

DENIS BURKITT – A LIFE OF SERVICE

By

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I have long been familiar with the term Burkitt's Lymphoma, which refers to a form of, predominantly, childhood cancer that occurs principally in Africa, but I was unaware until recently that Burkitt was an Irishman. He devoted his adult life to helping humanity through medical science and made two remarkable contributions.

Denis Burkitt was born near Enniskillen, Co. Fermanagh in 1911. He was not a promising student at primary and secondary school, so much so that a tutor warned Denis's father that his son might fail to complete a university degree.

Denis applied to Trinity College Dublin to study engineering, but with no great sense of commitment. During his first year at TCD he joined a Christian society and he decided to commit his life to Jesus Christ. This gave him a new motivation and he began to feel a calling to devote his life to medicine. He changed over to study medicine and his academic performance jumped from lacklustre to near the top of the class. Following graduation he continued with surgical training and obtained Fellowship of The Royal College of Surgeons.

Burkitt served as an army surgeon for 5 years during World War Two and during this time he married Olive Mary Rogers. East Africa was one of his army postings and after the war Denis applied to the Colonial Medical Service for work in East Africa. In 1946 he joined the service in Uganda as a government surgeon.

In 1957 Burkitt became very interested in a lethal cancer of the lymphatic system, which he officially described in 1958. This form of cancer, now called Burkitt's Lymphoma, is a tumour of the lymphocytes which are part of the white cell population of the blood and the lymph glands. The cell type affected is the B lymphocyte which normally fights infection by producing antibodies.

Burkitt's Lymphoma shows great geographical variation. It is the commonest childhood tumour in equatorial Africa but is very rare in Western countries. In African Burkitt's Lymphoma the jaw is the commonest site of the tumour. In the non-African lymphoma the tumour commonly arises in the abdomen.

In 1961 Burkitt and two colleagues went on a famous 10,000 mile safari around Africa to plot the distribution of this form of cancer. After a wide-ranging study of hospital and physician's records



Denis Burkitt

across the continent Burkitt was able to demonstrate that the disease commonly occurs only in mosquito-ridden parts of equatorial Africa where malaria and yellow fever are also endemic. This suggested that an insect carried the infectious agent responsible for the disease. Burkitt's research led to the discovery that the lymphoma is linked to the presence of Epstein-Barr virus in children whose immune system is weakened by chronic malaria.

Burkitt later helped to develop an effective chemotherapy for the disease. The lymphoma is a very rapidly growing tumour but it responds well to treatment. The drug cyclophosphamide is the treatment of choice for African children and it is so effective that one dose may be enough to make the tumour disappear. The enormity of Burkitt's contribution can be gauged from the statistic that Burkitt's Lymphoma accounts for over half the childhood cancers in Africa.

It is both instructive and amusing to note that Burkitt's famous 10,000 mile safari was funded by a grant from The Medical Research Council in the princely amount of £250. While this money was necessary to fund the trip, what really got the job done was the drive and commitment to do good. Big money support for research is great but it must be coupled to a zeal to do good on the part of the scientist if it is to be profitably spent.

In 1962 Burkitt returned to The Medical Research Council in England. Hugh Trowell also returned to England at that time after many years of medical missionary work in Uganda. In the late 1960s, Burkitt and Trowell opened up a new area in nutrition when they developed the 'fibre hypothesis'.

They had learned in Uganda that dietary fibre, although non-essential to life and only a minor source of energy, was vital in preventing disease. Native Ugandan hospital patients rarely displayed colon cancer, heart disease, or diverticula (pouches) in their colons. The native diet was rich in fibre and unrefined plant foods. By contrast, the British residents in Uganda, who ate a low-fibre diet with much refined white bread and meat, showed a high incidence of colon cancer, diverticula and heart disease.

Burkitt and Trowell wrote articles in the late 1960s and early 1970s pointing out the value of high fibre diets. In particular, Burkitt wrote a book 'Don't forget fibre in your diet' (1979) that spurred a popular revolution in diet.

It is now widely accepted that it is healthy to include lots of whole grains, beans, lentils or peas, dried and fresh fruits, fresh vegetables, and nuts in our diet. This prevents constipation, helps keep the colon healthy and lowers blood cholesterol.

Denis Burkitt died in England in 1993. He relieved the world of much misery, directly by providing a cure for Burkitt's Lymphoma, and indirectly by preventing so much disease through popularising the high-fibre diet. Despite his great work and the many honours he received, Denis remained a modest and humble man. When asked to autograph a book he used to write:-
'Attitudes are more important than abilities
Motives are more important than methods
Character is more important than cleverness,
And the Heart takes precedence over the head'.

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