A Zest for Eyes

By Dr Jayant V Iyer, Editorial Board Member

Prof Barry Cullen

Prof James F (Barry) Cullen graduated from the National University of Ireland in 1952. Following his fellowship in Neuro-ophthalmology at the Wilmer Institute of the Johns Hopkins Hospital in the US, he was appointed consultant to the Department of Ophthalmology, Royal Infirmary of Edinburgh and the Department of Neurosurgery, Western General Hospital from 1962 to 1994. In 1999, he was invited to the Singapore National Eye Centre (SNEC) to set up a comprehensive service in Neuro-ophthalmology and to assist in the training of ophthalmologists in Singapore. Prof Cullen is currently a senior consultant at SNEC.

Dr Jayant V Iyer – JVI: How old are you, Prof? Based on the zest and enthusiasm which I see you exude, I'm guessing 35, 40?

Prof Barry Cullen – BC: *(laughs)*

JVI: So seriously, Prof, how old are you?

BC: I'm not telling you that, young man. But I've been doing Neuro-ophthalmology for some 50 years now. So figure it out!

JVI: Prof, this is a question some of my fellow residents and some patients often ask me of you… Are you English or Scottish?

BC: I'm IRISH! *(almost gets off his chair…)*

JVI: Okay Prof… Let's move on to safer territory. What got you into Medicine in the first place, and Ophthalmology specifically?

BC: My father got an FRCSEd in 1923. He was a general surgeon with a special interest in Ophthalmology. We didn't have many dedicated ophthalmologists those days. I followed in his footsteps and took up Medicine, and subsequently Ophthalmology.

JVI: How in your opinion has the practice of Ophthalmology changed over the past few decades?

BC: Oh it has changed completely! Largely as a result of an influx of technological advancements. And with increasing knowledge in each specialty there is a greater trend towards sub-specialisation. There hasn't been a huge amount of change in my particular field (Neuro-ophthalmology) however, besides of course the newer and more precise radio-imaging studies – clinical history taking and examination still play key roles.

JVI: Any interesting patient encounters you'd like to share with our readers?

BC: Too many to recollect…

JVI: You have been doing Neuro-ophthalmology as a subspecialty for quite a while then, Prof Cullen?

BC: I had been running the Neuro-ophthalmology service in Edinburgh for many years. I had also been appointed consultant to the neurosurgical service on my coming to Edinburgh in 1962, following my fellowship in the Johns Hopkins Wilmer Institute with Dr Frank Walsh, FRCSEd, the founding father of the subspecialty of Neuro-ophthalmology. So yes, it has been quite a while.

JVI: So what got you over to this part of the world?

BC: I first came to Singapore in 1986 at the invitation of Prof Arthur Lim to advise and assist him in setting up the first formal training programme for Ophthalmology here. My invitation to come to Singapore arose because I was head of the eye department in Edinburgh, where many postgraduate students from this region had traditionally come for training and to sit the Edinburgh fellowship. I was also in charge of the Royal College of Surgeons of Edinburgh (RCSEd) Ophthalmology training and examinations for 30 years, from 1968 to 1998. In 1999, on my retirement from practice in Edinburgh, I was invited by Dr Vivian Balakrishnan, FRCSEd, then Medical Director of SNEC, to come out here for a year or so to set up a Neuro-ophthalmology service in SNEC and in particular to train local ophthalmologists in this specialty. I have been here ever since!

JVI: What does the Neuro-ophthalmology service in SNEC currently consist of at the moment?

BC: Well, besides being a referral place for all problems undiagnosed in general or other specialist clinics…? *(laughs)* Most patients with problems in our area present as urgent cases to SNEC or as direct referrals and walk-ins. We also receive many requests from overseas for opinions of all varieties of neuro-ophthalmological problems.

In an average clinic we see 15 to 20 patients. All our patients have a full neuro-ophthalmological examination at each visit, which includes evaluation of corrected distance and near vision, colour vision, pupillary and motility testing, visual field evaluation and fundus examination. We are particularly dependent on our in-house ancillary services for visual field charting, photography, tomography, etc, and many patients require low vision assessment and registration with local or overseas visual handicapped services. In addition, electrophysiological testing (ERG and VEP) is required in a number of patients and it is only in institutions such as SNEC where all such modalities of evaluation are available, that a fully comprehensive Neuro-ophthalmology service can be provided. Nearly all patients

require neuroimaging so we are in constant communication with our neuroradiological department in the Singapore General Hospital beside us.

Recently an overseas visiting consultant who was about to set up a pioneering Neuro-ophthalmology service in his own country came to see our work and kept a record of all the patients he encountered over a three-week period. He saw a total of 160 cases, the commonest conditions involved being as follows (in order of decreasing frequency): cranial nerve palsies, ischaemic optic neuropathy, brain tumours, pituitary tumours, ocular myasthenia, optic neuritis (well down the list) and 14 other conditions seen once or twice.

JVI: Are there any differences in the spectrum of diseases you see here as opposed to that in the West?

BC: We have found that the pattern of neuro-ophthalmic disease in this region is very different from that seen in Caucasian populations and from that described in the standard textbooks. For instance, optic neuritis here is mainly anterior rather than retrobulbar, and not associated with multiple sclerosis. Giant cell arteritis is virtually unknown here, with only nine proven cases being found over the past ten years. Intracranial tumours are common and generally of large dimension when they reach us. Pituitary tumours in particular are of large size at presentation thus not possible to remove completely, so that recurrence of growth and compression of the visual pathway can occur at any time, and these patients require long term follow up in our clinics.

JVI: I understand you've come up with a quite a few interesting tools to help us in our ophthalmic assessment? Could you run through some of these with us, Prof?

BC: Well I've written quite a few papers, with the 134th paper currently under review for print. I've also come up with the red dot chart that helps one in assessing sectoral red desaturation that may occur in patients with optic neuropathy.

JVI: Is there any opinion you'd like to share on the new training system, Prof?

BC: I have quite a few opinions. But I don't think you can put them on print!

JVI: Any pearls of wisdom for residents both in Ophthalmology and otherwise?

BC: Communicate, communicate, communicate. Communication is key in getting a good history, in getting the patient to understand his condition and in getting across the right management. I've seen many a case of misdiagnosis, mismanagement and patients defaulting on their follow-ups and treatment due to poor communication.

JVI: And any pearls of wisdom for our GPs managing ophthalmic conditions in private practice?

BC: Well, it is difficult to manage ophthalmic patients in an outpatient non-specialist setting. Getting a good history is important and a good dilated fundal examination is important. If in doubt or if unable to perform a proper ophthalmic assessment, it is best that they refer on for appropriate specialist attention.

JVI: Many junior doctors complain of being "jaded" or disillusioned. Do you have any words of advice or inspiration for them?

BC: Don't take up Ophthalmology! *(laughs)* I'm serious, you know.

JVI: Do you ever get tired, Prof? Is retirement an option?

BC: *(laughs)* I've retired three times, you know. Once from the National Health Service at 65 years of age, once from private practice at the age of 70 and the third time from being the chief examiner and chairman for the special advisory board in Ophthalmology at RCSEd. I guess I'll continue working as long as my mind continues to function… or till they kick me out. *(laughs)*

JVI: What do you do in your free time?

BC: I'm a very keen golfer. While I'm in Singapore, I play every weekend. I also play bridge every week. I'm an expert bridge player, if I may say so myself. You need a lot of concentration for these games and it helps keep your mind sharp.

JVI: It's been an honour and pleasure interviewing you, Prof Cullen. I look forward to many more years of working along with you and learning from your experience! SMA