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Rosette-forming glioneuronal tumour: an uncommon posterior fossa tumour

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A 35-year-old male was admitted to the emergency department with a generalised whole body spasm that lasted 15 minutes. Contrast-enhanced cranial magnetic resonance imaging demonstrated a 30x35x30 mm, peripheral enhanced multi-cystic mass lesion arising from the superior vermis (Figure 1). Histological examination showed this to be a biphasic tumour with neurocytic and glial components, which had a low (1%) Ki67 proliferation index (Figure 2) and was diagnosed as a rosette-forming glioneuronal tumour, World Health Organization grade 1.

Rosette-forming glioneuronal tumour is a benign tumour of neuronal and glial cells, which is generally located in the 4th ventricle and cerebellum (Medhi et al, 2016). Positive staining of glial fibrillary acidic protein and synaptophysin are important clues for rosette-forming glioneuronal tumour (Abdelzaher, 2022).

Gross total resection is generally the preferred surgical approach because rosette-forming glioneuronal tumour can lead to neurological symptoms (depending on the location of the lesion) and the (low) risk of malignant transformation (Yang et al, 2017).

Rosette-forming glioneuronal tumour is a rare benign neuroglial tumour that should be kept in mind in the differential diagnosis of lesions in the posterior fossa.

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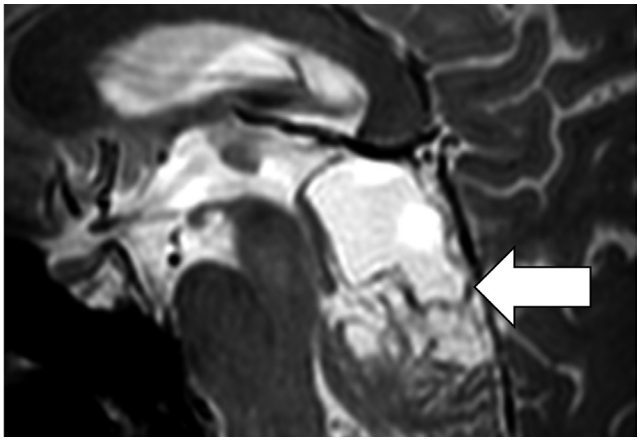

Figure 1. Sagittal T2-weighted magnetic resonance imaging revealed a multi-cystic mass lesion (arrow) located superior part of the vermis and extending to the quadrigeminal cistern. Mild-predominantly peripheral contrast enhancement was observed in the lesion on the post-contrast images (not shown).

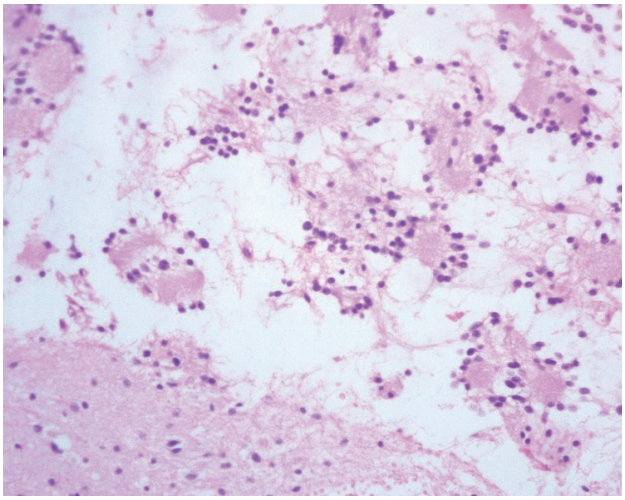

Figure 2. Light microscopy showed rosettes in the neurocytic component and low-grade astrocytic proliferation in the glial component (haematoxylin and eosin x200).