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In this issue

Increased survival rates for osteosarcoma of the extremities

Adjuvant and neoadjuvant chemotherapy, introduced in the early 1970s, have significantly improved the long-term survival rate (from 20% to 60%) for patients with high-grade osteosarcoma of the extremities. Simultaneously, the frequency of limb salvage surgery has increased with a corresponding decrease in amputation rates. However, according to Bacci and colleagues, the 5-year event-free survival (EFS) rates calculated in many studies are based on cases where follow-up was often less than three years. Also most studies have not reported on either the post-relapse treatments with patient outcome after developing metastases/local recurrence; or details of the surgical treatment, margins and complications. In this issue of *EJC*, Bacci and co-workers rectify this deficit by reporting the long-term results achieved in a large series of patients in a single institution. Patients (1148) with non-metastatic osteosarcoma of the extremity were treated with 4 different protocols of adjuvant and 7 different protocols of neoadjuvant chemotherapy. In the period from 1972 to 1999 the rate of limb salvage increased from the 20% to 71% and the 5-year EFS and overall survival (OS) were 57% and 66%, respectively. The 10-year EFS and OS were 52% and 57%, respectively. These results significantly correlated with serum alkaline phosphatase levels; the type of chemotherapy (adjuvant *vs*. neoadjuvant); and with histologic response to pre-operative treatment.

Childhood cancers: a common aetiology?

The aetiology of most childhood tumours remains unclear. Genetic predisposition is reported to be directly associated with about 5% of cases, whilst environmental exposure or host response to such exposure (genetically determined) is proposed for the majority. If environmental factors are involved, childhood cancer cases might be expected to exhibit a non-random geographical distribution. Space–time clustering, as seen in infectious diseases, occurs from irregular distribution of cases simultaneously both in time and space and is indicative of a common environmental aetiology. Space–time clustering has previously been shown in cases of childhood leukaemia, central nervous system (CNS) tumours, soft tissue sarcoma and Wilms' tumour. In this issue of *EJC*, McNally and colleagues continue this work to show significant cross-clustering between cases of leukaemia and CNS tumour and in particular between cases of acute lymphoblastic leukaemia (ALL) and astrocytoma. No cross-clustering was seen with Wilms' tumour and soft tissue sarcomas with any other malignancy. The authors highlight that their results are consistent with a common, possibly infectious, aetiological mechanism for ALL and astrocytoma.

Oestrogen receptor expression in breast cancer

Oestrogens have a key role in breast cancer genesis and progression. The effects of estrogens are transduced by the activation of oestrogen receptors alpha and beta (ERα, ERβ). In normal mammary tissues ERβ is the predominant receptor. However, in breast tumours a shift to ERα overexpression is normally seen in 70% of cases. The molecular mechanism underlying the upregulation of ERα, a significant initial event in breast cancer biology, is not clear. In this issue of *EJC*, Jarzabek and colleagues have analysed ERα and ERβ mRNA and protein expression in 41 primary breast cancers and surrounding control tissues. ERα mRNA levels varied more among samples than ERβ; 70% of tumour samples expressed full-length ERα; ERα was localised exclusively to the nucleus, whereas ERβ was observed to have cytoplasmic and perinuclear expression in both control and tumour samples; unlike ERβ, the expression of ERα increased with age; and Erα expression correlated positively with progesterone receptor and negatively with proliferation marker Ki-67. The authors conclude that ERα and ERβ are differently regulated in breast cancer where Erα is more deregulated than ERβ.

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