

## S144 SIOP ABSTRACTS

O-145

### ENDOSURGERY IN THE DIAGNOSIS OF ONCOLOGY IN CHILDREN

**D. Rvbkova<sup>1</sup>, P. Kerimov<sup>1</sup>, M. Kazantsev<sup>1</sup>, M. Rubansky<sup>1</sup>**

<sup>1</sup>children Oncology, Federal State Budgetary Institution «N.N. Blokhin Russian Cancer Research Center» under the Russian Academy of Medical Sciences, Moscow, Russia

**Objectives:** To summarize and analyze the experience of use in the diagnosis of endosurgery neoplastic diseases in children.

**Methods:** From 2007 to 2012, performed 161 diagnostic operations in 153 patients. Of them diagnostic thoracoscopy – 44, diagnostic laparoscopy - 63, thoracoscopic lung resections for the differential diagnosis of cancer with an infectious process – 53 operations and one-stage laparoscopy and thoracoscopy - 1 operation. The age of patients ranged from 2 months to 19 years (median 12.6 years)

Average time during laparoscopic operations was - 62min., thoracoscopic - 54 min. The mean blood loss during laparoscopy 61ml at thoracoscopy - 104ml. Intraoperative complications appeared in 5 cases out of 161 operations. In 3 cases there was bleeding from the tumor, the superior vena cava injury and wound duodenum 1 case. In 4 of 5 cases required conversions. In one case, bleeding from the tumor site was eliminated without resorting to conversion. In 8 cases identified postoperative complications. Surgical complications in 4 registrars patients: 2 cases eversion omentum through an incision in periphatic region, two cases pneumothorax; nonsurgical complications also occurred in 4 patients: two children, pneumonia, and one case of acute bronchitis and chickenpox.

**Results:** During two surgeries material for histological examination was not obtained, which required in one case re endosurgery operation and suddenly open surgery. In other cases, the material obtained for morphological examination. Use of narcotic analgesics (fentanyl, promedol) was needed during surgery and during the postoperative period first day. All patients received prophylactic antibiotic therapy. Average number of hospital days was - 4 ± 2 days.

**Conclusions:** Thoracoscopy and laparoscopy allows you to perform a biopsy of tumors of the chest and abdominal cavity, retroperitoneal and pelvic cavity, and given the minimal invasiveness, short postoperative period and rapid recovery after such an operation may start special treatment as soon as possible after surgery.

O-146

### SAFETY AND DIAGNOSTIC ACCURACY OF TISSUE BIOPSIES IN CHILDREN WITH CANCER

**R. Interiano<sup>1,2</sup>, A.H. Loh<sup>1,3</sup>, N. Hinkle<sup>1,2</sup>, F.N. Wahid<sup>1</sup>, A. Malkan<sup>1</sup>, S. Mao<sup>4</sup>, J. Wu<sup>4</sup>, A.S. Pappo<sup>5</sup>, R. Gold<sup>6</sup>, A.M. Davidoff<sup>1,2</sup>**

<sup>1</sup>Department of Surgery, St. Jude Children's Research Hospital, Memphis, USA; <sup>2</sup>Department of Surgery, University of Tennessee Health Science Center, Memphis, USA; <sup>3</sup>Department of Paediatric Surgery, KK Women's and Children's Hospital, Singapore; <sup>4</sup>Department of Biostatistics, St. Jude Children's Research Hospital, Memphis, USA; <sup>5</sup>Department of Oncology, St. Jude Children's Research Hospital, Memphis, USA; <sup>6</sup>Department of Radiological Sciences, St. Jude Children's Research Hospital, Memphis, USA

**Objectives:** Tissue biopsies are frequently used in pediatric cancer and may be increasingly employed for research purposes, yet information on their associated risks and diagnostic yield is lacking. This study sought to evaluate the safety and diagnostic accuracy of tissue biopsies in children with cancer.

