

## Award Lectures

### ESSO Award Lecture

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#### **Cancer surgery: on-hold-on**

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Undoubtedly, current ongoing research in cancer will result in many major breakthroughs in the years to come.

In fact the perspective is that cancer, like diabetes and hypertension, will become a chronic manageable disease. Some predict development in cancer surgery to be placed on hold or even to become redundant.

For the time being, however, it seems that surgery will retain or even expand its key position in the treatment with curative option for many solid organ malignancies.

Over the past two decades, surgery has witnessed an explosion of diversification and subspecialisation resulting in remarkable achievements. As for cancer treatment, this explosion has evolved into the development of two pathways.

Firstly, the surgical oncologists, who focus on cancer as a disease as the basis of their approach to cancer. Secondly, the organ specialists, who follow the more classic approach to cancer, through organ oriented specialisation. These two seemingly contradictory views have created for some period a field of tension among surgeons dealing with cancer. However today acceptance is growing that both concepts are rather complementary with a tendency towards integration of surgical specialties dealing with cancer treatment.

This trend is fueled by the growing evidence that the quality of surgery, hence the surgeon him/herself, is to be considered as an important prognostic factor with profound influence on outcome. More than ever specialisation, networking and regionalisation are seen as critical issues in improving quality of surgery in Europe. But there is also an urgent need for reengineering surgical education. In depth training in molecular biology, genetics and immunology should become part of the basic training programme for prospective surgeons.

This will allow them not only to keep up with the pace of expected developments in cancer research and therapy but also to actively participate in developing new therapeutic strategies. Through such knowledge, surgeons will change their approach to cancer from blind mutilating and ablative surgery into a more fundamental and thus more functional surgery based on multidisciplinary i.e. integrated but equal partnership.

Improving quality of surgery therefore might well be the foremost important if not the single factor significantly improving outcome of cancer treatment in the next decade. Surgeons hold on.

### SIOP Award Lecture

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#### **Mortality and morbidity in adult life as a consequence of radiation-induced growth hormone deficiency in childhood**

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Longterm survivors of childhood cancer who have received cranial irradiation, either for brain tumours or acute lymphoblastic leukaemia or total body irradiation in preparation for bone marrow transplant are at risk of developing deficiency of one or more pituitary hormones. Growth hormone (GH) secretion is the most vulnerable with doses as low as 1800cGy shown to result in GH deficiency (GHD) many years later. Severity and speed of onset of GHD is dependent on total radiation dose, number of fractions and fraction size.

The characteristics of young adults who received cranial irradiation during childhood for a malignancy closely resemble those of adults with GHD from other causes. Both groups have increased fat mass; reduced lean body mass and consequently strength; reduced bone mineral density; an adverse lipid profile; and impaired quality of life. GHD has been demonstrated to play an aetiological role in the development of these clinical and metabolic abnormalities, although there are clearly additional factors involved. In our own study cohort, GH replacement has resulted in improvements of similar magnitude to those observed in adults with childhood-onset GHD resulting from a primary pituitary pathology. More importantly, all the patients have expressed a desire to continue GH therapy.

In GH-deficient children, any additional adverse factors affecting linear growth provide a greater reason for GH replacement. Similarly, when considering GH replacement for adults with radiation-induced GHD, the additional irreversible factors contributing to the abnormal body composition, osteopaenia, impaired quality of life and adverse cardiovascular risk factor profile provide an even greater reason for GH replacement in adulthood. The aim of GH therapy in adult survivors of childhood cancer is twofold; to induce patient-perceived benefits in quality of life and to prolong life expectancy. These patients are no longer expected to die from their malignant disease but rather from the deleterious effects of GHD on cardiovascular risk, if left untreated.