Supratentorial extra parenchymal schwannoma mimicking meningioma: a case report

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ABSTRACT

Introduction: Schwannomas account for approximately 8% of primary intracranial tumors and constitute almost 90% of tumors in the cerebellopontine angle, which is always associated with the eighth cranial nerve. Intraparenchymal schwannomas are sporadic, and only 64 cases have been reported to date in the literature, among which the first case was described by Gibson et al. in 1966. Case presentation: A 30-year-old female had been subject to headaches and intermittent seizures for two years. On clinical examination, no neurological deficit was found. A brain CT scan revealed an isodense lesion in the right frontal lobe with homogenous enhancement after contrast injection. During surgery, a well defined mildly vascular, grayish with measuring 7 x 5 cm was found. The tumor was completely intraaxial with a well-demarcated margin. The total removal of the tumor was done. Histopathological study indicates a tumor encapsulated in thin connective tissue, composed entirely of neoplastic Schwann cells and forming two basic patterns. The hypocellular parts (Antoni B pattern) and hypercellular parts composed of an elongated cell with occasional nuclear palisading (Antoni A pattern) with slight nuclear polymorphism.

Conclusion: The clinical manifestation of intracerebral parenchymal schwannoma depends mainly on the locations and the sizes of the tumors. The histogenesis of intracranial schwannomas not arising from cranial nerves is still unclear as Schwann cells are generally not present in the cerebral parenchyma. Microscopically, analysis of the tissue has shown areas of nuclear palisading, characteristic of schwannoma, and dense, cellular tumor, alternating with the loosely textured myxoid tumor is present in equal portions, consistent with Antoni type A and Antoni type B tissue.

Keywords: extra parenchymal, histogenesis, meningioma, mimicking, schwannoma

The clinical manifestation of intracerebral parenchymal schwannoma depends mainly on the locations and the sizes of the tumors. In our case, radiologically, it was not possible to differentiate schwannoma from meningioma. Microscopically, tissue analysis reveals areas of nuclear palisading, characteristic of schwannoma, and dense, cellular tumor alternating with the loosely textured myxoid tumor is present in equal portions, consistent with Antoni type A and Antoni type B tissue.\(^6\) This appearance may be mimicked by meningioma.\(^7,8\) Also, schwannomas occasionally have a conspicuously whorled pattern resembling meningioma.\(^6\)

The histogenesis of intracranial schwannomas not arising from cranial nerves is still unclear as Schwann cells are generally not present in the cerebral parenchyma. Many theories have been proposed to explain the possible mechanism underlying the histogenesis and origin of these rare tumors. There are two common theories. One suggests a developmental origin according to which aberrant Schwann cells in the brain parenchyma may occur due to the transformation of the pial mesenchymal cells or from displaced neural crest cells that form the foci of Schwann cells.\(^8\)

**Conclusion**

In summary, based on clinical presentation and radiological appearances, schwannoma in unusual sites can easily be mistaken for meningiomas. Light microscopy may also reveal similar findings. Immunohistochemical techniques with a battery of antibodies offer a higher diagnostic specificity.

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**References**


