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Lipomatous Meningioma

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Abstract

Lipomatous meningiomas are a very rare form of brain meningiomas whose clinical presentation and treatment and prognosis remain similar, but whose histological appearance finds in addition to meningothelial cells, the adipocyte-like cells' accumulation within the tumor. Computerized tomographic and Magnetic resonance imaging (CT) or (MRI) can visualize the fat accumulations, but the histological investigation makes the diagnosis. In this case report and review of the literature, we discuss how to recognize the symptoms associated with lipomatous meningiomas and the definitive treatment approach for these rare tumors.

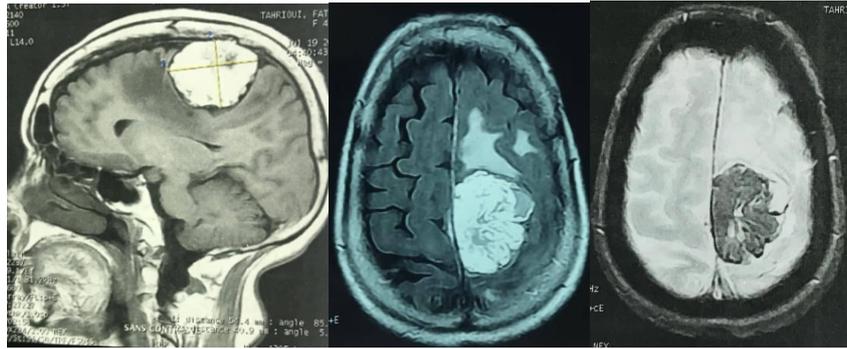
Keywords: Lipomatous Meningioma, Brain, Symptoms

Introduction

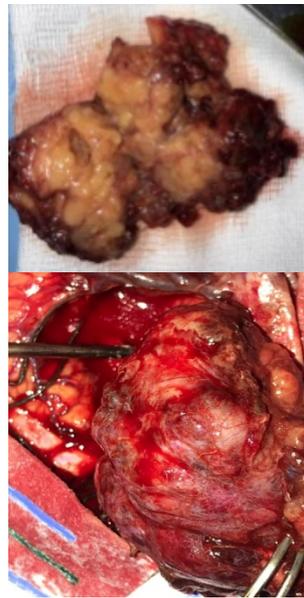
Lipomatous meningioma was the First time reported by Bailey and Bucy in 1931 (Bailey P1931; 15:15–54). It's considered like a very rare variety of meningioma where adipocytes and lipoblasts contribute to fat accumulation within the tumor (Roncaroli F 2001; 25:769–775). It is well described histological but uncommon. Roncaroli reported that lipomatous meningioma represents 0.3% of meningiomas. (Roncaroli F2001;25:769–75) Classified as metaplastic meningiomas In the 2000 World Health Organization Classification of Tumors of the Nervous System, as are meningiomas with osseous, cartilaginous, myxoid, and xanthomatous changes (Louis DN; 2000. p. 179). In this report, we present 70 years of an old woman that was found to have a left parietal parasagittal lipomatous meningioma benefiting of a total resection of the tumor. We provide a detailed review of the literature and provide relevant discussion for managing patients with lipomatous meningiomas.

Case report

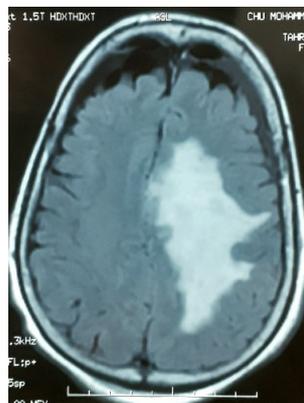
The patient is à 70 years old women with no history who was complaining about an intermittent headache aggravated by the occurrence of a partial epileptic seizure of the right hemibody without other associated signs for which she consulted in our facility where we found on physical exam an hemiparesis of the right hemi-body, benefiting from a radiological assessment finding of a left parietal parasagittal mass.



