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# A Horseshoe-Shaped Dermoid

**Suwarna Suman***

*All India Institute of Medical Sciences Jodhpur, All India Ophthalmological Society, Delhi Ophthalmological Society, GSVM Medical College, India.*

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## ABSTRACT

Dermoid cysts are congenital choristomas. Orbital dermoids are usually encapsulated cystic lesions and are oval, round, or hourglass in shape. Here, we present an unusual case of an external angular dermoid with a unique horseshoe-shaped appearance in a 19-year-old male.

## Case Presentation

A 19-year-old male presented with a left upper eyelid mass at the lateral angle since childhood (Figure 1a). Initially, some fullness was noticed in this area at the age of five years. It was painless and slowly, progressively increased in size and became more noticeable. Since last year, it gradually extended into the forehead as fullness above the eyebrow laterally.

Ocular examination revealed a soft, non-tender subcutaneous mass, 1.5 x 1.0 cm in size, in the left upper eyelid laterally, extending above the supertemporal orbital margin, measuring 1.5 x 1.0 cm at the lateral angle (Figure 1b). The lesion was mobile except at the orbital rim where it was attached to the underlying bone, and the margin of the lesion was not defined at the orbital rim, indicating a suspicious connection between the two portions of the lesion. The rest of the ocular examination was within normal limits in both eyes. The clinical diagnosis was left eye external angular dermoid with supraorbital extension.

CE-MRI images revealed a well-defined horseshoe-shaped lobulated lesion measuring 3.2 x 12.6 x 29.3 mm (AP x AT x CC) in the lateral aspect of the left upper eyelid at the outer angle and the overlying scalp adjoining the left frontal bone (Figure 1c-e). It showed cystic contents with predominant fat signal

*** Corresponding Author:**
***Suwarna Suman***
***Address:*** *All India Institute of Medical Sciences Jodhpur, All India Ophthalmological Society, Delhi Ophthalmological Society, GSVM Medical College, India.*
***E-mail:*** *suwarnasuman@gmail.com*

