

## Dermoid Cyst Excision under Müller Muscle in a Patient with Blepharoptosis

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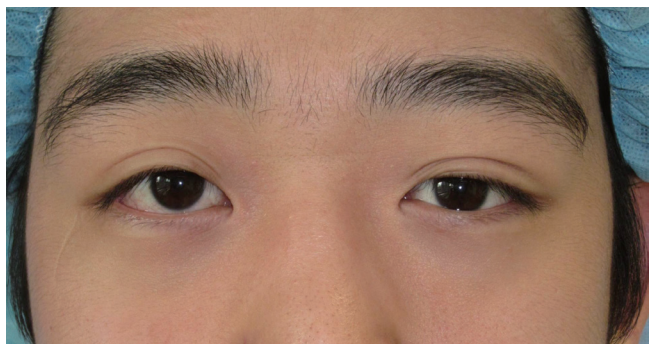
Dermoid cyst is a type of choristoma that generally originates from a bony structure due to abnormal ectodermal sequestration during the course of development. Dermoid cysts can appear in any part of body but 7 percent occur in the head and neck. Its most common location is at the antero-lateral fronto-zygomatic suture, which is located above the superior orbital rim, followed by the superomedial orbital rim [1]. Dermoid cysts can be classified as superficial or deep type by location. Superficial dermoid cysts are easily at a young age when they have no direct effect on the position or movement of the eyeball. However, deep dermoid cysts tend to remain undetected until cystic growth causes symptoms, such as, a change in

the position of the eyeball. A dermoid cysts enlarge, they also tend to leak and cause inflammation, and thus, it is recommended that even asymptomatic cysts be removed.

A 19-year-old male patient visited our hospital complaining of a progressive mass located in left upper eyelid of 6 years duration and progressive unilateral blepharoptosis. The mass was palpated in the subcutaneous layer and had a relatively distinct margin and no evidence of inflammation was present in adjacent skin. Mild ptosis with a marginal reflex distance 1 (MRD1) of 3 mm was observed (Figs. 1, 2).

The preoperative magnetic resonance imaging showed a 1.9 × 1.4 cm sized cystic mass between conjunctiva and levator aponeurosis. The mass exhibited thin rim enhancement and was deemed a benign cystic lesion presumed to be either an epidermal inclusion cyst or a dermoid cyst (Fig. 3).

The patient was placed under local anesthesia with 1:100,000 epinephrine mixed with 1% lidocaine solution. An incision (about 20 mm) was made along an existing eyelid crease and the levator aponeurosis was identified. The mass under the levator aponeurosis was found to be causing levator dehiscence. Subsequently, the levator aponeurosis was incised and detached horizontally from its tarsal plate insertion site and the lesion adjacent to conjunctivae and under the Müller muscle was identified after incising the muscle. Total excision was performed meticulously without cyst rupture, and including the pedicle attached to periosteum (Fig. 4). After division, inspection revealed damage of the medial horn of the levator aponeurosis. The Müller muscle was sutured with #6-0 Vicryl without further resection. While trying to preserve symmetry of the levator function between both eyelids, the levator aponeurosis was advanced 4mm caudally and anchored to the upper



**Fig. 1.**

Preoperative photograph showing the mild unilateral blepharoptosis (left eyelid).



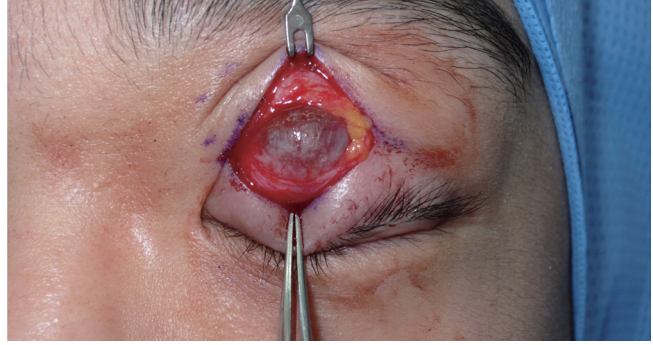
**Fig. 2.**

Preoperative photograph (eye closure view).



