



## PP-099

### Nestin expression in rhabdomyosarcoma

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**Introduction:** Nestin is a cytoskeletal protein classified as a type VI intermediate filament (IF). During myoblast differentiation nestin is down regulated and replaced by IF protein desmin in fully differentiated myotubes. However, nestin has also been detected in various tumors, such as glioma, melanoma, RMS, gastrointestinal stromal tumor, testicular stromal tumor and adrenocortical tumors.

To identify the risk factors for poor prognosis researchers have studied many molecular markers that can be associated with prognosis of RMS.

**Material and Method:** We investigated 30 specimens with diagnosis RMS, from 1995-2012 year. The records from the Soft Tissue and Bone Registry of the Institute of pathology, Medical School, University of Belgrade, Serbia, were reviewed for all the patients. We have immunohistochemically investigated the expression of nestin and its relationship with prognosis of RMS. Immunohistochemical analysis of nestin was performed on 5 µm sections which were prepared from the paraffin blocks. . All immunostained sections were independently evaluated by two authors. ). The results of immunohistochemical staining were scored by semiquantitative technique: absence of staining in all tumor; positive staining involving less than 10% of cells, 10%-50% positive cells, and more than 50% positive cells. The follow-up period was 5 years, (range 10-60 months). Overall survival (OS) time was defined as the time between the date of diagnosis and the date of death. Patients still alive were censored at date of last follow-up.

**Results:** The majority of patients were men (63.3%), with average age  $29.14 \pm 25.84$  years (range 0.8-77 years, median 18.5 years) and mostly with disseminated disease 18/30(60%). Upper extremity was the most frequent localization 14 (46,4%); tumor size  $\geq 5$ cm, was observed in 12 (70%) of patients. The most common histological subtype was embryonal 12 (40,0%). The correlation of frequency among gender, localization, histological type and existence of metastatic disease did not show any statistical difference. The correlation of nestin expression with survival showed a significantly longer survival in a group of patients with expression in 50% or more tumor cells compared to the group without that expression

**Conclusion:** Immunohistochemical analysis of nestin expression might prove useful as a prognostic marker in RMS.