

## **CHOROID PLEXUS TUMORS: NEW PERSPECTIVES AFTER HISTOPATHOLOGICAL REVIEW AND TMA IMMUNOHISTOCHEMISTRY OF 36 CARCINOMAS IN CHILDREN**

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**OBJECTIVE:** There is evidence suggesting a high incidence of choroid plexus carcinomas in children in southern Brazil. The authors present one of the largest series in world literature considering a single institution. In an attempt to determine the reason for the high incidence of carcinomas (CA), we reviewed and compared histopathological aspects and immunohistochemical findings of 36 choroid plexus CA, including well differentiated (CA-SP) and poorly differentiated (CA-S) tumors.

**METHODS:** The present series includes all the original surgically-treated tumors, as well as the recurrences of 23 patients. The histopathological review evaluated cellularity, tumor pattern, nuclear atypia, mitotic rate, necrosis and cerebral invasion amongst well differentiated (CA-SP) and poorly differentiated (CA-S) carcinomas. The immunohistochemical study was performed using a panel of 22 epithelial, neuronal, stromal and prognostic markers by tissue microarray (TMA).

**RESULTS:** There was no statistical difference in the histopathological study amongst CA-SP and CA-S as well as on the immunohistochemical findings. About 60-65% of CA expressed AE1/AE3 and 10-15% expressed 34βE12, and a range of positivity for other markers as VIM (70-80%), S-100 (65-70%), NSE (85-95%), SYNAPTO (45-50%) and GFAP (55-65%). P53 was strongly expressed in 29 tumors and Ki67 was expressed in 32 tumors with no statistical differences between well differentiated (CA-SP) and poorly differentiated (CA-S) carcinomas.

**CONCLUSIONS:** Choroid plexus carcinomas are very proliferative tumors demonstrated by the strong and diffuse expression of Ki67. There were no significant statistical differences in the histopathological review or in the immunohistochemical results when comparing CA-SP with CA-S, suggesting that the differences in architecture and grading into well and poorly differentiated carcinomas probably represent biological variations with no reflection on the clinical behavior or prognostic factors. It seems that p53 plays an important role in choroid plexus carcinogenesis.

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