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Charles Beer PhD

In 1954, Dr. Charles T. Beer joined forces with the revered Dr. Robert Noble leading to a discovery that would forever change his life and impact millions of cancer patients worldwide. Their combination of expert knowledge and strong research abilities culminated in the first major Canadian breakthrough in cancer chemotherapy. Together, Drs. Beer and Noble made a profound impact on medical history in Canada and are celebrated as champions in cancer research.

When Dr. Beer arrived in Dr. Noble's laboratory at the Collip Medical Research Laboratory at The University of Western Ontario, Dr. Noble had been testing an extract derived from the leaves of a Madagascar periwinkle plant, Vinca Rosea. At the time, diabetic researchers were looking for a more readily available alternative to insulin which was still being extracted from the pancreas of animals.

Dr. Noble's research focused on potential anti-diabetic properties of the periwinkle plant extract, however, it was found to have little effect on the blood sugar levels of experimental rats. Interestingly though, laboratory technologist Halina Czajkowska observed that the extract destroyed the rats' white blood cells and bone marrow. This finding raised the possibility that the extract could be used to treat leukemia, a cancer characterized by high counts of abnormal white blood cells.

Four years later, Dr. Beer and Dr. Noble successfully isolated "vinblastine", a potent alkaloid extract that blocked cell division and thus had anti-cancer abilities. Dr. Beer's biochemical expertise and his abilities were crucial to the isolation and purification of the anti-cancer drug. Not only did vinblastine set a significant milestone in the development of cancer chemotherapy, it was the most effective treatment available for Hodgkin's lymphoma.

The purification process was patented in the name of Drs. Beer, Noble and doctoral student Dr. J.H. Cutts. The drug was made widely available in partnership with the university and the Eli Lilly Company, significantly impacting the lives and treatment of millions of cancer patients worldwide. Vinblastine remains as one of the most useful chemotherapy agents and is used in conjunction with other drugs to treat various forms of cancer including non-small cell lung cancer, melanoma, and breast, bladder, brain and testicular cancers. A primary treatment for Hodgkin's disease, it is also used for histiocytosis, a group of rare diseases which present as significantly increased in histiocytes immune cells.

Following this significant medical discovery, Dr. Beer began a distinguished career in research and teaching at the University of British Columbia, where he became a Professor of biochemistry in 1960. He continued his reputation of innovative biochemical cancer research, including studying the role of prolactin in cancers of lymphoid origins. After his retirement, Dr. Beer became a Professor Emeritus at the University of British Columbia, remained an honorary Senior Scientist in the Department of Cancer Endocrinology at the BC Cancer Agency, and was appointed as a Member of the Order of Canada in 2003.