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Corpus callosal lipoma with extracranial extension as a scalp swelling

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Full Text

Sir

A 40-year-old male patient presented with a painless, nonpulsatile, and cystic swelling over the forehead, just behind hairline in the midline since birth [Figure 1]. He presented only with headache and had no neurological deficits. Imaging revealed a large hyperintense lesion on T1- and T2-weighted images in the callosal and supracallosal region extending into the subgaleal region through a defect in the frontal bone. The MR features were typical of a lipoma. This was associated with corpus callosal agenesis [Figure 2] and [Figure 3]. Some of the common clinical differential diagnosis of swellings at this location include a dermoid cyst, epidermoid cyst, atretic cephalocele, ossified cephalhematoma, eosinophilic granuloma and hemangioma. Rarely, lesions such as multiple myeloma, vascular malformation, nasal glioma, sinus pericranii, pilomatrixoma, fibrous dysplasia, aneurysmal bone cyst, osteoma, metastasis, and leptomeningeal cyst in children, may present in a similar location. Our patient was kept under observation and no intervention was performed.{Figure 1}{Figure 2}{Figure 3}

Lipomas account for about 0.34% of all intracranial tumors and 5% of primary brain tumors.[1] Pericallosal lipomas (PCLs) constitute almost half of all intracranial lipomas. PCLs are often associated with agenesis of corpus callosum, and rarely may extend into the ventricles or be associated with frontonasal dysplasia. They are usually sporadic but may sometimes be familial.[2]

Failure of resorption and maldifferentiation of the primitive meningeal tissue leads to the development of the mesenchymal tissue including mature adipose tissue, calcifications, and mature bone tissue between the 8th and the 10th weeks of intrauterine pregnancy. The region of the lamina terminalis is the most common site for intracranial lipomas because the meninx in this region is the last to be resorbed.[2]

PCL can be divided into two types. The tubulonodular type is characterized by nodular lesions and may be associated

with fronto-facial abnormalities. The curvilinear type is located posteriorly, is usually of less than 1 cm size and may be associated with hypoplasia of the corpus callosum. Embryologically, the tubulonodular lipomas develop before closure of the anterior neuropore while the curvilinear lipomas have a later development. Hence, tubulonodular lipomas interfere with the brain and calvarial development.[3],[4]

The embryological basis for the development of this lesion has been proposed. The primitive mesenchyme gives rise to the meninx primitiva as well as to the fronto-facial skeleton. Thus, a disturbance of the neural crest may give rise to these combined lesions.[2],[5] These lesions are also associated with various vascular abnormalities such as distension, kinking, engulfment or narrowing of arteries and veins and the presence of arteriovenous malformations and aneurysms.

Asymptomatic patients require only observation while those with a large lipoma with severe headache require surgical debulking for reducing the mass effect. Radical excision should be avoided to preserve pericallosal arteries. Hence, any scalp swelling for which surgery is contemplated should be thoroughly investigated to rule out any intracranial extension.

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Conflicts of interest

There are no conflicts of interest.

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