Intracranial Meningeal Melanocytoma

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Epidemiology

Meningeal melanocytoma is an extremely rare pigmented tumor derived from leptomeningeal melanocytes. By and large it is considered to be a well-differentiated and slow-growing benign lesion. Generally, meningeal melanocytomas are solitary lesions, and the occurrence of the primary multifocal form in the central nervous system is exceedingly rare; it has been previously reported in only six cases.

Intracranial melanocytoma is usually a dural-based tumor, fed by dural arterial branches in a manner similar to meningioma. Primary sellar melanocytoma may be misdiagnosed as hemorrhagic pituitary macroadenoma, spindle cell oncocytoma, and intrasellar meningioma. These tumors differ in some radiological respects, but are difficult to differentiate preoperatively.

Only five cases of primary sellar/suprasellar melanocytic tumors, excluding melanomas have been reported thus far.

Primary sellar melanocytomas with leptomeningeal spread are an extremely rare phenomenon. Metastatic malignant melanoma should be ruled out. Being aware of differential diagnosis and the unusual behavior of meningeal melanocytoma will be necessary to manage the patient appropriately. Complete tumor resection is the best treatment whenever possible, and radiotherapy should be considered in case of unresectability or partial resection [1)].

Review

A total of 109 cases were analyzed. The male/female ratio was 1.2:1. The mean age was 40.3 years. The mean duration of symptoms was 23.9 months (range, 2 days-15 years). Cerebellopontine (CP) angle, suprasellar, and Meckel cave were the most common locations. Sixty-four patients (58%) underwent gross total resection (GTR). Twenty-eight patients (26%) received some form of adjuvant

radiation. There were 29 recurrences (26%) and mean time to recurrence was 50.2 months. The recurrence rates (RRs) for GTR and subtotal resection were 20% and 42%, respectively. The extent of resection (subtotal resection) and tumor locations (CP angle and Meckel cave) were significantly associated with higher RR. Six patients (6.5%) had higher-grade transformations.

Complete surgical resection is the ideal treatment and adjuvant radiation is to be considered for residual/recurrent tumors. Adjuvant radiotherapy may also be prescribed despite GTR, in locations with higher RR such as CP angle and Meckel cave. Because of higher-grade transformations and delayed recurrences, long-term follow-up is required [2].

1)
Maaloul I, Moussaoui M, Salah A, Feki W, Fourati H, Charfi N, Mnif Z. Suprasellar Melanocytoma with Leptomeningeal Seeding: An Aggressive Clinical Course for a Histologically Benign Tumor. Case Rep Radiol. 2021 Oct 11;2021:7306432. doi: 10.1155/2021/7306432. PMID: 34671496; PMCID: PMC8523264.
2)
Prasad GL, Divya S. Intracranial Meningeal Melanocytomas: Clinicoradiologic Characteristics and Outcomes. World Neurosurg. 2022 Dec;168:298-308.e8. doi: 10.1016/j.wneu.2022.08.051. Epub 2022 Aug 14. PMID: 35977682.