

Endoscopic Endonasal Excision of Intraorbital Dermoid Cyst

Endoskopik Endonazal Yol ile İntraorbital Dermoid Kist Eksizyonu

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Abstract

43-year-old male patient was referred to us due to double vision and orbital deformity. Computerized tomography (CT) and magnetic resonance imaging (MRI) were performed. In CT, approximately 4 cm cystic intraorbital mass was observed that was adjacent to lamina papyracea on the orbita medial wall. In the fat-suppressed examination of MRI, it was stated that the cyst, with an approximate thickness of 4 cm, may be a dermoid cyst. Total excision was applied for the discharged mass together with its capsule via endoscopic endonasal approach. He is still being followed up and there was no recurrence.

Keywords: Dermoid Cyst, Intraorbital Cyst, Intraorbital Dermoid Cyst

Öz

43 yaşında erkek hasta çift görme ve orbital deformite ile kliniğimize refere edildi. BT ve MRG görüntülemeleri yapıldı. Tomografide orbital medial duvarında lamina paprycea düzeyinde intraorbital 4 cm kistik kitle görüldü. Yağ baskılı MRG görüntülemesinde 4 cm büyüklüğündeki kitlenin dermoid kist olabileceği belirtildi. Endoskopik endonazal yol ile kitle kapsülü ile birlikte total eksize edildi. Hasta 3 yıldır takiptedir ve herhangi bir nüks yoktur.

Anahtar Kelimeler: Dermoid Kist, İntraorbital Kist, İntraorbital Dermoid Kist

Introduction

The developmental choristomas that are thought to be developed from the ectodermal residues trapped in the suture line as a result of implantation or separated from the residual ectoderm in surface, insufficiency in the separation of the tissues under ectoderm in between the third and fifth gestational weeks are called as dermoid cysts (1).

Dermoid cysts are surrounded with squamous epithelium. Keratin and hair are present in the lumen. Many physiochemical causes, including hormonal effects, play a role as predisposing factors in its growth. It can be seen anywhere in the body (2).

Although dermoid cysts are benign lesions, the treatment varies from observation and follow up to surgical excision. As well as it is a slowly growing mass, malignant transformation can rarely develop. Orbital dermoid cysts can cause aesthetical problems after excision (3).

Rarely they are seen as intraorbital. Their adjacency to lamina papyracea is not seen in the english literature. But in Chinese literature there is one study which mentioned about a dermoid cyst case excised via endoscopic endonasal way (4).

In the present case, a dermoid cyst originating from an ectodermal tissue, that is trapped on the

suture line of the region adjacent to the lamina papyracea, will be presented.

Case

A 43-year-old male patient was referred to us due to double vision and orbital deformity. Displacement of the orbita towards the lateral side had drawn attraction in the examination of the patient (Figure 1).

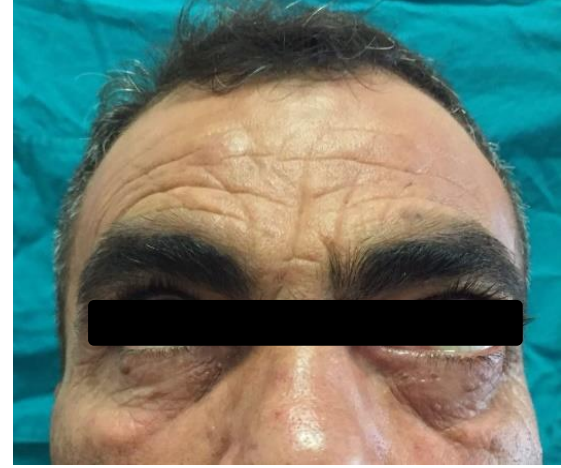


Figure 1. Examination of the patient

Computerized tomography (CT) and magnetic resonance imaging (MRI) were performed for the patient who described a double vision complaint. In CT, approximately 4 cm cystic intraorbital mass was observed that was adjacent to lamina papyracea on the orbita medial wall (Figure 2).

In the fat-suppressed examination of MRI, it was stated that the cyst, with an approximate thickness of 4 cm, may be a dermoid cyst (Figure 3).

