

Tumor cells could still be found in the BM after initial chemotherapy in two patients: both demonstrated rapid clinical progression.

**Conclusions:** 1) RT-PCR positive circulating blood cells have no prognostic value in localised ET. 2) Successive analysis of BM by RT-PCR might be useful for the monitoring of response to treatment and ultimate prognosis.

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POSTER

### Port-Systems in children with malignancies; Our experience with 111 children under cancer management

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**Background:** Children with malignancies, especially those with high malignant grades, need intensive chemotherapy as well as supportive therapy. In order to accomplish this, one needs a very reliable venous access. From the whole range of the to date available indwelling devices e.g. Port-Systems, Hickman-catheters, central venous catheters, etc., one has got to take into consideration the advantages and disadvantages of the devices so as to fulfil the respective requirements. For our requirements (a sparsely populated federal state with a very large collecting area, we decided to use the Port-Systems.

**Methods:** 123 Port-System implantations were performed in 113 pediatric patients (average age = 7.1 yr) with malignancies. Sixty-seven (67) patients (60%) had solid tumors and 44 suffered from systemic malignancies. In most of the cases, the devices were implanted after confirmation of the diagnosis. The following company Port-Systems (age-related), in order of frequency, were used: Braun/Dexon (n = 106), Vygon and Fresenius. Sixty-eight (68%) percent of the patients received the Port-Systems in the cephalical vein, 28% in the internal jugular vein; in rare cases insertions were performed in the external jugular and/or the subclavian vein. Most of the systems were implanted in the right veins. The average operation time, in general anesthesia, was 45 minutes. A special leaflet was developed in order to ensure certainty and uniformity in the maintenance of the devices through the well-trained staff.

**Results:** The average dwelling time of the Port-Systems was 529 days (max. 2308 days = 77 months); the cumulative duration for all the systems totalled 65099 days (= 178.4 yr). The cumulative dwelling time of the devices increased during the examination period (1989 to 1995) from 8000 to 12506 days; significant average increase in dwelling time from 277 to 299 days. We could not establish a significant difference between patients with solid tumors and those with systemic malignancies. The incidence of infection was 0.67, that of irreversible occlusions 0.31 and of port-defects 0.26/1000 catheter days. The bacterial port-colonisation and infection was mainly caused by *Staphylococcus epidermidis*. Occlusions were removed with the help of Urokinase and the defective systems were totally removed.

**Summary:** The treatment and management of pediatric malignancies have been made easier with the introduction of the Port-Systems; these devices have been accepted both by the patients and their parents. However, in order to avoid complications and thus guarantee long life, special catheter care should be a prerequisite. The co-operation and education of the parents play a pivotal role in regards the handling of the systems. Our results show that intravascular devices can be used throughout the whole therapy period, even days/weeks/months after therapy, without complications.

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POSTER

### External beam radiation (EBRT) for retinoblastoma (RB): The Hospital Vall d'Hebron experience and review of literature

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**Purpose:** To analyze treatment results and patterns of failure following EBRT for RB in our institution and to compare them with previously published data.

**Methods:** 29 patients with RB received EBRT between January 1985 and December 1995. The mean age was 14 m. (6 m.-4 y.). 36 eyes were treated, 32 with a preservation finality. Reese-Elsworth (R-E) staging of these 32 eyes was as follows: group I, n = 5; group II, n = 9; group III, n = 11; group IV, n = 2; group V, n = 5. EBRT doses ranged from 30-50 Gy (mean 39.8 Gy) in 200 cGy fractions, 5 day/week. 10 patients were treated with an anterior electron beam technique, 16 with 2 lateral opposed photon

beam technique, 6 with an oblique photon beam field and 4 with a single lateral photon field.

**Results:** 29/36 (80%) patients had a response after EBRT. Eye preservation rates in the R-E groups I to V were: 5/5, 8/9, 9/11, 2/3 and 5/8 respectively. 13/36 (36%) developed a local failure, 8 were local relapses and 5 were new tumors in previously uninvolved retina. Cataract formation rate was 100% with the anterior techniques but 55% with the lens sparing lateral field techniques.

**Conclusion:** EBRT provides adequate tumor control in retinoblastoma eyes with an acceptable toxicity. Our results are compared with previously reported data.

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POSTER

### Postoperative treatment of medulloblastoma in childhood 1986-1996

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**Purpose:** Evaluation of medulloblastoma patients who received radiotherapy and adjuvant chemotherapy after surgical resection.

**Materials and Methods:** Postoperative treatment was performed in 52 children with posterior fossa tumour whose median age was 7.5 years (range 2-17) based on administration of Vincristine, DBD, Natulan, MTX, VP-16 and Cysplatin immediately after surgery.

The radiotherapy started 6 weeks after the tumour resection: 30 Gy craniospinal irradiation in low risk cases and 35 Gy in high risk cases. The boost dose was 20 Gy to the posterior fossa. The treatment was performed with linear accelerator using 6 or 9 MV X-ray beams.

**Results:** The median survival rate was 35 months, ranged 3-117 months. The relapse free median survival rate was 25 months. 19 patients died (36.5%). The cause of death was 8 local recurrence, by 8 metastases within the central nervous system and by 3 intercurrent disease.

Local recurrence was observed in 12 patients: 8 died, 4 are living with complaints.

33 patients are living: 15 (45%) with normal activity, 10 (31%) with mild complain and 8 (24%) with severe complains.

**Conclusion:** The correctly planned and achieved radiotherapy with adequate doses can avert the local recurrence and the metastases within the central nervous system.

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PUBLICATION

### Childhood cancer mortality In Austria, 1980-1992

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**Purpose:** To describe trend analyses focusing on cancer mortality among children aged 0-14 in Austria covering the period 1980-1992.

**Methods:** The data were abstracted from the official Austrian mortality statistics of the years 1980-1992. Age-specific and age-standardized rates were calculated. Time trends were tested for significance with Spearman's rank correlation test. Sex specific rates were calculated but showed no significant differences.

**Results:** In the period 1980-1992 cancer was the cause of death of 718 children. Leukaemia was responsible for 34.5% of all childhood cancer deaths and 1.5% of all childhood deaths. The mortality of all malignant neoplasms in children decreased significantly ( $p = 0.0004$ ) from 54.8 per million in 1980 to 33.9 per million in 1992. This trend is mainly due to the reduction in mortality of leukaemia (from 22.3 per million in 1980 to 13.1 per million in 1992).

**Conclusions:** The decreasing trends are primarily caused by better diagnostic and therapeutic procedures and most probably not by decreasing incidence. New concepts of treating childhood leukaemia have resulted in decreasing mortality rates. For the small number of cases observed among the other causes of cancer deaths it is not possible to prove a similar influence of these modern measures, but it can not be excluded.