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Clinical dilemma of unilateral popping eye

Parag H. Mehta, Siddharth R. Bhesania, Hojoon You

CASE REPORT

A 36-year-old male was presented in emergency department with worsening left eye protrusion since two and a half years (Figure 1). He also complained of left eye dull pain (3/10) and headaches for two weeks without any visual changes. No symptoms suggestive of thyroid disease. He had no significant past medical history. His visual field and rest of the physical examinations were normal. Patient's blood pressure was elevated (171/112 mmHg) in the emergency department but came down to normal eventually. On computed tomography scan of the head (Figure 2A), he had a large soft tissue homogenous mass extending into the left orbit measuring 5x3.8 cm in axial dimension. Patient had endoscopic sinus surgery and resection of the left ethmoid mucocele and orbital decompression that he tolerated well with improvement of his proptosis (Figure 2B). Postoperatively, patient complained of diplopia, which resolved eventually.

DISCUSSION

Para-nasal sinus mucocele is described as slowly expanding benign cystic lesion. Frontal and ethmoidal sinuses are being the most commonly affected with the condition. Most of the time it is filled with mucus and respiratory epithelium. The exact mechanism causing

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Figure 1: Patient photo showing popping of left eye.

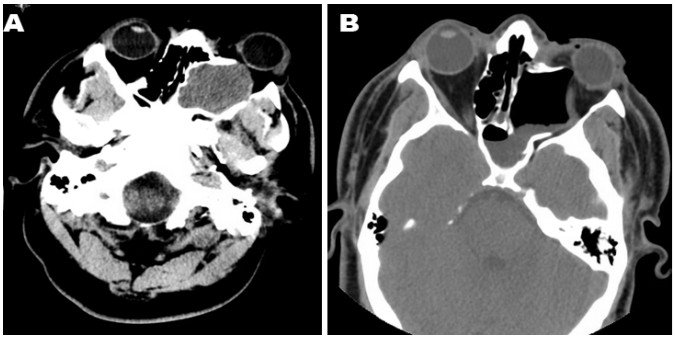

Figure 2: (A) Presurgery computed tomography scan of head showing large mucocele evading left eye socket pushing eye ball out, and (B) Postsurgery computed tomography scan of head showing mucocele removed via endoscopic sinus surgery.

mucocele is unclear, however, obstruction of ostia due to inflammation, fibrosis, trauma, anatomical anomaly or polyps may be the cause [1, 2]. It may occur at any time but most commonly prevalent in 30–70 years of age irrespective of gender. If left untreated gradually it expands and may push surrounding structures especially bony walls of affected sinus, occasionally affecting orbit and intracranial cavity. Usually, when it is small, it is asymptomatic. As it expands it can cause headaches, facial asymmetry, orbital pain, and vision problem depending on the site of expansion. In this case, the cause for mucocele was unclear and patient had headaches with left eye pain without any vision problem. When mucocele expands in orbital cavity pushing the structures behind the eyeball, it can cause proptosis. There can also be visual acuity problem if the optic nerve is compressed.

Computed tomography scan is the confirmatory diagnostic test showing low density, soft tissue homogenous mass. Magnetic resonance imaging scan can be useful to differentiate the cause especially if it is neoplasm. If mucocele is infected, it can rapidly expand and compress surrounding structures. Culture of the aspiration can confirm infection [3].

Treatment always consists of surgery, which can be external approach or endoscopic depending upon size and location of mucocele. In recent years, endoscopic approach has been widely used due to its advantage of minimal damage to mucosa and maintenance of a patent sphenoethmoidal recess [4].

CONCLUSION

In conclusion, most common cause of proptosis is thyroid disease. History is important to identify other causes. Mucocele is relatively rare to develop up to this stage, where it gives proptosis. The situation can be prevented if there is early intervention.

Keywords: Diplopia, Mucocele, Popping eye, Unilateral proptosis

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Parag H. Mehta – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

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Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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