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İntrakranial Rüptüre Dermoid Kist

Intracranial Ruptured Dermoid Cyst

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Özet

İntrakraniyal dermoid kistler, tipik radyolojik görüntüleme özelliklerine sahip nadir lezyonlardır. Genellikle asemptomatik ve tesadüfen ortaya çıkarlar. Rüptür veya kitle etkisi nedeniyle semptomatik olabilirler. Dermoid kistik tümör rüptürü genellikle kendiliğinden ortaya çıkar. Bu olgu sunumunda sol temporal rüptüre dermoid kistin kraniyal BT ve MRG bulgularını sunmayı amaçladık.

Anahtar Kelimeler: Dermoid Kist, Beyin, Rüptür, Manyetik Rezonans Görüntüleme

Abstract

Intracranial dermoid cysts are uncommon lesions with typical radiological imaging features. They often asymptomatic and incidentally present. They can be symptomatic due to rupture or mass effect. Dermoid cystic tumor rupture usually occurs spontaneously. In this case report, we aimed to present the cranial CT and MRI findings of the left temporal ruptured dermoid cyst.

Keywords: Dermoid Cyst, Brain, Rupture, Magnetic Resonance İmaging

INTRODUCTION

Dermoid cysts are benign tumors that are slowly growing and originate from the defects of neuroectoderm during embryological period. Rarely, they may rupture into the subarachnoid space and the ventricle (1,2). They are often asymptomatic. The most common symptom is headache, followed by seizure, cerebral ischemia and chemical meningitis.

In this case report, we aimed to present the cranial CT and MRI findings of the left temporal ruptured dermoid cyst.

CASE REPORT

A 36-year-old male patient was admitted with complaints of amnesia. His neurological examination did not reveal any findings. On his cranial CT revealed calcifications with different density in the left temporal lobe, walls and inside, and a mass with low density areas compatible with fat (Figures 1 g, i, j).

MRI showed a well-defined extraaxial mass in the left temporal lobe anteromedialy (Figures 1 a-f). The heterogeneous mass contained high and low signal areas at T1 and T2. In the fat-suppression contrast-enhanced examination, the significant signal loss, indicating oily content. Thin-band contrast enhancement was observed in mass walls but there was no enhancement in the center part. Also, millimetric extraaxial nodules representing fat particles and calcific particles in the subarachnoid space were observed. These lesions were evaluated as rupture of dermoid tumor to subarachnoid space. The mass with hair and fat particles in the calcified wall, locating on the temporal base, was removed with the capsule except for the calcified capsule piece adhering to the middle cerebral artery via left pterional craniotomy. The patient had no postoperative neurological deficits and the pathology was dermoid cyst.

