multi-attribute utility function for the Health Utilities Index Mark 2 system [4], the mean global utility score for a control group [5] is 0.95 and for survivors of standard risk ALL is 0.96, but for survivors of high-risk disease it is 0.90.

Furthermore, the remarkable (and unexplained) absence of survivors of brain tumours in the Finnish cohort avoids the inclusion of a group of individuals who bear a heavy burden of morbidity, as we have also reported [6, 7]. These reports [3, 6, 7] were published before Apajasalo and associates resubmitted their manuscript.

The Finnish study provides an overoptimistic assessment of HRQL in survivors of cancer in childhood, and is not generalisable to that population. It can be argued that 'the tale is in the tail'—the subjects with the important levels of morbidity are often to be found in the right-hand tail of the distribution of HRQL scores, and measures of central tendency (e.g. mean score) can often obscure important characteristics of the sample.

Finally, the statement that 'the patient is known to be the most appropriate source of this information' is overly simplistic, and the concept of 'multiple truths' is an important and valid basis for interpreting results from various perspectives [3].

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Breast Cancer and HIV Infection: Two Case Reports

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BREAST CANCER is, as yet, not thought of as an HIV associated cancer. However, several cases of this association have been reported [1–4] and an epidemiological link may exist. Above all, HIV infection may influence the course of breast cancer [1]. We describe here two cases of breast cancer in HIV infected women.

Patient 1 was diagnosed HIV seropositive in 1985 when she was 36 years of age. Because of a suicide attempt, she received a blood transfusion in 1982. In 1993, as the HIV infection was still asymptomatic, she presented with a right breast mass classified as T2N1b. Radical modified mastectomy was performed. The histological examination showed an infiltrating ductal carcinoma grade 3 and 5 positive nodes out of 8. Oestrogen and progestin receptors were positive. Chest radiograph, bone scan and liver ultrasound were negative. The patient then received locoregional radiotherapy and six cycles of FEC (5-fluorouracil, epirubicin, cyclophosphamide) chemotherapy without any major toxicity. The CD4 count before and after chemotherapy was 700 and 234 mm^3, respectively. Seven months after completion of chemotherapy, the patient developed an isolated histologically proven bone metastasis. Treatment with 5-fluorouracil (5-FU) and vinorelbine (FUN) was initiated in August 1994 with a CD4 count of 230. The first course was complicated by grade IV stomatitis and leucopenia, so subsequent courses were administered at a reduced dose (30%) and were well tolerated.

In February 1995, the disease was evaluated as stable, the CD4 count was 223 and the patient was given an LHRH (luteinising hormone releasing hormone) analogue until September 1995, when she progressed (bone, skin, nodes). She is now receiving semi-intensive chemotherapy with epirubicin and cyclosphosphamide without unexpected toxicity.

Patient 2 was diagnosed HIV seropositive in 1990 (heterosexual transmission). She was still asymptomatic in 1993 when zidovudine was started because of a low CD4

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count (234 mm^3). In November 1994, when she was 35 years of age, she presented a left breast mass classified as T2N1b. She underwent a modified radical mastectomy. Microscopic examination revealed a poorly differentiated ductal carcinoma and 8 positive nodes out of 8. The patient received radiotherapy which was well tolerated and completed six courses of FUN with reduced doses of 5-FU. There was no major toxicity and the CD4 count remained stable (160 mm^3). Six weeks after completion of adjuvant chemotherapy, she developed carcinomatous meningitis and one month later bone marrow involvement. She died in August 1995, 10 months after diagnosis.

Both our patients were diagnosed with poor prognosis breast cancer at a young age when they were still asymptomatic for HIV infection. Chemotherapy was feasible and quite well tolerated. Both patients had a very early metastatic recurrence after completion of adjuvant treatment, and the clinical pattern for the second case (isolated meningitis first) was very unusual.

Our observation, as some have previously reported [1], suggests that HIV associated breast cancer may have atypical characteristics, such as occurrence at earlier age, marked aggressiveness and unusual behaviour.

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Intramedullary Spinal Cord Metastasis from Carcinoma of the Lung: Detection by Positron Emission Tomography

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INTRAMEDULLARY METASTASIS to the spinal cord is uncommon and often difficult to diagnose. We report a patient in whom an asymptomatic intramedullary metastasis was diagnosed by positron emission tomography. A 59-year old man with a moderately well-differentiated squamous cell carcinoma involving the left main bronchus, without evidence of disseminated disease, was treated initially by left pneumonectomy. He was well for 11 months, but then developed persistent right upper quadrant abdominal discomfort and occasional right shoulder tip pain. Abdominal computed tomography demonstrated a large, low-density, poorly marginated area in the right lobe of the liver, and metastatic squamous cell carcinoma was confirmed by fine-needle aspiration biopsy.

Treatment with regional chemotherapy via the hepatic artery was planned, but prior to this whole body fluorodeoxyglucose positron emission tomography (FDG PET) scanning was performed. Neurological examination at the time of the PET scan was normal. FDG PET demonstrated a focus of markedly increased tracer uptake in the upper neck, as well as increased uptake in the liver metastasis (Figure 1a). Magnetic resonance (MR) imaging of the region revealed an expanding, dorsally situated intramedullary spinal cord lesion at the C2–C3 level (Figure 1b). The cervical intramedullary metastasis was treated with radiotherapy and the hepatic metastasis with regional infusion chemotherapy via the hepatic artery.

PET differs from conventional imaging techniques in that it measures metabolic activity in tissues using short-lived radiotracers. Thus, PET demonstrates physiological and biochemical function rather than anatomical detail as demonstrated by computed tomography or MR imaging.

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