

Interhemispheric lipoma with callosal dysgenesis

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ABSTRACT

Intracranial lipomas are uncommon benign lesions of the central nervous system. Intracranial lipomas are usually asymptomatic and an occasional finding. They are frequently associated with more severe congenital anomalies like corpus callosum agenesis, and may present with seizures, headache, and behavioral disturbances. The MRI techniques are superior to CT and US in terms of exact anatomical localization of the lesions, and the origin of the lipoma and its relationship to surrounding structures.

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KEY WORDS: Lipoma; Brain Neoplasms; Corpus Callosum; Nervous System Malformations

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INTRODUCTION

Intracranial lipoma is a rare congenital lesion characterized by the presence of fatty deposits in different places in the central nervous system. The most common sites for intracranial lipomas are around corpus callosum, in the quadrigeminal cistern, hypothalamic-suprasellar region, and the cerebellopontine angles.

The lesions are believed to result from lipomatous mal-differentiation of primitive meningeal tissue in the interhemispheric fissure. The presence of lipoma may secondarily impair callosal development, resulting in hypoplasia or agenesis. Interhemispheric lipomas are often associated with partial agenesis of the corpus callosum (1).

CASE REPORT

A 45-year-old woman came to Euromedic diagnostic center in Banja Luka with two months history of headache, seizures, and borderline EEG finding. The brain magnetic resonance imaging (MRI) was performed on MR scanner 0.5 Tesla (Vectra GE). SE sequences T1w, T2w, and fat suppression T2w in sagittal, coronal and axial planes were used.

Sagittal T1w MR images show high signal intensity in spherical mass – lipoma associated with agenesis of corpus callosum (Figure 1).

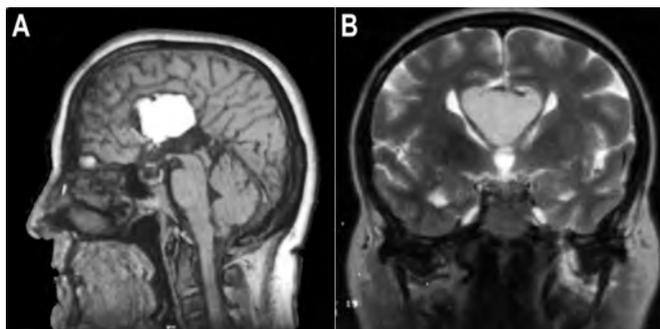


Figure 1. A) Sagittal T1w image shows hyperintensity tumor formation and absence of corpus callosum; B) Coronal T2w image shows interhemispheric tumor with fat signal intensity.

Coronal T2w scan showed intermediate signal intensity lipoma between lateral ventricles (Figure 1B). Axial T2w reveal interhemispheric lipoma and involvement of the choroid plexus of the lateral ventricles. The satellite lipomas in ventricles are bilateral and symmetrical. Colpocephaly (dilatation of the trigones and occipital horns of the lateral ventricle) are present

(Figure 2A). Axial T2w fat suppression images show very low signal intensity lipoma and satellite lipomas and high liquor signal (Figure 2B).

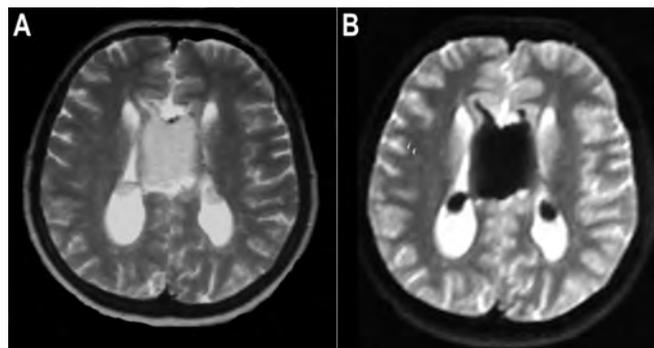


Figure 2. A) Axial T2w presents large tumor and two satellite lipomas; B) Fat suppression T2w scan shows disappearance of fat signal intensity

DISCUSSION AND CONCLUSION

Lipomas account for approximately 0.34% of all intracranial tumors. Intrahemispheric lipomas are accounting for 47% of these and have frequency of 1/2500 to 1/25000, as reported in an autopsy series (2). Intracranial lipomas are malformations not neoplasms, and thus lipoma cells do not multiply but hypertrophy like other normal fat cells. Two types of interhemispheric lipomas were described: an anterior bulky tubulonodular variety and a posterior ribbon-like curvilinear lipoma (3). The tubulonodular type results as more severe insult between week 12 and week 20 of gestation and was associated with corpus callosum dysgenesis (4). The posterior ribbon-like lipoma is often an incidental finding with a normal corpus callosum. Intracranial lipomas are usually asymptomatic and an occasional finding. Interhemispheric lipomas are frequently associated with more severe congenital anomalies, and may present with seizures, headache and behavioral disturbances. Surgery is not usually performed for interhemispheric lipomas due to the associated high morbidity. Signal characteristics on MR scans are hyperintense on T1w scans with hypointensity or intermediate on T2w images (5).

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We thank the reviewers, consultants, and many others who helped us with their advices and suggestions during 2006.

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