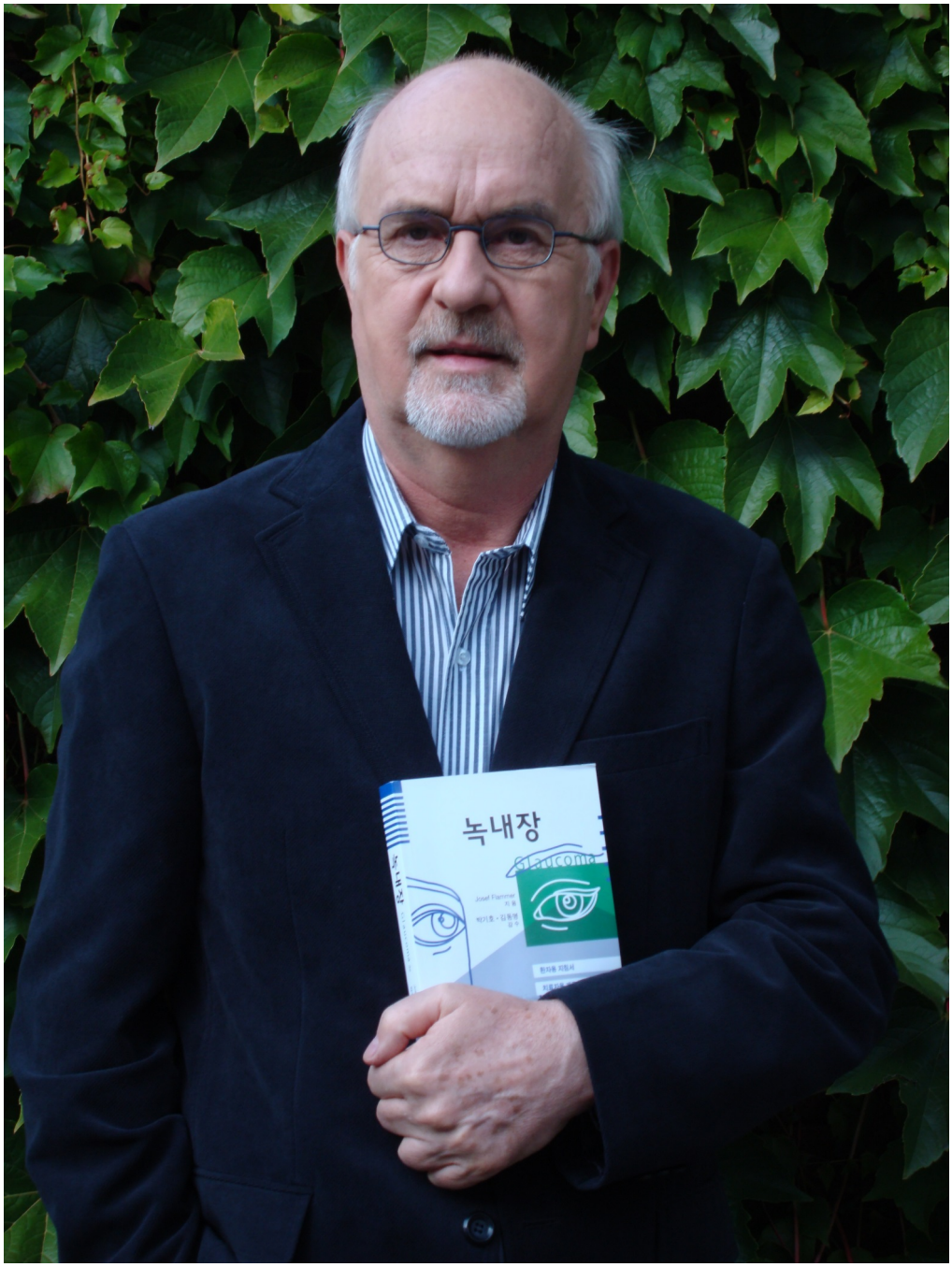
Glaucoma Specialist Blog: The "Glog"

