

CXCR4 receptor mRNA expression was previously found to correlate with resistance to PG-11047 [1]. Using Western blot we showed that CXCR4 was not expressed in LA-N-1 and IMR-32 cells, while it was expressed in SH-SY5Y cells.

Conclusions: Since PG-11047 is in clinical trials and shows low general toxicity it may be worth considering in the treatment of children with NMYC-amplified neuroblastoma lacking CXCR4 expression.

References

[1] Kuo et al., BMC Medicine, 7 (2009) DOI: 10.1186/1741-7015-7-77

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POSTER

Quantitative and Qualitative Investigations of Salivary Gland Function in Children Cancer Survivors

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Background: The aim of this prospective study is to investigate the long-term effects of chemotherapy on the oral health of children with a primary focus on quantitative and qualitative investigations of salivary gland function.

Materials and Methods: Thirty-eight children (age [mean]: 12.3±0.58 years) that underwent chemotherapy between 1 month and 7 years of age formed the study group. Forty, age- and gender-matched healthy children with similar socioeconomic background served as controls. Subjects' cariological status (DMF-T; number of decayed, missing and filled permanent teeth) was recorded according to the WHO criteria. Unstimulated and stimulated whole saliva flow rates were determined using method described by Shreebny. Palatal saliva flow rate was assessed with the Periotron method. Baseline values of Streptococci mutans, Lactobacillus, Staphylococcus aureus, Candida albicans counts were also studied.

Results: Stimulated whole saliva flow rate was significantly lower while palatal saliva flow rate was significantly higher in the study group compared to the controls ((0.849±0.47 vs. 1.132±0.48 ml min⁻¹ and 1.64±2.41 vs. 0.456±0.32 mikrol min⁻¹ cm⁻², respectively; p<0.05). 81.6% was high. No statistically significant differences were found between the genders. The salivary Streptococcus mutans and Lactobacilli counts in the study group were significantly lower than healthy subjects (P<0.001) and Staphylococcus aureus and Candida albicans counts were similar on both groups.

Conclusion: These findings indicate that salivary gland function in children is affected even after years of completed cancer therapy. The clinical relevance of this finding is unclear and further studies need to be performed to answer this question.

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POSTER

The Incidence of Medulloblastomas in Adults and Children – a Brief Report

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Background: Medulloblastomas are the most common types of brain tumours in children but can affect people of all ages.

Materials and Methods: Data from the Surveillance, Epidemiology and End-Results (SEER) database was used to describe the incidence of patients diagnosed with all medulloblastoma subtypes, and primitive neuroectodermal tumours (PNET). Incidence rates and ratios are evaluated, as well as incidence trends over time using peicewise robust linear regression.

Results: There was a total of 1902 people diagnosed with a medulloblastoma/PNET between 1973 and 2007 in the SEER 9 registries. The overall incidence of medulloblastoma/pnets is approximately 2.2 per million population in the USA. Children (1–9 years of age) years had an incidence rate of 7.6, compared to 0.9 in adults (>20years of age) and therefore the incidence rate ratio is approximately 8.1 in children compared to adults. A very small increase in the incidence was noted only between 1984 and 1995, in all age groups, however, the overall trend does not show a tumour that is increasing in incidence.

Conclusion: Children are 8-times more likely than adults to be diagnosed with this tumour. This tumour does not appear to be increasing in incidence.

	Incidence Rate per 1,000,000 (95% CI)	Incidence Rate Ratio
Overall (1973–2007)	2.2 (2.1, 2.3)	–
Age group		
Infants	7.3 (5.9, 8.9)	7.7
Children	7.6 (7.1, 8.2)	8.1
Adolescents	3.1 (2.8, 3.4)	3.3
Adults	0.9 (0.9, 1.0)	(base category)
Sex		
Male	2.64 (2.49, 2.80)	1.5
Female	1.74 (1.61, 1.87)	(base category)
Race		
Black	1.64 (1.40, 1.90)	0.7
Other	1.98 (1.68, 2.31)	0.9
White	2.31 (2.20, 2.43)	(base category)

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POSTER

Gonadal Function and Fertility 20 Years After Treatment of Childhood Lymphoma – a Cross-sectional Study of 136 Patients

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Background: Gonadal function studied in survivors after adult-onset malignant lymphoma may not be valid for adult childhood lymphoma survivors (CLSs). Our explorative cross-sectional study had two aims: 1) to describe the long-term gonadal function in CLSs. 2) to explore anti-mullerian hormone (AMH) as a measure of ovarian function in CLSs.

Material and Methods: Seventy-four male and 62 female CLSs participated in a survey consisting of a questionnaire, an out-patient consultation, blood sample and semen analysis. Treatment was categorized according to estimated overall gonadotoxicity. Male hypogonadism and fertility was determined by levels of LH, FSH and testosterone, semen analysis and pregnancies achieved. Female hypogonadism and fertility was determined according to menstruation status, pregnancies achieved and AMH levels in women ≤40 years.

Results: Median age of the patients was 33 years, median observation time 20 years. Endocrine hypogonadism was observed in 7 of 66 males (11%). Thirty-eight of 64 (61%) men were viewed as fertile, 7 of 64 (11%) were categorized as infertile and in 19 of 64 (29%) the fertility status remained uncertain. Twenty of 45 (44%) females ≤40 years showed low AMH levels indicating decreased fertility, whereof 15 of 45 (33%) had critically low AMH values, 4 of them with pregnancies within the preceding 2 years. Two of 50 (4%) of the women ≤40 years had reached menopause. Sixty-four % of the males and 93% of the females with a child wish had achieved post treatment parenthood (p = 0.01). Hypogonadism and low AMH-levels were related to treatment burden.

Conclusions: During early adulthood male hypogonadism is a problem in ca. 10% of the male CLSs. Male CLSs are at higher risk to meet infertility problems than female CLSs. The clinical significance of critically low AMH needs further research as critically low levels do not seem to exclude the possibility of motherhood.

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POSTER

Combination of Chemotherapy and Surgery in Treatment of Lung Metastases in Children With Osteosarcoma

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Background: Lungs are the most frequent place of osteosarcoma metastasis.

The aim of our study was to evaluate results of surgery and chemotherapy regimens in treatment of lung metastases in children with osteosarcoma.

Method: From 2000 to 2010, we treated 27 patients with osteosarcoma lung metastases using a combined approach – chemotherapy and surgery. The patients age range was between 3 to 18 years. Seven patients had solitary metastases, while others had multiple lung metastases. Several chemotherapy regimens were administered: Euramus, HD IFO-VP 16, HDMth/IFO-VP16, HDMth/Carbo-VP16, Temozolomid-irinotecan. Types of surgery resection were metastasectomy, atypic resection and lobectomy.