



Challenges in glaucoma treatments

<p>Access this article online</p> <p>Quick Response Code:</p> 
<p>Website: www.e-tjo.org</p>
<p>DOI: 10.4103/tjo.tjo_52_18</p>

We first point out that it has become affordable for glaucoma patients to receive treatments since the National Health Insurance Act in Taiwan; however, these patients' knowledge on their own prescribed medication is obviously very limited. About 34% got improvements of knowledge at repeated tests in our study, while 40% showed no improvement. Illiterate elderly patients with poor visual field (VF) showed less improvement in identifying their own glaucoma medication. To maximize the compliance of glaucoma medications, it would be necessary to create a patient-centered education program targeting the elderly, the illiterate, and those at the early stage of VF losses.

Then comes the Lin's study group. They show normal tension glaucoma (NTG) with Gene optic atrophy 1 (OPA1) intervening sequence 8 (IVS8) +32 T->C polymorphism inclined to have more nasal step-type VF defect and inferior nerve fiber layer (NFL) thickness in comparison to NTG with IVS8 + 32 wild type. Since OPA1 is coded for a mitochondrial fusion protein, this pattern of VF changes and NFL loss might be linked to the mitochondrial dysfunction-related glaucoma.

The review article contributed by Sun's group demonstrated the most common (50%–89%) primary etiologic associations for neovascular glaucoma (NVG) among different races including proliferative diabetic retinopathy and ischemic retinal venous obstruction, especially in those aged 18 years and older. Vascular endothelial growth factor (VEGF) has been recognized as the most important factor for neovascularization. Yu *et al.*

showed increased levels of hepatocyte growth factor (HGF), transforming growth factor-beta1 (TGF-β1), and TGF-beta2 (TGF-β2) in the aqueous humor for patients with NVG and highly expressed TGF-β1 and TGF-β2 in neovascular membrane, iris stromal cells, and ciliary cells. The management of NVG included the following: (1) Treating the underlying causes and (2) Lowering ways when high intraocular pressure (IOP) develops by medicine, drainage surgeries, or cyclodestructive procedures. They found that IOP can be controlled well with drainage surgery alone, the anterior-segment neovasculature in almost half (47%) of the patients regressed without any other interventional measure. However, if the IOP rise again, those new iris vessels reappear. They hypothesize that when aqueous humor outflow is blocked and IOP elevates again, it leads to the accumulation of NV-related factors in the aqueous humor. This then causes the neovessels to reappear. Further researches are needed to provide the evidences. We agree that anti-VEGF reduces neovasculature temporarily, and further researches on medicines targeting TGF-β, HGF, or subtypes of VEGF may be necessary to pave a way for NVG treatment.

Please enjoy reading all articles.

Mei Lan Ko

Department of Ophthalmology, National Taiwan University Hospital, Hsinchu Branch, Hsinchu, Taiwan

Address for correspondence:

Dr. Mei Lan Ko,

Department of Ophthalmology, National Taiwan University Hospital, Hsinchu Branch, Hsinchu, Taiwan.

E-mail: aaddch@gmail.com

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

How to cite this article: Ko ML. Challenges in glaucoma treatments. Taiwan J Ophthalmol 2018;8:59.