THURSDAY, AUGUST 1, 2019

THE FLAMMER SERIES

Part I
PROFESSOR JOSEF FLAMMER:
BIOGRAPHICAL SKETCH OF A MEDICAL INNOVATOR



Medical terminology has hundreds, if not thousands of terms in remembrance of physicians and scientists who made breakthrough discoveries, did significant contributions or invented something that improved our knowledge, led to a better understanding of disease or paved the way for newer, better treatments. In ophthalmology alone, a number of these "great names" come to mind like the Graefe knife (named for German ophthalmologist Albrecht von Graefe, 1828-1870, the Ishihara plates (Shinobu Ishihara from Japan, 1879-1963) and the Snellen charts (Herman Snellen from the Netherlands, 1834-1908). Or just imagine all the syndromes, from Alport and Basedow and Bielschowsky to Peters (Anomaly) and Wegener (Granulomatosis) and Zwahlen (as in Franceschetti-Zwahlen-Syndrome). One thing these pioneers almost all have in common: they're dead. A syndrome or a technique named for a living person is an absolute rarity in medicine. If that nevertheless happens, it can be seen as proof that the new entity has within a very short time been accepted by the medical community - which often means: it has filled a gap; sometime a gap in understanding, in putting things together to a bigger, more comprehensive picture.

It is exactly that what led to the rather fast establishment of the term Flammer syndrome in ophthalmology and, beyond this discipline, in those fields of medicine where vascular dysfunction is a concern. Josef Flammer, to whom this series in our blog is dedicated, fortunately is alive and well - and active in research, in publishing and in teaching as he always has been in his long and distinguished career.

Josef Flammer was born in April 1948 in what at first glance might be considered picturebook Switzerland. He grew up on a farm in the mountains near the village of Bronschhofen, surrounded by a loving family which with 5 kids (Josef has two brothers and two sisters and they still meet regularly for hiking) was considered small - some neighbors had 12 or 13 children. The country was untouched by the Second World War that had ended just three years before Josef Flammer was born. The surroundings of his childhood - the mountains, the cows and the cowbells - might have seemed idyllic to a visitor but they were hiding a grim reality. Like most families at that time, the Flammers were poor. They lived from what they grew on their land, the age of the supermarket was long in the future. There were no appliances, no telephone, no television and electricity was a newcomer. The children learned to work and to work hard at an early age - it was an experience that proved valuable to Professor Flammer through his entire career and also for his students and collaborators from many different countries and five continents that came to study or work with him at the University of Basel.

Not to be intimidated by seemingly insurmountable hurdles was another lesson his youth taught him and he later would never back down from challenges as well as from people who could not follow his ideas and his sometimes revolutionary concepts. Josef Flammer began to study medicine in 1968 at the University of Fribourg and later in Berne, Switzerland's capital. After finishing medical school, he avoided an early specialization and worked in three different fields which served him well when he later researched pathogenetic concepts that affected more than just one organ. Josef Flammer worked as a young doctor in internal medicine, neurology and ophthalmology before he finally decided to pursue a career in the latter field. He worked at the eye hospital at Berne University and spent a year at the eye clinic of Stephen Drance in Vancouver, British Columbia. Flammer was both a gifted surgeon as well as a prolific researcher whose publications focused, among other topics, on glaucoma. It was in 1987 that he was appointed professor and chair of ophthalmology in Basel, a city and a university where most of his extensive research was done (he retired from that post in 2013 but still maintains a research unit with some close associates). His contributions were already numerous at that time: he had contributed to the development of automatic perimetry for which he established normal values; he studied short term and long-term fluctuations of the human visual field and described influencing factors. Together with Hans Bebie he developed the so-called Bebie curve, which plays a major role in the diagnosis of visual field loss due to glaucoma, he introduced the visual field indices. Flammer was one of the first researchers to demonstrate systemic side effects of locally administered beta blockers in ophthalmology. Together with his team he found that intraocular pressure (IOP) variation is as important - or probably even more important - for the development of glaucoma as are absolute high IOP values.

