A 13-year-old girl was seen in our department for raised intracranial pressure symptoms progressing over 1 month. Neurological examination revealed a right hemispheric cerebellar syndrome and papilledema. Magnetic resonance imaging (MRI) revealed a predominantly cystic lesion located in the right cerebellar hemisphere extending towards the middle cerebellar peduncle with a mass effect on the fourth ventricle and brainstem. T1- and T2-weighted sequences demonstrated a fluid level within the cyst suggestive of hemorrhage (fig. 1). The solid component presented minimal enhancement and showed no restriction on diffusion-weighted imaging (fig. 2). With a provisional diagnosis of pilocytic astrocytoma in view of location and age, the child underwent a retrosigmoid craniotomy. Intraoperatively, the cyst-containing hemorrhagic fluid was drained. The solid component was firm and vascular with a poor plane at the pial surface near the VII-VIII nerve complex. There was no intraventricular component, and a gross total excision was performed. Postoperatively, the child recovered without any new deficits.

Fig. 1. Preoperative sagittal T1-weighted (a) and axial T2-weighted (b) MRI. The cut section (white line) was performed through the cystic component of the tumor (asterisk). The hyperintense signal in the cyst cavity on T1-weighted images (a) and the heterogeneous signal intensities on T2-weighted images (b) suggest the hemorrhagic nature of the cyst fluid with hemorrhages of various ages. The solid component of the lesion, hypointense in T1 (a) and slightly hyperintense in T2 (b), was located anterior and superior to the cystic part (arrow).
Pathological examination revealed a classic medulloblastoma positive for β-catenin but without Myc family amplification. A diagnosis of wingless (Wnt) molecular subgroup medulloblastoma was retained [1].

**Discussion**

Lateral cerebellar medulloblastomas in the pediatric population are uncommon. The 4 molecular subtypes have shown a tendency for site specificity within the posterior fossa. Wnt tumors are said to arise from cells of the lower rhombic lip of the brain stem and cerebellum around the foramen of Luschka. They tend to be extraparenchymal with extension to the fourth ventricle or into the cerebellopontine angle cistern [2]. Although at surgery we found the tumor to be intraparenchymal, we cannot exclude the possibility of an extraparenchymal origin due to its proximity to the fourth ventricle and pia of the middle cerebellar peduncle. This location is characteristic of the sonic hedgehog (Shh) subgroup [3]. Moreover, Wnt tumors show prominent contrast enhancement and restriction on diffusion [2, 3], both features being absent in our case. The presence of cyst and bleed within the tumor are also rare in this subgroup and are more often demonstrated by Shh and group 4 tumors [3].

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**Fig. 2.** Preoperative axial (a) and sagittal (b) gadolinium-enhanced MRI. The cut section (white line) was performed through the solid component (asterisk) of the tumor slightly superior to the level of figure 1 in order to better demonstrate the solid part of the cyst which showed only minimal enhancement without MR characteristics of hemorrhage. There was no restriction on diffusion: diffusion-weighted imaging (c) and apparent diffusion coefficient map (d).
Although MRI characteristics and tumor location have been described with specific molecular subgroups of medulloblastoma [3], we report here a Wnt tumor with atypical radiological characteristics in an uncommon location. Though rare, diagnosing these tumors is absolutely imperative since they have the best prognosis among all the medulloblastomas.

Disclosure Statement

The authors declare that they have no conflicts of interest concerning this article.

References

