Research outline

The management of pituitary disease is a highly specialised area of medicine requiring expertise from a team of specialist neuro-endocrinologists, neurosurgeons, ENT surgeons, neuropathologists, neuro-radiologists as well as radiation and medical oncologists. For almost 90 years St Vincent's Hospital has led the country in looking after patients with pituitary tumours and other complex pituitary conditions, and in groundbreaking pituitary research. Sir Douglas Miller was the first neurosurgeon in Australia to perform pituitary surgery and neurosurgeons since have championed surgical techniques including cryogenic (freezing) methods in the 1960s, microsurgery in the 1990s and modern endoscopic approaches of the past decade. The first director of the Garvan Institute of Medical Research, Professor Les Lazarus, set up Australia's first endocrinology laboratory developing early testing to detect and elucidate the function of pituitary hormones. Professor Ken Ho, in the 1980s-90s, discovered the important role growth hormone plays in metabolism. In 2011 A/Professor Ann McCormack formalised the St Vincent's multidisciplinary team and now chairs a team that looks after the largest volume of pituitary cases in Australia. Her focus of research has been on better detection and management of aggressive pituitary tumours, and she has pioneered genetic testing for pituitary tumours in the era of genomic sequencing.

Early research by A/Professor McCormack established the crucial role of temozolomide, an oral chemotherapy, as the first active treatment available for patients with aggressive pituitary tumours and carcinomas. This research has directly increased the survival of patients with such tumours and resulted in landmark publications and invitations to present internationally on her work. Since then, she has established the importance of genetic testing in identifying patients with pituitary tumours that may carry genetic abnormalities that predispose to the development of pituitary tumours. She has published several papers with the St Vincent's pituitary team illustrating excellent surgical outcomes across a range of pituitary tumour types and commentaries in leading medical journals on the importance of pituitary centres of excellence. She has worked with international colleagues to develop guidelines on management of aggressive pituitary tumours, prolactinomas and Cushing's disease. Recent research has focussed on development of a model based on clinical, imaging and pathological characteristics of pituitary tumours that may better predict the risk of aggressive tumour behaviour. She has also begun to examine the role of the immune system in the development of pituitary tumours.

Rare disease day: uncovering novel treatments for pituitary tumour - St Vincents Clinic