UNMET NEEDS
More accurate identification of change in the patient’s disease course is essential for glaucoma care

by Dermot McGrath in Paris

While much progress has been made in recent years in the management of glaucoma, there is still a long way to go in addressing the significant unmet medical needs that remain in many aspects of current glaucoma care, according to Peng T Khaw MD, PhD.

“There have been a lot of advances in recent years but there are a lot of unmet medical needs in many areas of glaucoma management such as informatics, diagnostics, pharmacology and surgical interventions, among others. The good news, however, is that there are many exciting therapies beyond eye drops that could address many of these unmet needs in the future,” Dr Khaw told delegates at the World Glaucoma Congress.

Dr Khaw, professor of ocular healing and glaucoma and director of the National Institute for Health Research Biomedical Research Centre at Moorfields Eye Hospital and the UCL Institute of Ophthalmology, London, noted that glaucoma guidelines from around the world broadly agree on the principal goals of glaucoma management.

“The optimal treatments will ideally preserve visual function which is adequate to the individual needs of the patient, with minimal side effects and which will last for the expected lifetime of the patient. This should be achieved with minimised disruption to normal activities and at a sustainable cost,” he said.

Current unmet needs and targets identified by Dr Khaw include better prediction methods using intelligent informatics and new non-invasive diagnostic imaging methods, improved IOP control, precise control of tissue scarring and flow after surgery, and a greater understanding of the role of axon-neuronal support and regeneration in glaucoma.

While there are a large variety of medical agents available for the treatment of glaucoma, clinicians need greater guidance on the optimal means of delivering more targeted treatments for each patient.

“One of the issues with medical therapies is that we use different drops, we change them, and we don’t have any accurate predictors except our own experience as to what is the optimal therapy for that patient,” said Dr Khaw.

He noted that while there is a lot of data now available from large-scale glaucoma studies conducted over the past decade, it is not always clear how the conclusions from such trials should be applied on a daily clinical basis. “We need pooled information and a sort of informatics crystal ball to give us an idea of the risk-benefit for medical treatment and what is best for individual patients. We need more advanced informatics systems to be able to integrate this information with advanced diagnostics so that we can actually better predict what is going to happen and enable better individualisation of treatment and prognosis,” he said.

“Using technology in the future such as the “OpenEyes” software program being developed at Moorfields Eye Hospital will help in this respect,” said Dr Khaw.

“This free open source software is being designed to include the challenges of glaucoma management and will enable us to guide, based on individual patient characteristics, what treatments patients are more likely to respond to, what their best prognosis is and to orient our decisions about medical and surgical therapy,” he said.

“More accurate identification of change in the patient’s disease course is also essential for more effective medical therapy,” said Dr Khaw.

“We need improved methods of detecting structural and functional change and we need to be able to relate this to meaningful functional end points including patient-related outcome and experience measures. I think increasingly glaucoma therapy is going to have to be justified to governments, care organisations and patients in terms of functional outcomes for people, not just what their IOP is,” he said.