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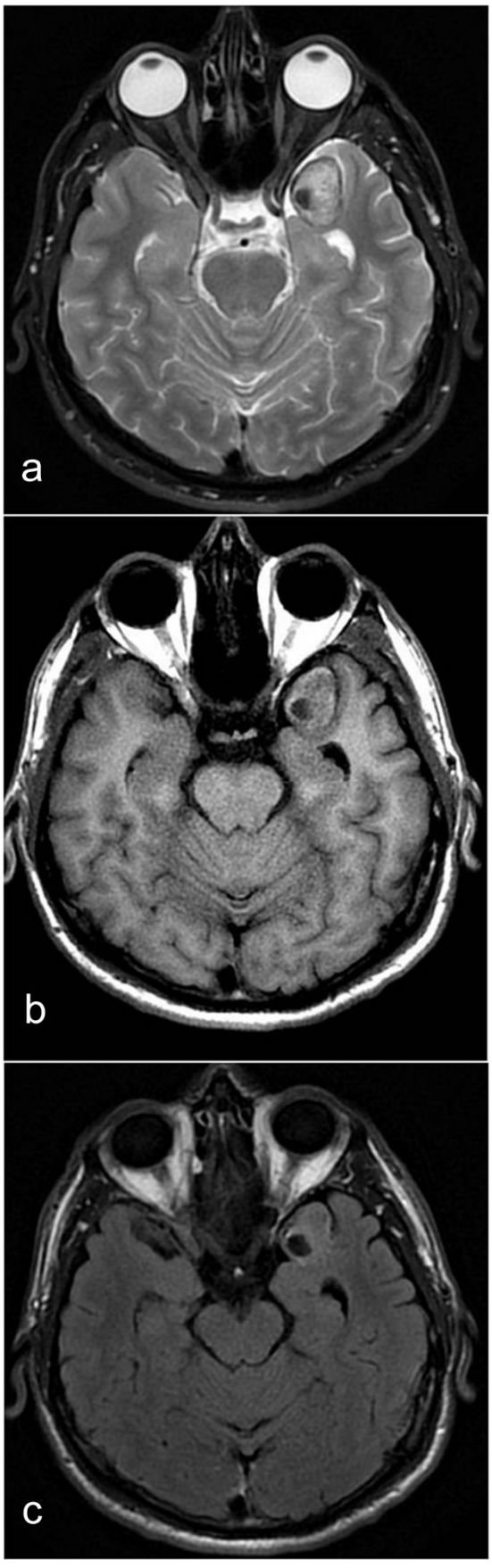

Figure 1.a, b, c. In the left temporal lobe anteromedially, a smooth contoured extraaxial mass with a dimension of 27x21 mm is observed. The heterogeneous mass contains high and low signal areas in T1 and T2.

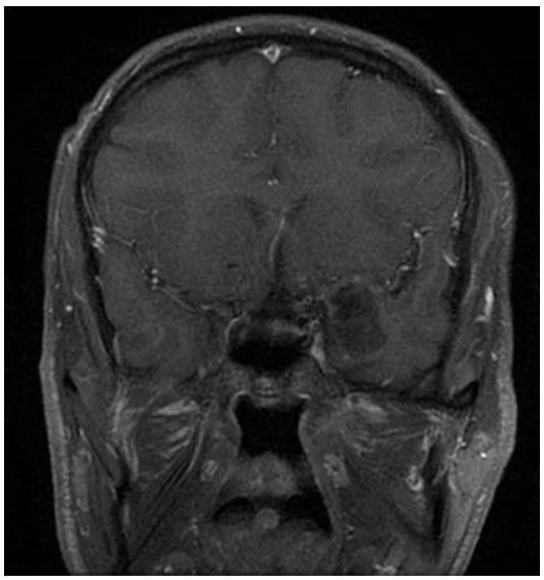

Figure 1.d Significant signal loss of the mass in fat-suppressed contrast-enhanced examination indicates oily content. Thin-band contrast enhancement was observed in the mass walls; There was no enhancement in the central part.