Because of the proximity of the mass to the lamina papyracea, it was decided to remove it via an

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endoscopic endonasal route. Maxillary sinus ostium was found by applying total uncinectomy. Then anterior ethmoidectomy was applied and the boundary of lamina papyrcea was determined. It was observed that the mass has tapered the lamina papyrcea. The location of the mass was determined by visual palpation. Lamina papyrcea was opened and the lesion was reached. Due to the failure of dissection of the lesion from its capsule, the capsule was opened, and the mass content was discharged. At this time, hair follicles were found in the mass and the preliminary diagnosis was confirmed. Total excision was applied for the discharged mass together with its capsule. Surgery site was cleaned via plenty of irrigation. In the 2-years postop follow-up, the patient has no proptosis and orbital deformity. In the control MRI, there is no finding compatible with relapse and he is still being followed up (Figure 4).



Figure 2. Patient's computerized tomography



Figure 3. Patient's magnetic resonance imaging

Discussion

7% of the dermoid cysts are seen in the head and neck region. 60% of them are seen around the orbit. It constitutes approximately 3-9% of all the orbital cysts and approximately 0.04-0.6% of the primary orbital tumors. The locations are frequently the superotemporal of the orbita. Depending on the location and size of the cyst and the abnormalities

related to the cyst; proptosis, diplopia or limitation of eye movements can be seen. Although 60% of the superficial cases is in the upper external quadrant, 25% is originated from the internal and 6% is originated from the deep temporal fossa (2,5).

It is the most frequently seen orbital tumor of childhood. It is divided into two as deep and superficial. While superficial ones can be seen at an early age, intraorbital ones can be seen at later ages (6).

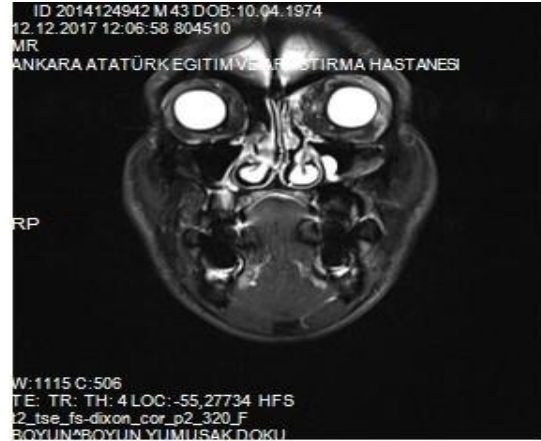


Figure 4. Patient's control magnetic resonance imaging

Mostly, they become symptomatic with diplopia and proptosis. When they are symptomatic, excision is often preferred by surgical methods.

In 85% of the dermoid cysts, bone changes such as notches, defect or aneurysm are observed on the bone wall adjacent to the cyst in the computerized tomography (CT) (7). Also T1, T2 and fat-suppressed magnetic resonance imaging (MRI) ideally reveal the size of the cyst, its elongation, relationship with intraorbital or extraorbital tissues, content of the cyst, thickness of the capsule, the presence of inflammation in the orbita or soft tissues. It may be confused with epidermoid cysts, but they are distinguished by the presence of hair follicles, sweat glands and sebaceous glands (8).

Differential diagnosis was cavernous hemangioma, schwannoma or abscess. All differential diagnosis can be distinguished with the help of radiology. Both CT and MRI should be used to make differential diagnosis (4). In our case fat-suppressed examination of MRI showed us the possible diagnosis before surgery.

The endoscopic endonasal method (9), which is a safe, low-morbidity, cosmetic, and safe method that has been successfully used in recent years due to the development of imaging techniques and instruments; despite the fact that one case of dermoid cysts have been found in the literature, it has been preferred because of its frequent use in intraorbital lesions and success has been achieved.

Via the experience obtained in this case, dermoid cysts close to lamina papyrcea can be safely excised by the endoscopic endonasal method in the cases to be encountered in the future. The cases to be well-

prepared with pre-operative imaging modalities can be successfully operated with less morbidity.

Written Consent: Written consent was taken from patient on 11.09.2018.

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