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P43. FSTL5 EXPRESSION IS A MARKER OF GROUP C IN METASTATIC MEDULLOBLASTOMAS

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INTRODUCTION: Medulloblastoma (MB) is the most common malignant brain tumor in children. Four different molecular subgroups are recognized, which differ in gene expression, genomic aberrations, histology, demographics and survival: WNT and SHH groups, having specific mutations in the homonymous pathway, and groups C and D having several genetic alternations not specific to a single pathway. The gene for follistatin-like protein 5, *FSTL5*, is overexpressed in nonSHH/nonWNT MBs poorly characterized. High-expression of *FSTL5* is significantly associated with reduced event-free and overall survival in non-WNT/non-SHH MBs. The major aim of this project is to study the FSTL5 expression level in pediatric MBs with metastasis at the onset. METHOD: We investigated the protein expression of biomarkers involved in metastatic pathways by IHC and FSTL5 expression level by RT-PCR in 26 metastatic MBs samples and correlated these data with the outcomes by Kaplan-Meier statistic analysis. RESULTS: 83% of Group C MBs showed high level of FSTL5 while none of these presented down-expression. Low-expression level of *FSTL5* was find in 60% of SHH MBs and none showed over-expression. Kaplan-Meier test revealed that, in our cohort, high-expression of FSTL5 did not correlate with worse outcome while low expression of FSTL5 was associated with good prognosis and the co-presence of FSTL5 with other biomarkers correlated with poorer prognosis. CONCLUSION: FSTL5 is a marker of Group C in medulloblastomas with metastasis at the onset and the results highlighted decreased *FSTL5* expression as a marker of good prognosis. Group C MBs have characteristic molecular features that confirm the poorest outcome also in MBs with metastasis at the onset.