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Letter to Editor

A case of adult medulloblastoma

To the Editor,

With a quarter of all intracranial tumors and half of all posterior cranial fossa tumors, medulloblastoma (MB) is one of the most prevalent malignant brain tumors in children.[1] It is a tumor of the cerebellum. The peak incidence of medulloblastoma occurs between the ages of 3 and 7 years old, and the majority of cases occur in children with a median age of 9. On the other hand, adults accounted for around 25 % of cases, where the second peak was observed (see Fig. 1).

The patient, a 30-year-old man, was taken to the hospital for three months because of dizziness, and no obvious positive signs were found in physical examination. Following admission, the fourth ventricle region was shown to be slightly rounded and dense by head magnetic resonance imaging. Medulloblastoma was the more likely diagnosis given the malignant tumor. Contrast-enhanced scanning revealed nodules and strip-like enhancement surrounding the cervical spinal cord, the third, fourth, and bilateral cerebellar hemispheres; meningeal, spinal, and ventricular metastases were taken into consideration. Expansion of the ventricular system and interstitial cerebral edema (Figures A, B, C). The ventricular system is clogged, the tumor's likelihood of being malignant is high, and the patient's symptoms are evident. Our department performs surgical treatment. During the operation, it was discovered that the tumor had grown from the cerebellar vermis, protruded into the fourth ventricle, and attached itself to the brain stem on the left side of the fourth ventricle floor (Figure D). Under a microscope, the tumor is rich in blood supply, has a rough texture, and appears grayish red. The tumor is fully excised and the midbrain aqueduct is exposed under a microscope. The dizziness of the patient was evidently improved after the procedure, and the reexamination of MR showed that the fourth ventricle occupied no space (Figure E), and the ventricular system was dilated. The postoperative pathological results were consistent with medulloblastoma (CNS WHO grade 4) (Figure F). Immunohistochemical results: CK(−), Vimentin (partial+), LCA (−), CD99 (−), GFAP (partial+), CD56 (+), Syn (partial+), CgA (focal+), S-100 (+), P53 (about 5 %), NSE(−), NeuN (+), SMARCA4 (+, not missing), INI-1 (+, not missing), Ki67 index (about 60 %). Gene detection showed that the tumor type was non-WNT/non-SHH activation type and ERBB2 (HER2) amplification.

Medulloblastoma is a rare tumor in post-adolescent patients and adults, and its imaging features are uncharacteristic, and it often takes some time to be discovered.[2] The tumor can spread

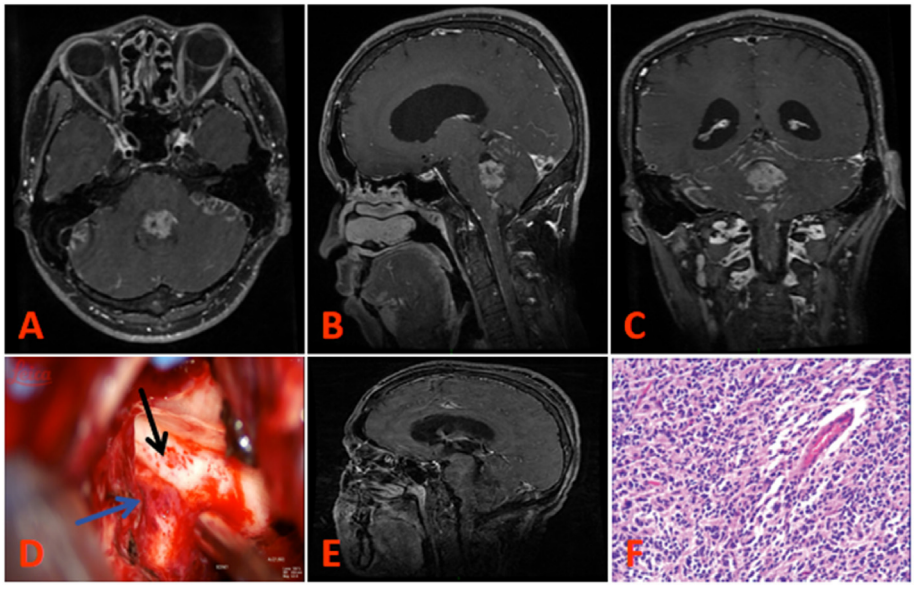

Fig. 1. A,B,C: Cerebral Contrast Enhanced Magnetic Resonance Scan; D: The blue arrow represents tumor tissue, and the black arrow represents the brainstem; E: Postoperative enhanced magnetic resonance imaging of the head; F: Pathological tissue section.

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early on and is extremely aggressive. Currently, there is no particular medication to treat the tumor; instead, surgery together with chemotherapy and radiation therapy make up the majority of the treatment approach. The World Health Organization's most recent definition of medulloblastoma divides the disease into four categories: non-WNT/non-SHH-activated type, SHH-activated/TP53 mutant type, SHH-activated/wild type, and WNT-activated type. This patient is included in the final category. We fully excise the tumor with the least amount of neurological damage possible, reestablish the flow of cerebrospinal fluid, and carry out subsequent treatment.

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Data availability

None.

Declaration of competing interest

No competing interest.

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