**Methods:** With IRB approval, all surgical or percutaneous biopsies performed in children with a suspected or established diagnosis of cancer from January 2003 to December 2012 were retrospectively reviewed. Patient, disease, and procedural factors were correlated with diagnostic accuracy and incidence of complications using logistic regression analysis.

**Results:** One thousand seventy-three biopsies were performed in 808 patients. Median age at procedure was 12.7 (range: 0–33.7) years, and median body mass index (BMI) was 19.0 (range: 10.1–61.1). Of 1023 biopsies that had at least 30-days' postoperative follow-up, 69 (6.7%) had complications. Using Common Terminology Criteria for Adverse Events, 35 were minor (Grade 1–2) and 34 were major (Grade 3–4) adverse events. No deaths occurred that were procedural-related. The most common major adverse events were blood transfusions of >10cc/kg (24 cases) and infections requiring intravenous antibiotics or debridement (6 cases). Nine hundred sixty-two (90%) biopsies provided definitive histologic diagnoses, and 111 (10%) yielded unconfirmatory or non-diagnostic results; 150 were biopsies of a previously-biopsied site. Using multivariable analysis, thoracic sites ( $P < 0.0001$ ), decreased age at procedure ( $P = 0.052$ ), increased BMI ( $P = 0.005$ ), and decreased hematocrit ( $P = 0.0005$ ) were associated with an increased risk of complications. Musculoskeletal sites ( $P = 0.0077$ ), incisional biopsies ( $P = 0.0025$ ), increased white blood cell count ( $P = 0.0181$ ), a non-malignant histology result ( $P < 0.0001$ ), a malignant primary diagnosis ( $P = 0.0232$ ), and method of performing biopsy ( $P < 0.0001$ ) were associated with a non-diagnostic histologic result.

**Conclusions:** Tumor biopsies in children with cancer are associated with a low incidence of complications and a high rate of diagnostic accuracy. Predictive factors identified for these adverse outcomes may aid preoperative counseling and risk assessment.

*Pediatr Blood Cancer* DOI 10.1002/pbc

O-147

### BILATERAL ANTERIOR STERNOTHORACOTOMY (CLAMSHELL INCISION) IS A SUITABLE ALTERNATIVE FOR BILATERAL LUNG SARCOMA METASTASIS RESECTION IN CHILDREN

**J.-M. Joseph<sup>1</sup>, R. Guatta<sup>1</sup>, M. Diezi<sup>2</sup>, K. Pinnagoda<sup>1</sup>, O. Abbo<sup>1</sup>**

<sup>1</sup>Pediatric Surgery, CHUV - University of Lausanne, Lausanne, Switzerland; <sup>2</sup>Pediatric Oncology, CHUV - University of Lausanne, Lausanne, Switzerland

**Objectives:** The aim of our study was to assess the postoperative course of bilateral anterior sternothoracotomy (BAT) in children with sarcoma lung metastases, in a curative care perspective.

**Methods:** We reviewed the records of 7 patients under 18 years old, who underwent surgical procedures for sarcoma metastasis to the lung between 2000 and 2012. We compared the postoperative course of the BAT group to that of patients who underwent unilateral posterolateral thoracotomies (PLT) for the same etiology.

**Results:** Of 17 surgical procedures, there were 7 BAT and 10 unilateral PLT. Mean ages at the time of the procedures were 12.9 +/- 5.4 years old for BAT, and 17.4 +/- 1.9 years old for PLT. Mean operative time was 173 +/- 37 minutes in the BAT group, and 145 +/- 39 minutes in the PLT group ( $p = 0.19$ ). Patients received epidural analgesia in all cases for a mean time of 3.8 +/- 1.3 days in the BAT group, and 3.21 +/- 4 days in the PLT group ( $p = 0.36$ ). Chest tubes were removed after 3.6 +/- 1.3 days in the BAT group, and 3 +/- 1.2 days in the PLT group ( $p = 0.69$ ). Total hospital stay was 7.7 +/- 6.6 days in the BAT group, and 7 +/- 1.2 days in the PLT group ( $p = 0.72$ ).

