FRONTOETHMOIDAL MUCOCELE (A Case Report)

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Introduction

A mucocoele is an uncommon cause of diplopia. It can develop de novo or secondary to chronic sinusitis [1]. A case of primary frontoethmoidal mucocoele which was treated successfully using the Lynch-Howarth approach, is being reported. The patient had an uneventful postoperative recovery and all the symptoms disappeared within three months.

CASE REPORT

A 30-year-old soldier presented with the complaint of gradually increasing bulge of the right eye for 7 months. He also complained of aching around the eye and double vision for 2 months. There was no history of nasal obstruction or discharge, injury around the eye or of surgery of the paranasal sinuses.

On examination, there was proptosis of the right eye 5mm forwards and 3mm laterally. Vision was normal in both the eyes. Movements of the right eye were restricted in upwards and outwards direction. There was diplopia during right upward and lateral gaze. There was tenderness over the right supraorbital margin. Examination of the nose revealed mild deviation of septum to the left side and hypertrophied right middle turbinate. Nasal mucosa was normal and there was no discharge in the meati. Posterior rhinoscopy showed choanae free of discharge.

Radiography of the paranasal sinuses (Water's View) revealed a large opaque lesion with sclerosis at the margins in the right supraorbital rim (Fig 1). A diagnosis of right-sided frontoethmoidal mucocoele was made. Computed tomography (CT) scan head was done to confirm the diagnosis of mucocoele. It revealed a homogenous opacity in the right frontoethmoid region. Along with the opacity there was proptosis of the right eyeball.

Right frontoethmoidectomy under general anaesthesia was carried out using Lynch-Howarth approach. During the operation the right frontal sinus was found full of

Fig. 1 : Radiogram PNS showing homogeneous opacity right frontal sinus with loss of scalloping and sclerosis at the margins.

Fig. 2 : CT scan showing homogeneous opacity in right frontoethmoid region.

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thick mucus and was lined by polypoidal mucosa. All the mucosa from the frontal sinus was removed, the anterior ethmoidal cells were exenterated and a silastic tube of 1 cm diameter and 5.5 cm length was placed from the floor of the right frontal sinus to the region of the middle meatus. It was anchored in position with silk sutures in the vestibular region. It was retained for 8 weeks. Postoperatively, the patient made good recovery. His proptosis regressed and diplopia and eye ache disappeared.

Discussion

Mucocoeles can arise in any of the paranasal sinuses. Most commonly they arise in the frontal sinus (70-80%) [2]. The frontoethmoidal region is involved in 10-14% cases. Maxillary sinus involvement is quite rare (3% or less).

Mucocoeles can be primary or secondary. A primary mucocoele starts with formation of a cyst from a goblet cell gland and grows to expand the sinus. Secondary mucocoele results from obstruction of the ostium of the sinus. The obstruction may be due to (i) chronic sinusitis and mucosal edema, (ii) surgical or non-surgical injury & (iii) tumours pressing on the drainage channel.

Patients usually present initially to the ophthalmologists with diplopia and proptosis. Other ocular manifestations may be epiphora and eyeache. Nasal manifestations include obstruction, discharge and congestion of mucosa. There may be nasal polyposis in patients with nasal allergy. Patients may give history of previous sinus surgery like ethmoidectomy. Our patient had a primary mucocoele with diplopia and proptosis.

Radiologic examination of sinuses reveals overall loss of translucency of the involved sinus. In addition to osteolysis there is a zone of sclerosis at the margin. Some cases may show macroscopic calcification. Involvement of the frontal sinus is indicated by loss of scalloping, erosion of bone margins and displacement of intersinus septum to the opposite side [3]. CT shows the mucocoele as a

homogeneous lesion isodense with the brain [4]. There is no enhancement with contrast in a mucocoele [5] whereas a pyocoele shows enhancement at the rim.

Treatment is essentially surgical and this should be radical in the sense that all the diseased mucosa should be removed and adequate drainage provided. Surgical approach is usually external, though an intranasal endoscopic approach has been advocated by Kennedy [6]. External approaches include osteoplastic sinusotomy of Macbeth, osteoplastic procedure of Goodale-and-Montgomery, Lynch-Howarth procedure [7]. Serious complications of these surgical procedures are CSF leak, meningitis, and orbital cellulitis. Though, at times there may be recurrence of the condition, the recurrence rate with Lynch-Howarth procedure is not as much as reported [8]. Our case was operated using the Lynch-Howarth approach and there were no postoperative complications and recurrence.

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