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CASE REPORT

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Atypical pilocytic astrocytoma of adult spinal cord: A case report

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Abstract

Pilomyxoid astrocytoma (PMA) is an atypical subtype of pilocytic astrocytoma (PA), which presents in children and young adults. The incidence of PMA is low, so there is no standardized treatment protocol for it. Here, we present a 62-year-old woman with recurrent PMA, which is important for the understanding and treatment of the disease.

Keywords: *pilomyxoid astrocytoma, pilocytic astrocytoma, temozolomide*

Introduction

Pilocytic astrocytoma (PA) is a special type of astrocytoma in the central nervous system, which occurs more often in children and young adults [1]. Pilocytic astrocytoma is classified as a grade I astrocytic tumor by the World Health Organization (WHO) [2]. These tumors are usually benign and slow growing, so the prognosis is good [3]. Tumors are usually completely removed by surgery, sometimes assisted by postoperative radiotherapy [4]. The recurrence rate is generally low. Here, we report on 1 case of recurrent atypical pilocytic astrocytoma, pilomyxoid astrocytoma (PMA).

Case report

A 62-year-old woman presented with a 2-week history of numbness in the upper right limb and 5-day dizziness, who was advised hospitalization at March 2013. There was not obvious cause for numbness. The patient had occasional tingling sensation in upper right limb, poor coordination of the right hand fine movement, and conscious burning sensation on the back. Magnetic resonance imaging (MRI) scan showed a space occupying in C2-6 vertebral canal. The tumorectomy was performed in vertebral canal under general anesthesia. Histopathologic examination showed that pilocytic astrocytoma (PA) with a mucous astrocytoma (Figure 1 and Figure 2). It was grade I to II according to WHO grades, and the proportion of Ki-67 was 8%.

Discussion and conclusion

Postoperative treatment: radiotherapy was performed on the neck after 5 months, 43.2Gy and 24 times. There was no evidence of recurrence within 4 years. The enhanced MRI in the head and neck thoracic vertebra showed the thickening of the medulla, the abnormal signal enhancement in medulla and horizontal spinal cord of C2-5 vertebral. Preliminary diagnosis is tumor recurrence after radiotherapy. At present, 2 cycles of temozolomide (250 mg) were given and the state of the patient is stable.

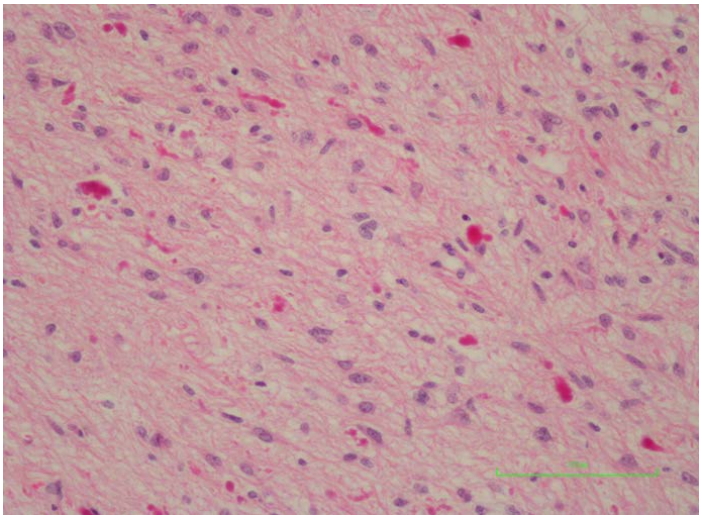

Figure 1. *Histologic appearance 1 of PMA (200 x).*

PMA is also a brain tumor and shares similar features with PA [5]. In 1999, PMA was proposed as a subtype of PA [6]. Compared to PA, PMA is more aggressive with shorter progression-free and overall survival as well as a higher rate of recurrence [5]. Here, we report a case of recurrent PMA. In addition, the overall survival of the patients is also poor. Unlike the general PA, PMA is usually considered as a grade II by WHO, which are defined as being invasive gliomas. In this PMA case, the patient was classified in grade I to II, showing a certain tendency of metastasis. Overall, the prognosis of patient is very poor. These data show that PMA is a relatively serious PA subtype.

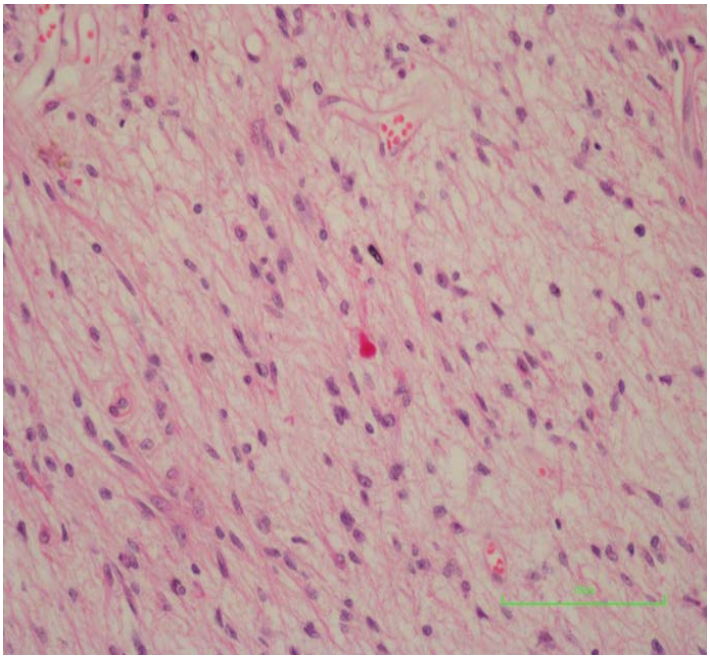

Figure 2. *Histologic appearance 2 of PMA (200 X).*

Similar to PA, PMA occurs more often in children and young adults. It is generally believed that the incidence of PMA is rare. But, several cases of adult PMA have been reported [7,8]. In the case, the patient is a 62-year-old woman. These facts mean that adult PMA should also be given enough attention.

Currently, there is no standardized treatment protocol for PMA [7], especially for recurrent PMA. Usually, PMA patients were treated with stereotactic surgery to achieve the complete removal of tumor, which is similar to PA therapy [9]. But, there is no effective therapy for recurrent PMA. Because of temozolomide efficacy and low toxicity in the treatment of recurrent gliomas [10], the recurrent PMA patient also was treated with temozolomide. Preliminary results show the patient is response to temozolomide after two-weeks treatment.

In brief, there is little knowledge on occurrence and treatment of recurrent adult PMA. So, this case report is of great significance.

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