**Conclusions:** In our experience, BAT seems suitable and shows similar outcomes to PLT for sarcoma metastasis resection. The BAT procedure allows the manual exploration of both lungs during a single surgical intervention, and so to reduce the delay of further therapies.

### PBC-SESSION: BEST OF IP SO

O-148

### IMPROVEMENTS IN THE TREATMENT OF PATIENTS SUFFERING FROM EMBRYONAL BLADDER-PROSTATE-RHABDOMYOSARCOMA – A COMPARISON BETWEEN THE CWS-96 AND CWS 2002-P TRIALS

**G. Seitz<sup>1</sup>, J. Fuchs<sup>1</sup>, T.M. Dantonello<sup>2</sup>, M. Sparber-Sauer<sup>2</sup>, I. Leuschner<sup>3</sup>, J. Godzinski<sup>4</sup>, T. Klingebiel<sup>5</sup>, E. Koscielniak<sup>2</sup>**

<sup>1</sup>Department of Pediatric Surgery and Pediatric Urology, University Children's Hospital, Tübingen, Germany; <sup>2</sup>Department of Pediatric Hematology / Oncology, Olgahospital Klinikum Stuttgart, Stuttgart, Germany; <sup>3</sup>Department of Paedopathology, University Hospital, Kiel, Germany; <sup>4</sup>Department of Pediatric Surgery, Marciniak Hospital, Wroclaw, Poland; <sup>5</sup>Department of Pediatric Hematology / Oncology, University Children's Hospital, Frankfurt/Main, Germany

**Objectives:** Modern treatment of bladder/prostate rhabdomyosarcoma (BPRMS) is aimed to improve survival, to reduce therapy intensity as well as to increase bladder preservation rates. The aim of the study was to compare treatment results of patients suffering from BPRMS treated within the CWS-2002P trial with the precursor trial CWS-96.

**Methods:** A total number of 119 children with non-metastasized embryonal BPRMS treated within CWS-96 (n = 69) and -2002P (n = 50) trials were analyzed. Fourteen patients were excluded (CWS-2002P: n = 8, CWS-96: n = 6). Patients received 3 cycles of neoadjuvant chemotherapy (CWS-96: VAIA/CEVAIE, CWS-2002P: VAIA/I<sup>2</sup>VA). At week 9, reassessment was carried out. Depending on tumor size, age, and response, local therapy consisting of radiotherapy and/or surgery was initiated. After local control, adjuvant systemic therapy was continued.

**Results:** Patients' age ranged from 0 to 16 years in both trials. Median follow up was 59 (CWS-2002P) and 64 months (CWS-96). The 5-year-OS and -ES for the whole group were higher in CWS-2002P than in CWS-96 (5-y-OS CWS-2002P: 84.5% ± 6; CWS-96: 76.3% ± 5.6; 5-y-ES CWS-2002P: 79.9% ± 6.4; CWS-96: 69.8% ± 6.2). One third of the patients received radiotherapy in both trials. Successful local control was feasible using radiotherapy and/or surgery and the outcomes for different local control approaches were comparable. The bladder preservation rates were matchable (67% (CWS-2002P) / 73% (CWS-96)).

**Conclusions:** Despite reduction of chemotherapy burden, the outcome of patients suffering from BPRMS treated within the CWS-2002P trial regarding OS and ES was obviously better than in the precursor trial CWS-96. Although there was no difference in individual local control rates, the improved outcome is caused by the fact that the number of prognostic unfavourable incomplete resections with salvage radiotherapy was significantly lower in CWS-2002P than in CWS-96. Novel concepts will be required in the future to improve bladder preservation rates.

O-149

### WILMS TUMOUR NOT RESPONDING TO PREOPERATIVE CHEMOTHERAPY