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Orbital respiratory epithelial implantation cyst: A rare case presenting decades after orbital trauma

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Abstract

The epithelial implantation cysts are rare complications of orbital trauma or surgery. They arise due to tissue manipulation during surgery secondary to delivery of epithelial cells to deeper areas. We hereby present a case of orbital cyst in an elderly gentleman who became symptomatic with progressive diplopia and proptosis following cranio-orbital trauma. Histopathologic assessment showed a cyst lined by respiratory epithelium. This case also highlights the importance of proper history taking while evaluating orbital cyst for establishing the diagnosis of respiratory epithelial implantation cyst which is a rare entity.

Keywords: Orbital respiratory, orbital trauma, surgery, symptomatic

Introduction

The respiratory epithelial lined cysts of the orbit can be congenital or post-traumatic and are very rare. They are benign lesions that are frequently described after intraocular or intraorbital surgery and trauma. These epithelial inclusion cysts more commonly present as mucocoeles secondary to chronic paranasal sinus disease. We hereby present a case of orbital cyst in an elderly gentleman who became symptomatic following cranio-orbital trauma.

Case Report

A 69-year-old male presented with progressive diplopia on upward gaze and right eye proptosis of six months duration. He gave history of road traffic accident 40 years ago with multiple cranio-orbital fracture which required surgical intervention and a pellet injury over right eye 25 years ago which was managed conservatively. The patient also underwent cataract surgery both eyes, right eye 3 years ago and left eye 1 year ago.

The patient was evaluated with NCCT head and orbit which showed an expansile soft tissue lesion over right orbital roof of frontal bone measuring 3 cm in greatest dimension causing thinning of bone and was seen displacing frontal lobe.

Routine haematological and biochemistry investigations were normal. The lesion was surgically removed and histopathological analysis confirmed that the cyst was lined by respiratory epithelium and no mucus was seen. No skin appendages were identified and by excluding other differentials, based on history and histopathological examination findings, a rare diagnosis of respiratory epithelial implantation cyst arising from orbital trauma was made.

Discussion

Epithelial implantation cysts are rare, benign lesions that are frequently described after intraocular or intraorbital surgery and trauma [3]. These cysts are lined by epithelial structures that are found separated from normal epithelium. They arise when there is tissue manipulation during surgery secondary to delivery of epithelial cells to deeper areas. Acquired orbital respiratory cysts are caused by extension of paranasal sinus mucosa either by herniation because of trauma or by pressure erosion of the thin intervening bone or by an expanding mucocoele [1].

It is hypothesised that trauma is more likely to give rise to cyst formation than elective surgery [4]. It is postulated that injuries in which a foreign material has been embedded in deeper tissues are more likely to introduce epithelial cells to deeper layers giving rise to implantation cysts [3, 4].

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Mucocele arise from prolonged obstruction to outflow and they communicate with parent paranasal sinuses [2]. It is apparent from the case report that obtaining a thorough history of surgery and trauma is essential in arriving at the diagnosis of Orbital respiratory epithelial implantation cyst.

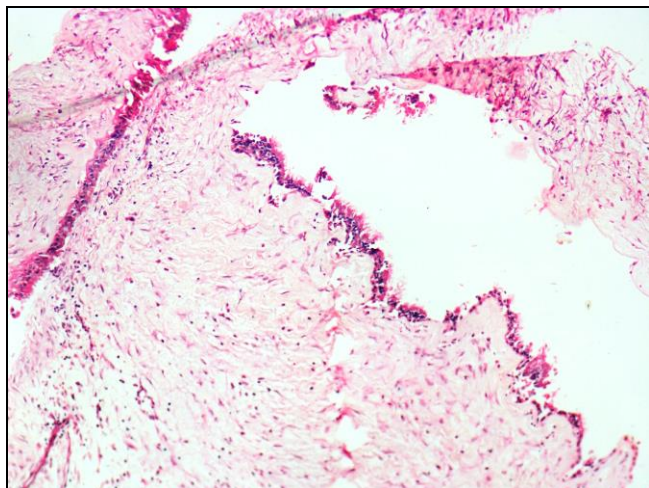


Fig 1: Shows the pseudostratified ciliated columnar epithelium with Cilia and goblet cells. (H&E 100x)

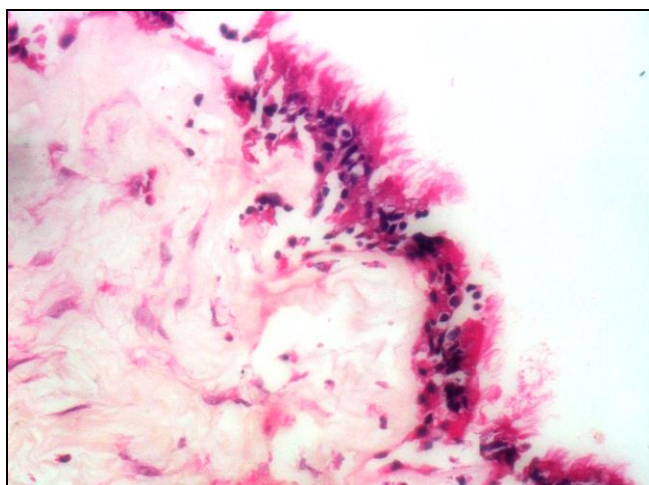


Fig 2: High power view (H&E 400x)

Conflict of Interest

Not available

Financial Support

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