

magnitude of response is dependent on time points of evaluation. The predictive power of these changes on long term treatment outcome is object of ongoing prospective study.

## EP-1269

From datasets to predictive models in cervical cancer: an ontology to mine data for large data-base

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**Purpose/Objective:** The scenario in cancer research is currently progressively moving on the analysis of established large database, realized by crossing and combining multiple data. These data must be analyzed by ad-hoc computer softwares to produce models that can predict the treatment outcomes in a reliable way. In order to make possible the integration and analysis of data from different cancer centers and cancer registries, to elaborate predictive models from large datasets there is the need of an 'ontology', a kind of dictionary that standardizes the medical terminologies.

**Materials and Methods:** We defined the ontology evaluated by a multi-professional technical commission composed by a mathematician, an engineer, a doctor with experience in data storage, a programmer and a software expert. **Results:** More than 200 clinical, instrumental and imaging variables were cataloged and stored in three different levels. The first level (Registry Level) includes patient-related variables (age, sex, ethnicity, height, weight, etc.) that can be easily used for epidemiological analyzes. The second level (Procedure Level) includes data on the clinical presentation and pathology of the tumor, therapeutic procedures and their side effects. The third and final level (Research Level) will provide for the storage of data in advanced searches. In our ontology we preferably used concepts from existing and mature terminological systems (e.g. NCI Thesaurus, CTCAE, SNOMED-CT). We used field types as text, number, date, table, files. The chosen standard file formats were 'DICOM' for image and 'TXT files' for data treatment. The toxicity was stored with CTC4 scale and the RTOG scale (for back comparison with retrospective studies).

**Conclusions:** A formal ontology is necessary to obtain a standardized and organized dataset. This allows to create a system to share and to analyze data from large multi-centers database. These data can be used to elaborate predictive models to tailored treatment in daily clinical practice.

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## EP-1270

Volumetric modulated arc therapy in high-risk neuroblastoma's treatment. Single institutional experience

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**Purpose/Objective:** Descriptive analysis of high-risk neuroblastoma's treated with volumetric modulated arc therapy (VMAT) based in 'SIOP-Europe 2011 high-risk neuroblastoma' guidelines.

**Materials and Methods:** Based in International Neuroblastoma Staging System (INSS), we classify high-risk neuroblastoma those in stage 2, 3, 4 y 4S plus N-myc amplification, or stage 4 over one year-old. From september 2010-2014 seventeen patients were treated with VMAT. 76.4% were boys and 23.6% girls, with a medium age of 37 months. N-myc amplification was positive in 47%. With INSS criteria, we noted:

Stage (based in INSS)	
4	76.4%
3	11.8%
2	5.9%
4S	5.9%
Anatomical location	
Adrenal gland	64.7%
Abdominal	17.6%
Bilateral adrenal gland	5.8%
Cervical	5.8%
Thoraco-abdominal	5.8%

After induction chemotherapy (COJEC), tumor exeresis and autologous blood marrow transplantation, all patients considered eligible for participation in this study were treated with VMAT (21 Gy maximum dose, fractioned over in 14 sessions, 1,5 Gy each one) over the primary tumor area.

**Results:** After medium follow-up of 23 months (8-41), 41% are alive without tumor, 11.7% are alive with tumor, 23,5% have died because the tumor, 17.6% have died because an intercurrent cause, and 5.8% are dead by an unclearly cause. The radiotherapy tolerance was acceptable: 23.5% presented acute gastrointestinal toxicity grade 1-2 related to treatment. No chronicle toxicity has been noted.

**Conclusions:** The N-myc amplification is clearly associated with major relapse risk and dead related with progression. This analysis revealed that VMAT in high-risk neuroblastoma's treatment contributes to locoregional control with acceptable tolerance. There are no enough studies that compare VMAT with other techniques in high-risk neuroblastoma's treatment. It is important the long follow-up of these patients to evaluate second neoplasms incidence, locoregional control and increase survival.

## EP-1271

Development of focused microwave hyperthermia of pediatric brain cancer

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