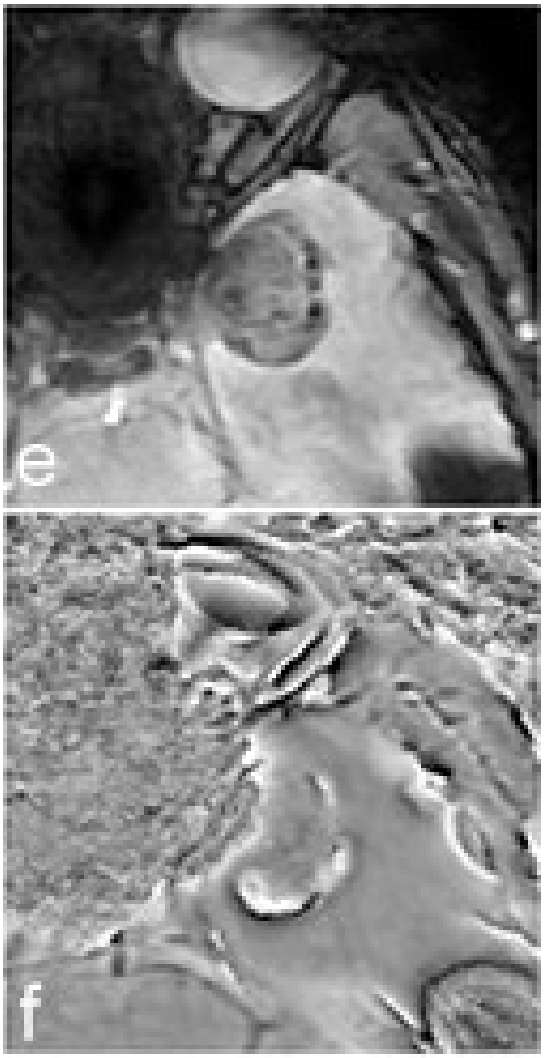

Figure 1.e, f. In the SWI and phase map, there are areas of low and high signal, respectively, representing the calcification in and around the mass walls. In the central section of the mass, low-signal bleeding areas were observed on both maps.

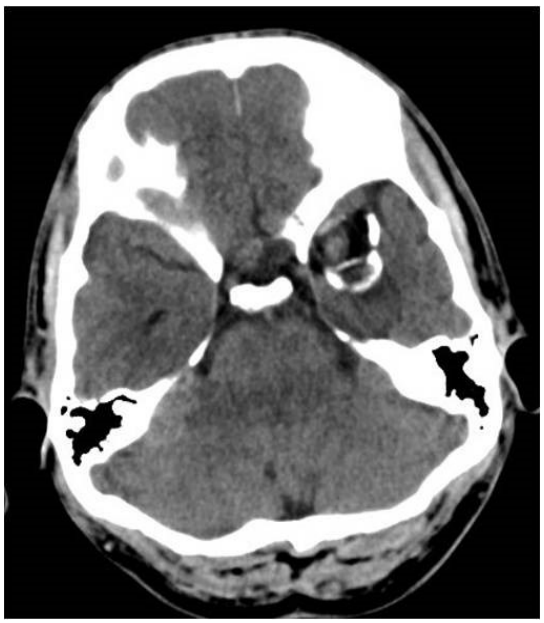

Figure 1.g. CT revealed calcifications walls of the mass and in the mass and and low-density areas compatible with fat in the mass. All findings support dermoid tumor.

DISCUSSION

Intracranial dermoid cysts are often located at the midline, region of sellar-parasellar, suprasellar, frontobazal, temporobasal, silvian fissure and posterior fossa. They are often asymptomatic and incidentally present (3,4,5,6,7). They are symptomatic due to rupture or mass effect. Cyst rupture usually occurs spontaneously. Although it is not known in the etiology, the hypothesis that increased glandular secretions with age-related hormonal changes may cause rapid growth and rupture has been proposed.

Intracranial dermoid cysts are located in the pathological spectrum between epidermoid cysts and teratomas. Epidermoid cysts contain only desquamous squamous epithelial cells, while dermoid cysts contain dermal elements such as sebaceous glands, sweat glands, hair follicles, teeth and nails. Teratomas contain elements from all three embryonic tissue layers. Intracranial dermoid cysts are well-defined, lobular and different sizes masses. The capsule is thicker than the cyst and mostly contains

