Orbital Fat Prolapse and Dermolipoma: Two Distinct Entities

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A subconjunctival orbital fat prolapse is frequently confused with a dermolipoma clinically. These two entities have similar clinical appearances, but are clearly distinct. The clinical features, differential diagnosis, and treatment modalities of subconjunctival orbital fat prolapse and dermolipoma are discussed.

Key words: dermolipoma, orbital fat prolapse

We find that clinicians frequently confuse the distinct entities of subconjunctival orbital fat prolapse and dermolipoma. These two entities are embryologically distinct and are treated quite differently. A subconjunctival orbital fat prolapse is a herniation of intraconal orbital fat due to an acquired weakening of the Tenon's capsule by aging process, trauma or surgery.1,2 This is analogous to herniation of extraconal orbital fat into the eyelids associated with attenuation of orbital septum, which is frequently seen in elderly patients. A dermolipoma is a congenital, choristomatous tumor usually localized to the temporal aspects of the bulbar conjunctiva near the lateral canthus.3

These two entities can almost always be differentiated clinically. A subconjunctival orbital fat prolapse is a yellow, soft, mobile mass that can be indented with a cotton-tip applicator(Fig 1A). It has convex anterior border and appears larger with pressure on the globe.1 It is more common in males, with average onset of 65 years.2 A dermolipoma is a soft, pinkish-white or pinkish-yellow, non-mobile mass (Fig 2A). It may have fine hairs on the surface. It cannot be indented with a cotton-tip applicator and does not change in size with pressure on the globe. Its anterior border is generally straight or slightly concave. It occurs as a congenital lesion and demonstrates no sexual preference.4

CT imaging in cases of subconjunctival orbital fat prolapse shows characteristic findings of a fat-compatible radiolucent mass that is continuous with the intraconal fat (Fig 1B). In dermolipoma, CT imaging shows a radiolucent mass of fat density in the area of the insertion of the external rectus muscle sometimes showing posterior extension. Bijpe et al5 reported CT data suggesting dermolipoma to be continuous with the orbital fat. Our findings based on high-resolution MRI (Fig 2B) suggest that dermolipoma may be isolated from the orbital fat, which one might expect based on the embryogenesis of these choristomatous tumors.

Orbital fat prolapse can be easily diagnosed by clinical clues if one is aware of disease entity. We suggest that in the majority of cases there is no need to order expensive orbital imaging such as CT or MRI. Surgical treatment of orbital fat prolapse is
Fig. 1. (A) Clinical appearance of subconjunctival orbital fat prolapse. (B) Coronal CT scan shows that radiolucent mass is continuous with the intraconal fat (arrow).

Fig. 2. (A) Clinical photograph of a 30 year old woman with dermolipoma. (B) High resolution MRI scan shows that the dermolipoma is encapsulated posteriorly and distinct from the orbital fat; the superb tissue contrast of MRI may be better than CT scan to make this determination.

REFERENCES


recommended if the prolapsed tissue causes irritation, if other diagnosis is suspected, or for cosmetic purposes. Prolapsed orbital fat is easily removed through a perlimbal conjunctival incision; the fat “flows” out of the orbit much as in transconjunctival blepharoplasty. After excision of fat, we usually locate one or two fornix-forming sutures with 4-0 double-armed chromic catgut in order to prevent recurrent herniation by making scar tissue barrier. Dermolipomas are resected more conservatively, with limited debulking of the anterior portion of the tumor, to avoid strabismus, ptosis and lacrimal gland damage which can occur following aggressive resection.
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