Sir Leonard Rogers: pioneer in tropical diseases

The Indian Medical Service, whose senior medical staff in the days of the British Empire were almost solely confined to graduates of the medical schools of the UK, produced a series of brilliant clinicians, laboratory investigators and frequently a combination of the two. Among this group, the name of Leonard Rogers, who was born 150 years ago this year, stands high. His numerous contributions include his life-saving work on the use of intravenous saline in the treatment of cholera, the introduction of the first effective treatment of amoebic dysentery with emetine and the effective treatment of amoebic liver abscess by means of needle aspiration.

Leonard Rogers was born in Helston in Cornwall on 18 January 1868, the seventh son of a Captain in the Royal Navy. After education in local schools and Plymouth College, Leonard determined on a career in medicine. He worked for a few months apprenticed to a local medical practitioner, then entered St Mary's Medical School, London in October 1886. Here he excelled in pathology and bacteriology, winning undergraduate prizes in these subjects and carrying out laboratory work on his own. He obtained his Membership of the Royal College of Surgeons and Licentiateship of the Royal College of Medicine diplomas in 1891, the following year obtained his Fellowship of the Royal College of Surgeons and later that year graduated Bachelor of Medicine and Bachelor of Surgery from the University of London.

In 1893, Rogers joined the Indian Medical Service with a view to a career in research. He passed through the course for officers at the Army Medical School at Netley, where he was taught by Professor Almroth Wright. Rogers sailed for India in July of that year, first for duties on the military side of the service, aiming for transfer to the civilian branch of the service and for research. In 1896, Rogers was posted to Assam to investigate and deal with an epidemic of kala-azar. Although his laboratory work was inconclusive, his practical public health work was effective.

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In 1900, Rogers was transferred to the civil branch of the service, having gained his London University Doctorate of Medicine and his Membership of the Royal College of Physicians while on leave in London. In 1906 came his promotion to Professor of Pathology in Calcutta. He extended his laboratory work by daily visits to the wards in the medical college and other hospitals. He took careful notes in shorthand in order to correlate clinical features with his post-mortem observations.

Rogers succeeded in culturing the recently discovered parasite of kala-azar, which had been isolated by Sir William Leishman (another star of the Indian Medical Service). Rogers correctly suggested, by analogy with sleeping sickness, that antimony, delivered as intravenous tartar emetic, would be effective in this disease. He also suggested that the disease was transmitted by a biting insect – 40 years later this was shown to be a sand fly.

Rogers clearly differentiated amoebic dysentery from the bacillary dysenteries, advocated its treatment by emetine and introduced aseptic needle drainage of amoebic liver abscess rather than drainage by open surgery, which all too frequently proved fatal. After quinine for malaria, emetine can be regarded as the second effective specific 'antibiotic' to have been introduced into medical practice.

Epidemics of cholera, with fulminating watery diarrhoea, were common in crowded communities living in unsanitary conditions, a common situation in the India of those times. The mortality of cholera was high because of the associated massive loss of fluids and electrolytes. Intravenous saline infusion was first used by Thomas Latta at the Drummond Street Hospital in Edinburgh in the epidemic of cholera in that city in 1831–2. He published his work in the *Lancet*, but his untimely death in 1833 and the temporary disappearance of cholera in the UK over the next few years meant that his work was overlooked. It was Rogers who re-introduced the effective use of large quantities of intravenous saline in the treatment of this condition. He developed 'Rogers' fluid' – saline with additional potassium and calcium salts – which saved innumerable lives in subsequent outbreaks of the disease.

In 1914, Rogers married a nursing sister in Calcutta. On their honeymoon in Darjeeling, he worked on the plans for the Calcutta School of Tropical Diseases and its attached Carmichael Hospital for Tropical Diseases.

Rogers retired from the Indian Medical Service in 1921. Back in England, he commenced consulting practice, continued research and lectured in tropical medicine at several London medical schools as well as serving on the Indian Office medical board.

Rogers' important work was publicly recognized. He was knighted in 1914 and appointed Knight Commander of the Star of India in 1932. In 1916 he was elected a Fellow of the Royal Society. He was slim and wiry, a non-smoker and teetotaller. He attributed his success in life to his strict religious upbringing. He died, after a fall, in 1962. A truly remarkable physician and medical scientist. **BJHM**

Conflict of interest: none.

Professor Harold Ellis is Emeritus Professor of Surgery, Guy's, King's and St Thomas' School of Biomedical Sciences, London SE1 1UL