progress with the use of multiagent chemotherapy and local control measures, 30–40% of patients with localized disease and 80% of patients with metastatic disease die due to disease progression. Recognition of prognostic factors has important implications for treatment stratification and the identification of new, effective therapeutic strategies is important to improve the prognosis of these patients.
In patients with localised disease, site of the primary disease (trunk or extremity) had a prognostic impact before that surgical approach was recommended in the management of the tumour. The impact of age at onset of disease has been debated. Several studies report a more favourable prognosis for younger patients. These different outcome could sometimes be related to the modality used for local therapy in younger and older patients. But when using similar treatment modality, the outcome were similar in younger and older patients.
In univariate analyse, the tumour size appears to be a significant factor both for local tumour control and survival. The modality used for local therapy has also a significant impact on the prognosis. The patients who undergo surgery fare significantly better than the patients who do not. Surgery impacts mainly on the local tumour control rate and does not impacts on the occurrence of metastases. In multivariate analyse, the histological response to induction chemotherapy is the main prognostic factor of survival in localised Ewing tumours treated with chemotherapy alone before surgery whereas, the size of the primary is the most predictive of outcome in patients who do not undergo surgery. These 2 factors (histological response to chemotherapy in patients who have surgery and size of the primary in patients treated by radiation therapy alone) could be used to define 2 risk groups with a very different outcome. The standard-risk group consists of patients who either demonstrate a good response to chemotherapy or do not undergo surgery and have a small tumor at diagnosis. The high-risk group consists of patients who either demonstrate a poor histological response or do not undergo surgery but have a large tumor at diagnosis. This results contributed to the definition of the risk groups in the on-going EURO-EWING trial.
With the use of molecular techniques in the staging of ESFT, it is evident that a significant proportion of patients with localized disease (20–30%) have micrometastatic disease in the bone marrow detected by PCR. The prognostic significance of this microstaging has been demonstrated within a French protocol using a mild chemotherapy. It is under evaluation within the EURO-EWING protocol based on a more intensive chemotherapy.
The most important prognostic factor remains the presence of metastatic disease at diagnosis. Advances in the treatment have only resulted in a very modest improvement in the outcome of those patients. The EURO EWING study is addressing in a randomised trial the role of high dose chemotherapy (Busulfan + melphalan) in comparison to conventional chemotherapy associated with lung irradiation in patients with lung-only metastases. The study is still in progress. For patients with multifocal bone disease, new therapeutic approaches should be considered.

98 INVITED

Osteosarcoma

S. Bielack. *Olgahospital, Pediatric Oncology, Hematology, Immunology, Stuttgart, Germany*

Osteosarcoma is the most frequent primary cancer of bone. When treated by surgery alone, it is almost invariably followed by metastatic dissemination and death. This dismal prognosis can be improved dramatically by combining surgery with multidrug chemotherapy. Today, approximately two thirds of patients with localized extremity primaries can achieve long-term survival with intensive multimodal therapy. Large tumor size, axial tumor site, and primary metastases are adverse prognostic factors, as is poor histological response to preoperative chemotherapy.
Large scale multinational intergroup trials are under way for both pediatric and adult patients. As previous attempts to identify effective salvage regimens for poor responders have been largely unsuccessful, these studies are again striving to improve outcomes for this group of patients. Also, biological therapies are being evaluated as adjuncts to chemotherapy. Even with very intensive chemotherapy, incomplete surgery is still associated with dismal outcomes. Innovative radiotherapeutic techniques are increasingly used to achieve local control in inoperable situations. Prospective, multi-institutional and international trials are essential in guaranteeing that as many patients as possible can benefit from modern, efficacious interdisciplinary therapeutic regimens and that further progress can be made.

Wednesday, 2 November 2005

SIOP Europe Special session

99 SIOP-Europe Award

The European Branch of the International Society of Paediatric Oncology (SIOP Europe) Award – Questions on treatment of children with cancer

P.A. Voute. *Emma Kinder Ziekenhuis, Academic Medical Centre, Amsterdam, The Netherlands*

The treatment of cancer in children, leukemias, lymphomas and solid tumours, has shown a considerable progress in the last 40 years. Treatment in the 1960s gave cure rates of 30%, nowadays in 2005 it is 70% for the total group of malignancies. But this 70% was already reached in the 1980s. In the last 20 or more years the treatment has been intensified for most of the malignancies, also for these patients groups that already reached a 60−70% cure. This intensification has considerable added to toxicity, but not clear to efficacy. A toxicity we are all aware of seeing the amounts of late effect studies that are performed. But do we use the data coming out of these late effect studies to see if treatments can be changed to prevent the late complications? Are we as doctors not focussed on reaching the 100% cure, without taking the responsibilities for the patients that can be cured with lesser treatments?
Is the quality of life after treatment, not just as important as life as such for the children cured of cancer?
We can ask ourselves these questions since the 1980s when 70% cure of cancer was reached for children.
Should we not have to focus our treatment efforts first on the 70% patient group, how to diminish treatment to prevent late effects?
Is it necessary to use certain drugs as for example ifosfamide when the less toxic drug cyclofosfamide is sufficient?
Should we not be much more critical in using anthracyclines in treatment protocols?
Evidence based studies on treatment results have to be done and are done now. Risk group strategies for the different diagnostic patient groups are obligatory to prevent normal risk group patients the heavy treatment protocols. But most of all it is to be expected that in the near future treatment protocols will be able to use the data coming from a line of investigation on genetic abnormalities. Research on targeted therapy, using the identification of gene abnormalities driving tumour development.

Keynote Lecture
Information age and surgical oncology

100 INVITED

Information age and surgical oncology

J. Marescaux. *IRCAD/EITS Institute, University of Strasbourg, Strasbourg, France*

Telecommunications, multimedia and computer technologies will introduce marked changes in the management of cancer. New modalities in the representation of patient's medical records using computer technology products and services allow unlimited cross-sharing of information. Education taught through multimedia methods, and through the Internet is available anywhere and any time just like surgical simulation, robotics and virtual reality. Thanks to computer and IT technologies, surgeons will be able to acquire, assess and validate new surgical procedures or concepts from any geographical location. Live demonstrations shared via videoconferencing facilitate mental development through the acquisition of the cognitive aspects of surgical procedures. Virtual reality is a major improvement in the processing of medical imaging. As a result, the interpretation and the simulation of therapeutic approaches to patients with cancer are facilitated through transparency, navigation and manipulation. The Internet eventually offers uninterrupted communication links between healthcare providers (teaching, training or multidisciplinary telementoring included). Computer and IT technologies will undoubtedly contribute to standardized cancer treatment modalities and determined guidelines for good clinical practice worldwide.