RANZCO Eye Museum

A Virtual Exhibit for a Virtual Congress

By adapting to a difficult situation, the 52nd RANZCO Congress was held on Zoom. Rather than abandoning the customary museum exhibition, the RANZCO Eye Museum opted for a virtual display using Exhibbit software.

The items on display are an eclectic collection from late 19th through to mid 20th century when ophthalmologists were often itinerant, and diagnosis was purely observational.

To access, simply search in your browser: RANZCO Eye Museum. This will take you to the Eye Museum website. Click on the virtual poster and you are in! The exhibit will be available for six months and we have proposed to change the items on a regular basis.

RANZCO Eye Museum

The 52nd Congress Museum Display is here!

Visit the virtual museum by scaning the QR code or through the Booth on the 52nd RANZCO Congress virtual platform.

Restraining patient undergoing enucleation.

When less is more—the remarkable evolution of local anaesthesia

Prior to the development of using cocaine as a topical anaesthetic for eye anaesthesia, surgery had to be swift with only alcohol or herbal medication such as Indian hemp and Mandrake extract to dull the pain. Meanwhile, the patient was stabilised with a good headlock.

In 1855, Alexander Wood described injecting nerves with morphine with limited success and often followed by addiction of both doctor and patient. General anaesthetic with chloroform was often complicated by post-operative vomiting leading to loss or incarceration of ocular contents through the unsutured wound.

Pure cocaine was difficult to obtain until the German firm Merk reliably produced a small amount of the purified product in 1862. Sigmund Freud, who then recently graduated from medical school in Vienna,

proposed cocaine as a method of weaning morphine-addicted patients. He was a friend of Karl Koller and they experimented with cocaine together. Surgery on frogs eyes and later testing himself, resulted in a paper delivered at the Heidelberg Ophthalmological Society on the benefits of topical cocaine as an eye anaesthetic.

Koller's pursuance of ophthalmology training in Vienna was thwarted when he was insulted by a colleague. This resulted in a duel that he won but nonetheless shut him out of training. He completed his ophthalmology training in Holland under Snellen. His fame spread and the technique was eagerly adopted in North America and Europe. Early polar explorers used topical cocaine to relieve the intense irritation from UV-induced snow blindness.

A few crystals of purified cocaine in the lower fornix or a cocaine solution instilled to anaesthetise the cornea was revolutionary. The topical cocaine was not sufficient to provide pain relief in procedures involving traction on the iris or enucleation. Subsequent experiments by the American Richard Hall on injecting cocaine to produce a nerve block were more successful. However, injecting limited amounts in the orbit supplemented by heavy sedation produced its own complications.

Orbicularis anaesthesia was introduced by van Lindt in 1914 and improved by Obrien and Atkinson. Elschnig in 1908 injected near the ciliary ganglion. As general anaesthesia improved, techniques of muscle relaxing blocks with local anaesthesia were adopted. Improved surgical results were obtained with small incision phacoemulsification surgery. It was found that topical anaesthesia with minimal sedation produced good results without the complication of heavy sedation or general anaesthesia.

Thus, we have come full circle from topical anaesthesia with cocaine to topical anaesthesia and minimal sedation for rapid, safe and effective anaesthesia.

David Kaufman
Curator, RANZCO Museum

Karl Koller who revolutionised eye anesthesia

Koller operating