

Current trends in surgical ophthalmology

Dear Friends

Season's Greetings!!

Glaucoma, a chronic progressive optic neuropathy is one of the leading causes for blindness worldwide.^[1] Various studies have shown obesity, family history of glaucoma, smoking and drugs (corticosteroids, statins, alpha blockers) as major contributing factors.^[2-4] However, studies evaluating the association between hypertension and glaucoma are inconclusive and a recently conducted meta-analysis on 16 studies in around 60,000 patients has found a mild increase in the risk of glaucoma amongst hypertensive patients (odds ratio - 1.22 with 95% confidence intervals - 1.09, 1.36).^[5] Deb *et al.* in this issue has published a cross-sectional study on patients with systemic hypertension compared with age-matched controls. The authors found that the presence of systemic hypertension alone did not increase the risk of glaucoma, corroborating an earlier study from a similar population.^[6] Furthermore, individuals on antihypertensive drugs were found to be at an increased risk of developing glaucoma or glaucoma suspect supporting the vascular hypothesis of glaucoma where the nocturnal drop in blood pressure with antihypertensive medicines reduces the mean ocular perfusion pressure resulting in glaucomatous cupping and visual field loss.^[7] Despite the study being snapshot in time, it suggests the avoidance of nighttime administration of antihypertensive drugs at least in individuals with suspected glaucoma. Additionally, central corneal thickness has been attributed as an important risk factor for open-angle glaucoma but studies are limited in associating this with the disease severity.^[8] Franco *et al.* in this issue has published a study evaluating the association of pressure to cornea index (PCI) in patients with primary open-angle glaucoma in around 70 eyes. The authors found a correlation between PCI with a mean diameter of the automated perimetry and cup to disc ratio suggestive of its utility in staging the glaucoma severity. Conventional ways of glaucoma treatment include drugs lowering intra-ocular pressure and trabeculectomy. In the case of resistant cases of primary glaucoma, congenital glaucoma, neovascular glaucoma and those following eye injuries, the so-called "glaucoma devices" or "implants" is considered more appropriate.^[9] Sparse literature exists regarding the outcomes of glaucoma implant surgery amongst Asians. Hamanaka *et al.* in this issue has published a study evaluating the long-term efficacy and complications of glaucoma drainage implant surgery and its combination with trabeculectomy in Japanese. The authors have found the implants to be highly effective and hypotony and corneal endothelial loss as the most serious complications.

Femtosecond laser surgery has surpassed the traditional penetrating keratoplasty and deep anterior lamellar keratoplasty in being more accurate, safe and efficacious.^[10,11] Since the procedure is sutureless and requires short-term administration of corticosteroids, the associated complication rate is less. However, studies that assessed long-term safety and efficacy are limited. Shetty *et al.* in this issue has published a study wherein they have assessed the outcomes in 11 patients with corneal stromal opacities not exceeding 250 µg. Although the authors never observed 20/20 visual acuity, none of them experienced deterioration in the visual acuity or an increase in the interface haze even at 12 months follow-up. The promising results of this study calls for the use of femtosecond laser surgery over the conventional procedures for corneal stromal disorders. Similarly, another ophthalmological area where newer techniques are often being tried is cataract. Recent reports related to administration of anesthetic drugs have shown topical superior to peribulbar route.^[12] As any technique or treatment procedure is patient-centric, it is important to assess the satisfaction of patients operated upon. Dole *et al.* in this issue has published a randomized controlled trial on topical versus peribulbar anesthesia comparing the clinical outcomes and satisfaction of patients and surgeons. Although topical anesthesia was found to cause more pain and so patients were found to be less satisfied than peribulbar, the rate of complications was significantly lower. Considering the fact that topical is now-a-days a preferred route, one shall concomitantly administer analgesic to alleviate pain, thereby contributing to patient satisfaction.

Hope this issue unrolls some of the unknown aspects of newer surgical techniques in ophthalmology.

Happy reading!!

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