**Fig. 3.**

Preoperative magnetic resonance imaging findings. The dermoid cyst (\*) was located between the levator muscle (white arrow) and conjunctiva.  $\Delta$ , superior rectus muscle.



**Fig. 4.**

Intraoperative findings. 2 cm dermoid cyst was detected after levator and Müller muscle division.



**Fig. 5.**

Photograph taken at 4 months postoperatively. After sufficient observation, a revision operation for the correction of triple fold is under discussion.

border of the tarsal plate with #6-0 Nylon. The operation was completed by suturing skin with #6-0 Mersilk.

The pathology report confirmed the mass to be a dermoid cyst. The operative scar was hidden by the eyelid crease. Ptosis due to edema remained for a month but then recovered (Fig. 5).

The accurate diagnosis and proper surgical removal of a dermoid cyst in the upper eyelid is important, because if not detected, these cysts can rupture or form a fistula [2]. Furthermore, the pressure exerted by large cysts can cause bone erosion and facial asymmetry [2].

As presented by our case, a deep dermoid cyst in the upper eyelid is not generally detected until they enlarge. Precise diagnosis and surgical removal is important because cyst growth can cause proptosis, restrict eye movement, and diplopia [3]. Asymmetry of upper eyelid due to progressive unilateral blepharoptosis is a symptom of dermoid cyst in the upper eyelid. However, benign or malignant tumors

can also cause progressive unilateral blepharoptosis, and thus, masses must be evaluated using appropriate radiologic techniques.

According to previous reports, dermoid cysts in upper eyelid are usually superficial dermoid cysts, and are commonly found in the superficial plane between the orbicularis oculi and orbital septum [4]. In our case, the cyst was deeply positioned in the plane between conjunctiva, the levator aponeurosis, and the Müller muscle, which is unusual. Progressive blepharoptosis in our case could have been the result of levator dehiscence caused by an increase in the size of the mass below the levator aponeurosis. Therefore, the present case stresses the importance of determining the depth of a suspected dermoid cyst in the upper eyelid radiologically.

The approaches used for dermoid cyst removal raise many issues. Eyelid crease incision, as used in our case, is commonly used for periorbital dermoid cyst excision. This incision was first described in the ophthalmology literature [4]. The alternative placing

of a direct incision above mass or an eyebrow incision leave a visible scar and also caused eyebrow depilation and hypopigmentation [2]. The endoscopic approach using a scalp incision was also found to cause hair loss around the operative scar and facial nerve injury [2]. Thus, because of these complications, an eyelid crease incision is preferred. Furthermore, we emphasize in cases of deep dermoid cyst, eyelid crease incision is an important approach because also enables the operator to identify anatomical structure and the condition of upper eyelid, such as, the levator aponeurosis as well as increasing cosmesis.

Initially, we considered removing the mass using the posterior approach through conjunctiva, because the mass was located below the Müller muscle and between conjunctivae. Goldberg and Lew [5] reported good results when the posterior approach was used to correct blepharoptosis. The biggest advantage of this approach is that the scar is not visible from the outside. However, in patients with a dermoid cyst, manipulation is difficult using a conjunctival posterior approach and this can result in rupture because of the narrow field of view.

We would like to remind the reader that a deep dermoid cyst under the levator aponeurosis and Müller muscle is rare, but that symptoms, such as, blepharoptosis can be observed in such cases. In addition, we emphasize the importance of correcting blepharoptosis and mass removal through an eyelid crease incision in such cases.

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## Reconstruction of Ear Deformity from Post-Piercing Perichondritis

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Ear cartilage piercing has skyrocketed in popularity among teenagers and young adults [1]. In this lay procedure, the upper cartilage of the ear, the scapha, or the most lateral cartilage, the helical rim, are pierced with either a hollow-core or solid core instrument and jewelry is placed through the hole. While piercing



**Fig. 1.** Profile view of the infected ear at presentation.