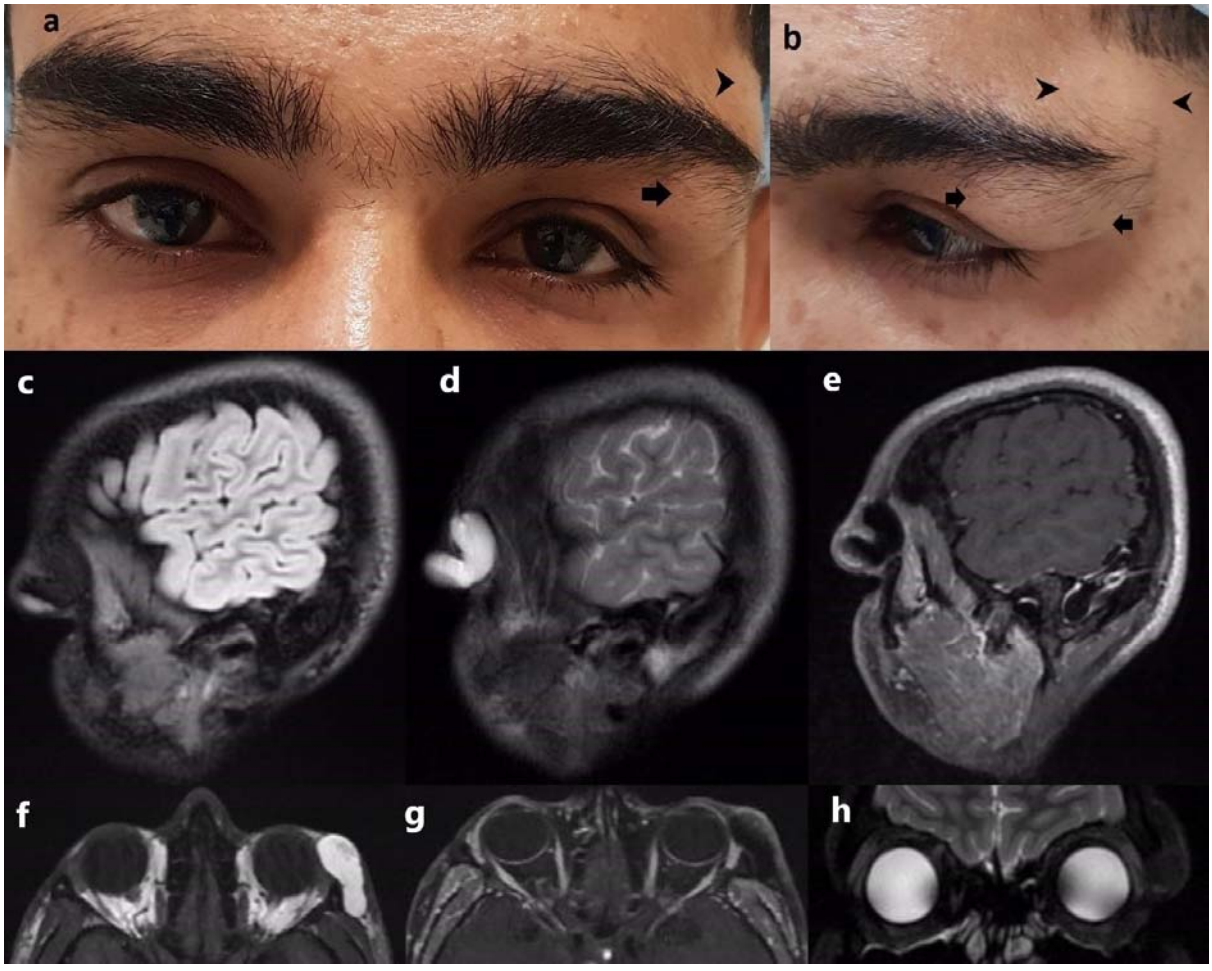


**Fig. 1.** (a) External angular dermoid beneath the eyebrow (arrow) with supraorbital extension (arrowhead), (b) Close-up view. (c) T2 FLAIR (d) T2 PROPELLER (e) 3D T1 Cube with Contrast MRI sagittal image showing a horseshoe-shaped dermoid cyst. (f) Hyperintence lesion in axial T1-weighted image, (g) Peripheral enhancement in axial T1-weighted post-contrast image, (h) Hypointence lesion in coronal T2 PROPELLER FS MRI image. No intraorbital extension was seen.

intensity, and post-contrast images showed peripheral enhancement. No intraorbital or intracranial extension was seen (Figure 1f-h).

Surgical excision was performed through a small external sub-brow incision. As the cyst was angulated, it was difficult to manipulate it through a small incision, and there was a risk of accidental rupture. Therefore, the content of the cyst was aspirated before further dissection, and the cyst wall was freed from the periosteum of the orbital rim and removed completely. No bony communication was identified. The postoperative period was uneventful, with no signs of inflammation noted. The histopathological evaluation confirmed the diagnosis of a dermoid cyst. On review, one year after excision, there was no evidence of recurrence.

Orbital dermoids are commonly round or oval, or less commonly, dumbbell-shaped if extended through the orbital wall defect, with both an anterior periorbital and a deeper orbital lobe [1,2]. In this case, the superficial lesion of the upper eyelid extended beyond the orbital margin into the forehead laterally above the eyebrow, then turned medially in the forehead in a horseshoe-shaped manner without any bony defect or deeper extension. Perry and Tuthill reported two distinct oval cystic lesions in the lateral orbit and temporal fossa without any bony defect [3]. In this case, it was not appreciable clinically whether the portions above and below the orbital margin were connected or two separate lesions. MRI scan revealed a single lesion in a peculiar horseshoe-shaped configuration. Imaging is important in cases of orbital dermoid to assess the extent of the lesion, differentiate it from encephalocele or mucocele, and rule out any intraorbital or intracranial extension for planning the surgical approach. CT imaging is especially useful in delineating bony changes like erosion near the affected suture and full-thickness

bony defects in dumbbell dermoids [1]. This is an unusual presentation of a dermoid cyst with a unique horseshoe-shaped appearance never reported before.

## Ethical Considerations

### Compliance with ethical guidelines

All activities elucidated in the current investigation were carried out in adherence to ethical principles. Written informed consent was obtained from the patient for the publication of this case report and accompanying images.

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### Conflict of Interests

The authors declare no conflict of interest.

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