Anaplastic pilocytic astrocytoma

Anaplastic pilocytic astrocytoma (APA) is an exceptionally rare type of high-grade glioma in adults. Establishing histopathology diagnosis is challenging and its clinical and radiological appearance insidious.

An in hospital screening of the database from the Institute of Pathology was conducted to identify cases of APA. Further, Fiechter et al performed a literature review in PubMed using the keywords “anaplastic/malignant/atypical AND pilocytic astrocytoma” and “anaplastic astrocytoma/glioblastoma AND Rosenthal fibers” and summarized the current knowledge about APA in adults.

Over the last decade they were able to identify 3 adult patients with APA in the hospital. According to the pertinent literature, the prognosis of APA in adults (documented survival of up to 10 years) appears to be better than in other high-grade gliomas. Few cases were associated with neurofibromatosis type 1, which seems to predispose for development of APA. Although molecular genetics is still of limited value for differentiation of APA from other high-grade glioma, advanced neuroimaging techniques such as MR perfusion imaging and spectroscopy allow improved differential work-up. In particular, APA in adults has the ability to mimic various neurological diseases such as tumefactive demyelinating lesions, low-, or high-grade gliomas.

Although currently not explicitly recognized as a distinct clinico-pathologic entity it seems that adult APA behaves differently from conventional high-grade glioma and should be included in differential diagnostics to enable adequate patient care. However, further studies are needed to better understand this extremely rare disease [1)].

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Fiechter M, Hewer E, Knecht U, Wiest R, Beck J, Raabe A, Oertel MF. Adult anaplastic pilocytic astrocytoma - a diagnostic challenge? A case series and literature review. Clin Neurol Neurosurg. 2016 Jun 6;147:98-104. doi: 10.1016/j.clineuro.2016.06.005. [Epub ahead of print] PubMed PMID: 27341279.