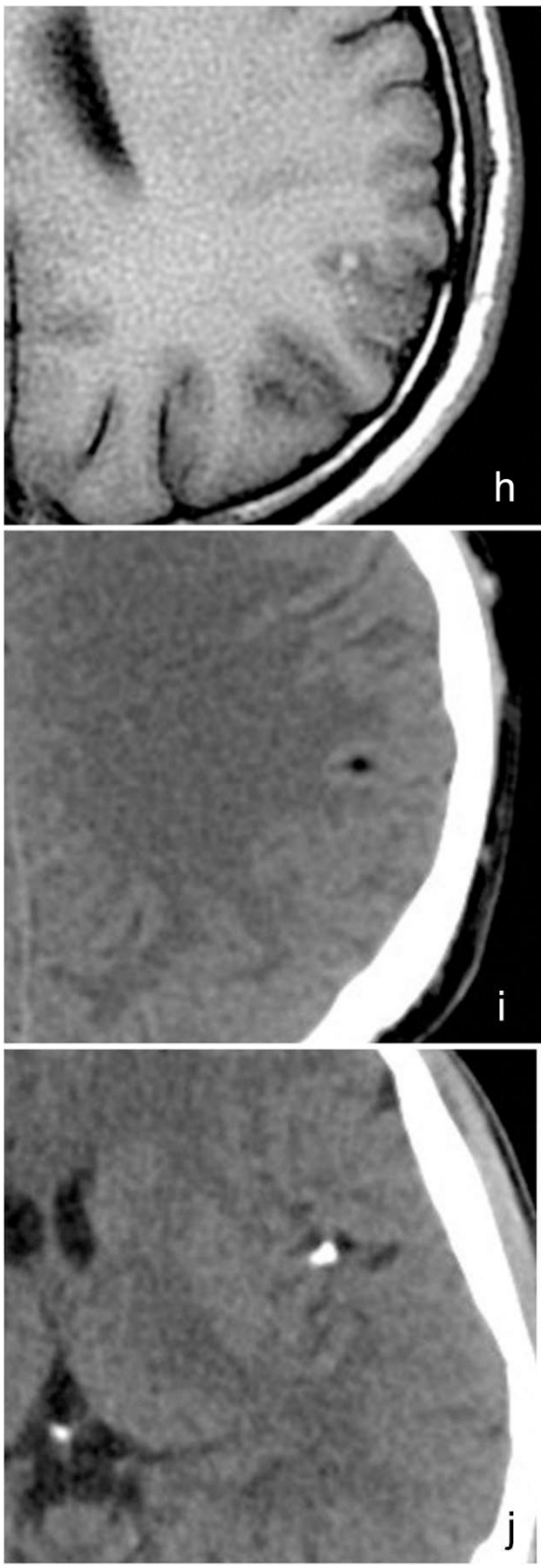

Figure 2.h, i, j. Figures 1h and 1i show the fat particles in the fissures on the left; In Figure 1j, the millimetric extraaxial nodules representing calcific particle were observed. These lesions show rupture of dermoid tumor to subarachnoid space.

calcified plaques. Characteristically, it contains yellow material depending on the secretion of the sebaceous glands and the desquamated

epithelium.

As a result of rupture of dermoid cysts, oil droplets are seen at subarachnoid spaces, sulcuses and ventricles in CT and MRI. It is seen as fat-containing, hypodense, non-contrast mass in CT. Peripheral calcification, bone and cartilage-bound hyperdense areas within the tumor, depending on the different components can be viewed heterogeneously. MRI shows hyperintense in T1 due to fat particles and heterogeneous hypo-hyperintense in T2 (5,8). Epidermoid, craniopharyngioma, lipoma and teratoma should be considered in the differential diagnosis (3,4). In our case, the mass showed typical dermoid cyst features. Lesion was distinguished from the epidermoid cyst by the absence of diffusion limitation and heterogeneous internal structure. The absence of contrast enhancement was a finding against the teratoma. Lipoma was not considered because the internal structure did not show fat signal in all sequences. The presence of oily content was against craniopharyngioma. It was differentiated from the adamantous craniopharyngioma with the absence of cystic component. In addition, papillary craniopharyngioma was differentiated by non-contrast of the solid component.

Surgery is recommended for patients with symptomatic ruptured dermoid cysts. Total excision is usually not possible because of the adherence to adjacent structures and due to spread to the subarachnoid space (3,4). Recurrence is rare and growth rate is slow.

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