

## Mature Teratoma in the Cerebellar Hemisphere of an Adult

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Intracranial teratomas are diagnosed mostly in young population and usually involve midline structure. We report a case of mature teratoma in an adult patient with unusual location in cerebellar hemisphere. A 47-year-old woman presented with severe headache and nausea. Computed tomography and magnetic resonance imaging demonstrated a posterior fossa lesion with cerebellar hemispheric location not involving midline. Histological examination of surgical specimen showed fully matured representative tissues of the three germ layers confirming teratoma. This is a rare example of mature teratoma with unusual age of the patient and location.

**KEY WORDS :** Teratoma · Cerebellum.

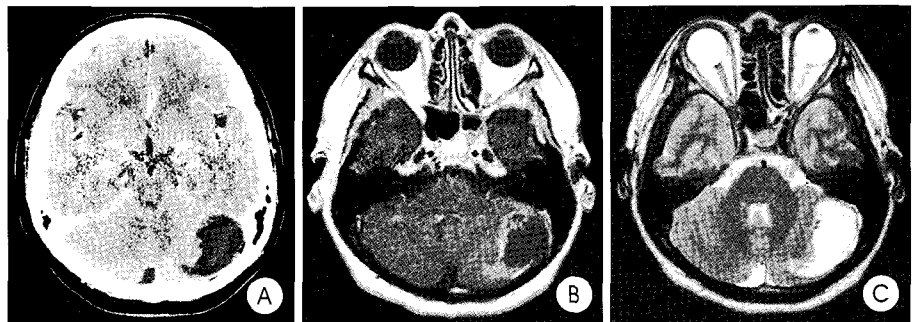
### Introduction

Intracranial teratomas account for only 0.5% of all primary brain tumors<sup>3</sup>. They have a higher incidence in infancy and childhood. The midline is reported as a site of predilection; the pineal region and the suprasellar region are the most common sites<sup>1,2,5</sup>. We present an extremely rare case of mature teratoma occupying the cerebellar hemisphere and becoming symptomatic during 5<sup>th</sup> decade of life.

### Case Report

A 47-year-old woman presented with headache, dizziness and nausea lasting for 2 weeks prior to admission. The physical and neurological examination did not reveal abnormalities except a subtle tendency of swaying to left side in tandem gait. A computed tomographic (CT) scan of the head revealed a low density lesion located in the left cerebellar hemisphere apart from midline (Fig. 1A). The lesion had small foci of very low density with well demarcated margin, sug-

gesting inclusion of fat content without enhancement on CT imaging. Axial contrast enhanced T1-weighted magnetic resonance imaging (MR) scans showed a tumor with low signal intensity and high signal intensity on periphery supporting a diagnosis of a fat containing tumorous lesion (Fig. 1B, C). Operation was performed with retrosigmoid suboccipital craniectomy and subtotal excision of the lesion. The lesion had a thick capsule adherent to dura and the content was sebaceous. Threads of hair were identified in operative field. Histopathological examination revealed fully mature tissues representing all of the three germ layers (e.g. fat, skin hair follicle, and cartilage etc.) confirming mature cystic teratoma (Fig. 2). The postoperative clinical course was uneventful and preoperative

