SAGS Congress 2010

Alpine Heath | 28 - 30 May

PRESENTATION AT CONGRESS

1. From Repair to Regeneration – From Laboratory Discovery to Advances in Clinic

The biological processes involved in tissue repair play a part in every major blinding disease in the world today. We have been investigating the mechanisms involved in ocular tissue repair following surgery and disease, and have used in vitro cell culture and in vivo models of conjunctival scarring which we have refined based on our understanding of the clinical situation. We have also taken into account the evolving surgical aspects of our treatments in conjunction with our laboratory experiments, using the model of fistulising surgery for glaucoma, the commonest cause of irreversible blindness in the world today. We have then translated these laboratory findings into new clinical treatments.

2. Management of Childhood Glaucomas - Lessons from Five Decades at Moorfields.

The childhood glaucomas as a group pose one of the greatest challenges in Glaucoma Management. The lecture will cover:

- *Diagnosis*
- *Examination under anaesthesia*
- *Medical therapies particularly with regard to efficacy and side effects in children*
- *Surgical therapy including goniotomy, improved trabeculectomy (Moorfields Safer Surgery System) lasers and tube drainage surgery*
- *Long term results of these modalities will be presented*

3. The More Flow 5-fluorouracil Glaucoma Surgery Study

Results: A single five minute application of intraoperative 5-FU improved the long term survival of glaucoma surgery up to 80 months. There was a marked difference in the surgical results between different racial groups (White Caucasian > Indian sub-continent > Afro-Caribbeans) although the 5-FU improved survival in all racial groups. There were significantly fewer needlings (21.2% versus 31.4%) in the 5-FU treated group with no significant differences in hypotony, blebitis / endophthalmitis, or visual loss. There was no statistically significant difference in optic nerve progression or field loss between the groups. Despite this, there was a clear relationship between the level of intraocular pressure and disease progression with no patients progressing if all pressures were kept under 14 mmHg at all visits.

4. Glaucoma Management - Unmet Needs and Wish List from Present Research for the Future:

There have been huge advances in our understanding of glaucoma in the last decade. This has been helped by research in every area from large scale clinical trials to studies at the cellular and molecular level. In this lecture I will explore the unmet needs in glaucoma and future potential for research in glaucoma.

I will discuss:

- *Improved Medical Therapies and drug delivery*
- *Understanding of Glaucoma Pathogenesis*
- *Aqueous Outflow*
- *Intraocular pressure control*
- *Improved Surgical Techniques*
- *Neuroaxonal protection and regneration including stem cell and gene therapy*

Ref: Weinreb RN Khaw PT Primary open angle glaucoma - a review. Lancet 2004; 363: 1711-1720

5. Latest Advances in the Prevention of Scarring after Filtration Surgery

Recent clinical trials provide strong evidence that pressures in the low teens are associated with minimal progression. In our recent More Flow study no patient who had pressures less than 14 mmHg on all visits experienced glaucomatous progression over a period up to 8 years. The major determinant of the long term pressure after surgery is the scarring response of the eye.

6. The Moorfields Safer Surgery System

Prof Peng T Khaw will continue the improvements in glaucoma surgery and wound healing modulation which will help to achieve better long-term results with fewer complications, particularly from the patient's point of view. These improvements have been developed into a "Safer surgery system" for filtration surgery.

SAGS
South African Glaucoma Society