs are more preferred to now a days) have also shown excellent results for primary angle closure glaucoma patients.

As is the general trend in practice, we too have used timolol 0.5%, popularly considered as the primary drug for a staple antiglaucoma regime. Though introducing our patients to PGAs resulted in better outcomes which we hence share. The greatest merit in terms of patient compliance is that of a single 9:00 p.m. dose a day. When compared to timolol 0.5% which has to be administered twice daily to control intra ocular pressure (IOP), less number of patients missed their medication with PGAs.

As for controlling IOP, recent studies have suggested evidently that latanoprost, travoprost, and bimatoprost provide a significant IOP-lowering efficacy in eyes with angle closure glaucoma and are as effective as timolol for the same.[2] Statistically speaking the efficacy of these three drugs is similar when compared to each other.[3] These agents have negligible effect on cardiac and respiratory systems which is an added advantage in the long-term medication.

Coming to the vices, conjunctival hyperemia is the most frequent side effect encountered with prostaglandin analogue usage. It is believed to be a manifestation of extraocular irritation caused by the salt $PGF_{2\alpha}$, which can be reduced by using a lipid soluble ester of the compound. Another mode of minimizing this adverse effect is to use benzalkonium chloride (BAK) free PGAs. BAK is a compound used as preservative in the vials. Recent studies conclusively prove that switching from BAK-preserved latanoprost 0.005% to BAK-free travoprost 0.004% yielded significant improvements in symptoms of ocular surface disorders.[4,5]

Thus by using a preservative-free preparation we can harness all the advantages of PGAs, avoiding the adverse effects simultaneously, making PGAs excellent first line drugs in glaucoma management.

Pulkit Gupta, B S Mahesh, H L Gupta[1]

Department of Ophthalmology, JSS Medical College and Hospital, Mysore, [1]R. Gopal Eye and Superspeciality Centre, Durgapuri Extension, Delhi, India

Correspondence to: Dr. Pulkit Gupta,
Department of Ophthalmology,
JSS Medical College and Hospital, Mysore, India.
E-mail: dr.pulkitgupta@yahoo.co.in

References

1. Vyas P, Naik U, Gangaiah JB. Efficacy of bimatoprost 0.03% in reducing intraocular pressure in patients with 360° synechial angle-closure glaucoma: A preliminary study. Indian J Ophthalmol 2011;59:13-6.
2. Cheng JW, Cai JP, Li Y, Wei RL. A meta-analysis of topical prostaglandin analogs in the treatment of chronic angle-closure glaucoma. J Glaucoma 2009;18:652-7.
3. How AC, Kumar RS, Chen YM, Su DH, Gao H, Oen FT, *et al*. A randomised crossover study comparing bimatoprost and latanoprost in subjects with primary angle closure glaucoma. Br J Ophthalmol 2009;93:782-6.
4. Katz G, Springs CL, Craven ER, Montecchi-Palmer M. Ocular surface disease in patients with glaucoma or ocular hypertension treated with either BAK-preserved latanoprost or BAK-free travoprost. Clin Ophthalmol 2010;4:1253-61.
5. Miyashiro MJ, Lo SC, Stewart JA, Stewart WC. Efficacy, safety, and tolerability of travoprost 0.004% BAK-free versus prior treatment with latanoprost 0.005% in Japanese patients. Clin Ophthalmol 2010;4:1355-9.

Access this article online	
Quick Response Code:	Website: www.ijo.in
	DOI: 10.4103/0301-4738.83635