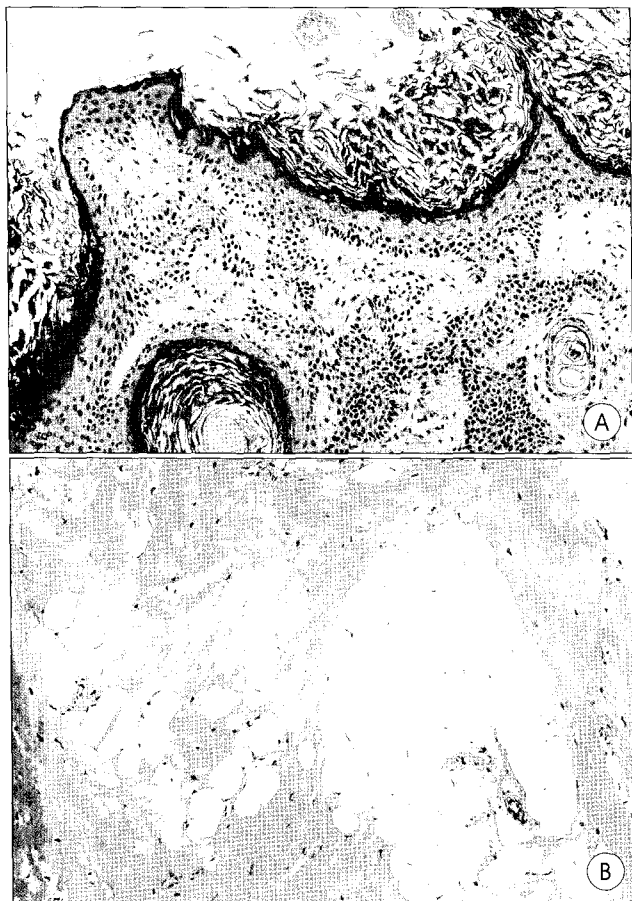


**Fig. 1.** Preoperative contrast-enhanced computed tomography scan (A) and axial T1 and T2-weighted magnetic resonance image (MRI) (B,C) demonstrating a cystic mass in the left cerebellar hemisphere apart from midline.

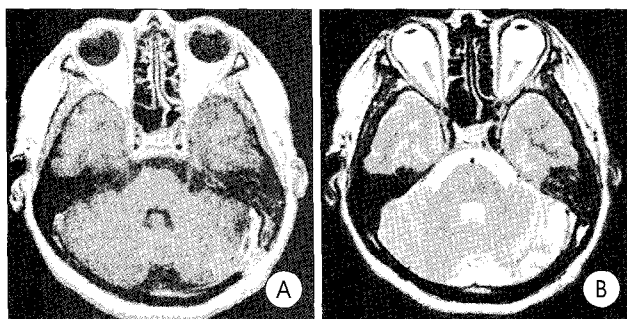
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symptoms were improved. Follow up brain MR scan obtained at thirteen months after the operation revealed no evidence of recurrence or progression of tumor from residual lesion (Fig. 3).



**Fig. 2.** Photomicrographs of surgical specimen show histological components of the tumor which is composed of cysts lined by skin with its appendages (A), and contains mature fat and connective tissue (B) (H&E, ×100).



**Fig. 3.** Postoperative MRI at 13 months after operation. T1 weighted MRI shows thick pachymeningeal enhancement due to postoperative change (A). T2 weighted MRI shows residual fat containing mass in left cerebellar hemisphere (B).

## Discussion

Rarely, teratomas of uncommon locations, such as lateral ventricle<sup>3)</sup> and cerebellopontine angle<sup>6)</sup> were reported and the case in this report is another exceptional one. This case is very unusual with regards to the age of the patient and location of the lesion. Only an infant case of teratoma located in cerebellar hemisphere without involvement of midline has been reported in the literature<sup>1)</sup>, and our case is the first report of mature teratoma with cerebellar hemispheric location in an adult patient. It was suggested that germ cell tumors including teratoma develop from incorrect involvement and enfoldment of embryonic disc during the embryogenesis<sup>4)</sup>. This hypothesis explains the high probability of midline location. Unusual location in this case may have resulted from inclusion of germ cell at eccentric location during enfolding or further migration. At the same time, fully differentiated (mature) histological feature may be related to late onset of clinical manifestation. In this case, cystic enlargement seems to be mainly from secretion of glandular structure unlike teratoma in young age in which growth may be faster due to commonly existing immature elements<sup>1)</sup>.

## Conclusion

We report an extremely rare case of mature teratoma in unusual location and age of the patient. Although it is very rare, it should be considered in differential diagnosis of the posterior fossa tumor lesions.

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