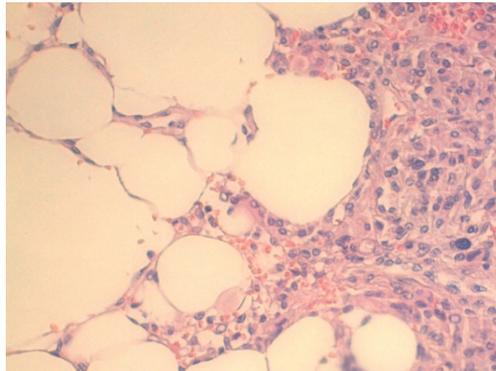
CT brain revealed one hypodense lesion in the left parietal parasagittal side and MRI showed hyperintensity of the lesions on T1-weighted sequence, along with contrast enhancement on T1 + Gadolinium, and about the therapeutic management our patient benefited from a Simpson grade II resection of the tumor that find at the macroscopic aspect of the lesion like the aspect of meningioma but with lipomatous portion yellow colored tissue.



The evolution was marked initially by a by a good improvement of its hemiparesis aggravated 48 hours later by the appearance of an aggravation of its hemiparesis becoming a right hemiplegia benefiting from a radiological control returning in favor of an oedematous reaction of the operating site for which she has continued the corticotherapy treatment associated with a physiotherapy having a progressive improvement of her right hemiplegia



The anatomopathological study was in favor of Lipomatous meningioma without other metaplastic component.



Discussion

Meningiomas are considered benign, slow-growing lesions and usually occur in the middle to late adulthood age, and are considered like the most frequent extra-axial central nervous system tumors (Alexiou GA 2007;25:867-90). The male: female ratio is 1.0: 2.6, and the average age for lipomatous meningioma presentation is 50 years of age with a range from 22 to 74 years reported in the literature (Tang H 2013; 25:112–118). When it comes to the Clinical presentation, the surgical management, and the global prognosis, it is similar to classic meningiomas (Louis DN 2000. p. 176- 84). The frontal and parietal convexities are the most frequent reported locations. But some locations like in the skull base and spine have been reported (Roncaroli F2001;25:769–75) (Lattes R1991;22:164–71).

The Metaplastic meningioma is a rare subtype of WHO Grade I meningiomas, histologically characterized by the presence of “metaplastic changes” involving mesenchymal components, such as osseous, cartilaginous, lipomatous, and myxoid tissue (Roncaroli F 2001;25:769-75), Lipomatous meningioma is macroscopically composed of 2 populations of cells in varying proportions: typical meningeothelial cells and adipocyte-like cells (also called lipid-laden cells)(Louis DN 2000. p. 176- 84).

The clinical features like Seizure, headache, and hemiparesis are the most common symptoms. And the prognosis of lipomatous meningioma is no different from those of usual meningioma (Roncaroli F2001;25:769–75) (Mariniello G2001;11:481–2., 487).

Radiologically the tumor is usually hypodense on CT and shows high intensity on T1- weighted and T2-weighted MRI, and the high intensity area on T1 weighted MRI is changed to a low intensity area on fat-suppressed T1-weighted imaging (Roncaroli F2001;25:769–75) (Bleggi-Torres LF2001;11:481–2., 487) (Kimiwada T2004;21:47–52) (Mariniello G2001;11:481–2., 487) (Withers T2003;10:712–4). The surgical management after theradiological identification is to make a total resection of the tumor, which is the case in the majority of the patients (Withers T 2003; 10:712–714), and the macroscopic view of the tumor finds in the lipomatous portion a smooth-surfaced tissue and yellow colored. (Roncaroli F2001;25:769–75)(Lattes R1991;22:164–71)(Withers T2003;10:712–4)(Fitt GJ1996;40:84–7)(Kasantikul V1984;26:35–9). Following the total resection, Fortunately, the diagnosis requires histopathologic evaluation (Krisht KM 2012; 116:861–865), lipomatous meningiomas, are not metastatic, and do not require chemotherapy or radiation following resection. (Dulai MS 2009; 29:708–712)With a low percentage of recurrence. Only 17% of lipomatous meningiomas recurred in the case series by Roncaroli and colleagues. (Roncaroli F 2001; 25:769–775)

Conclusion

Lipomatous meningioma is a rare type of meningiomas that are WHO grade I that have lipomatous characteristics on imaging including either CT or MRI, with a good prognosis after complete removal followed by the identification of meningeothelial lobules and adipocyte-like tumor cells confirms the diagnosis.

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