While still a resident doctor at the University of Berne Eye Clinic he had an encounter he never forgot and that changed his career. "It was a lady working in academics", Josef Flammer remembers today, "around mid-40 and she had been diagnosed with normal-tension glaucoma. What struck me when I shook her hand: her fingers were almost ice-cold. We interviewed her and, yes, she acknowledged that she always had extremely cold extremities as well as some other pecularities like problems to fall asleep. We began to ask ourselves whether there was a connection between her glaucoma and her other symptoms. When we did nailfold capillaroscopy, we detected abnormal reactions of the small vessels to stress."

That patient provided the first clue that after years of intense research and more and more patients with similar symptoms traveling to Basel - since they received little help for their problems elsewhere, like from ophthalmologists who just measured IOP and didn't ask any further questions - led to the concept of primary vascular dysregulation as a disorder affecting small blood vessels everywhere in the human body. It led to what we now know as Flammer syndrome and that according to our current knowledge is a complex of clinical features caused mainly by dysregulation of the blood supply.

Typical symptoms of Flammer syndrome are cold hands or feet, a low blood pressure, occasional white and red patches on the face or neck, and migraine-like pain or a feeling of pressure behind the upper eyelid. In addition, there are symptoms not directly resulting from dysregulations of the blood supply such as a prolonged time needed to fall asleep, a reduced feeling of thirst, high sensitivity not only to cold but also to odors, vibrations, psychological stress or certain medications (e.g., calcium antagonists, beta blockers) etc. Pain and muscle spasms are common. People with Flammer syndrome are usually very precise, highly motivated and successful in their professional life - and they are slim, just the opposite of the phenotype prone to be afflicted with high blood pressure: the obese, the less active with a sedentary lifestyle. Remember - it is not a disease but can predispose to some pathological processes like, for instance, normal-tension glaucoma. There are many people with Flammer syndrome who are otherwise completely healthy - although probably bothered by some of its symptoms like perpetually cold fingers.

Professor Josef Flammer has left his mark in another field: in ophthalmological education - of eye care professionals and of the general public. While he and his coworkers have published hundreds of peer-reviewed articles and numerous books, one of the latter stands out: His "Glaucoma: A Guide for Patients, An Introduction for Care Providers, A Quick Reference" is worldwide the most famous and the most widely read book on that disease. It addresses ophthalmologists and physicians working in other fields, students and others with a certain background knowledge in the natural sciences. "Glaucoma" has so far been translated into more than two dozens languages and has contributed to people's knowledge about this major cause of blindness between Afghanistan and Argentina, between Australia and Sweden - it can be found on the shelves of quite a number of readers in Malaysia, too. Speaking of natural sciences: Josef Flammer's book (together with Maneli Mozaffarieh and Hans Bebie) "Basic Sciences in Ophthalmology: Physics and Chemistry" should be a "Must Read" for every eye care specialist, everywhere.

Professor Flammer has introduced what over the years was one of the most prestigious events in ophthalmological advanced education, the Basel Ophthalmomeeting (it is probably not the same anymore, one might suspect, since he is no longer involved). His activity is undiminished: at the time of this writing, he organizes the first International Ocular Blood Flow summit (OBF, September 2 - 5 in Switzerland).

Respected Professor Josef Flammer: many more happy and healthy years full of scientific achievements!

ABOUT THE AUTHOR
Dr Ronald D. Gerste

Ronald D. Gerste, born in Magdeburg, Germany, grew up and studied medicine (M.D.) and history (Ph.D.) at the University of Düsseldorf, Germany. He has worked as an ophthalmologist, but over the years moved to the field of medical publishing. Working for a number of journals and publishers, based since 2001 near Washington DC where he is acting as a science correspondent. Have the privilege of being associated with and a friend of Prof. Flammer for more than

20 years; was part of the team that translated his great book "Glaucoma" into the English language. He has written repeatedly on Flammer Syndrome in German-language journals. Also the publicist for the Swiss Academy of Ophthalmology (SAoO), the German Society for Cataract and Refractive Surgery (DGII) and the German Glaucoma Awareness Association (Initiativkreis Glaukom).

Posted by **Syed Shoeb Ahmad**