

Fungal Sinonasal Polyposis Causing Unilateral Proptosis

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ABSTRACT

Introduction: Proptosis or exophthalmos is abnormal protrusion of the eyeball. Proptosis may be unilateral or bilateral. It is caused by various lesions like idiopathic inflammatory pseudotumor, benign or malignant orbital tumors, orbital myositis and graves ophthalmopathy

Case Report: We present a rare case of unilateral proptosis due to fungal sinonasal polyposis. He has history of nasal block and features of sinusitis for the past 2 years and was on irregular treatment. He had developed proptosis of the left eye and was referred for CT scan of the orbits which revealed pan fungal sinonasal polyposis of the left side paranasal sinuses with erosion of the floor of the orbit and extending into the left orbit.

Conclusion: Although fungal sinonasal polyposis is a rare cause of proptosis it should be considered in the differential diagnosis for proptosis. Use of CT scan, with or without administration of intravenous contrast, will help in differentiating the various etiology causing proptosis and helps in identifying the etiology so that appropriate treatment can be started.

Keywords: Unilateral Proptosis, Nasal Polyposis, Sino-Nasal Diseases, Fungal Rhinosinusitis

INTRODUCTION

Proptosis is abnormal protrusion of the globe. On axial scans, globe protrusion of 21 mm or more, anterior to interzygomatic line, is considered as proptosis.¹ The measurement is done at the level of the lens. Proptosis may be unilateral or bilateral and is caused by various lesions like idiopathic Inflammatory pseudotumor, orbital tumors (benign or malignant), orbital myositis and graves ophthalmopathy. The common cause of proptosis in the adult population is idiopathic inflammatory pseudotumor followed by the orbital tumors. The tumors are usually benign. However primary neoplasms, metastasis and lymphoma also occur. Cavernous hemangioma is the most common benign tumor. Primary neoplasm of breast, prostate and lung cancer cause metastases to the orbits.³ Graves ophthalmopathy is the most common cause of bilateral proptosis. Contrast enhanced CT and MRI are considered are used to localize and characterize the lesion.⁴ Conditions like chronic infections of sinuses including fungal infections, tumors arising from paranasal sinuses and sinonasal polyposis can involve the orbit.⁵ The clinical features are those of chronic rhinosinusitis which include nasal obstruction, facial pressure and rhinorrhoea. Proptosis, ptosis, diplopia are the most common ocular symptoms but these rarely represent the initial manifestation of the disease.

CASE REPORT

A 33 old male was referred to DNV Diagnostics for CT of

the orbits. He had presented with complaint of proptosis of the left eye for the past 2 to 3 weeks (Fig-1). No complaints of any visual disturbance. He also said that he was having on and off nasal block and sinusitis for the past 2 years for which he was on irregular treatment. No other relevant history. The CT of the orbits was done including the paranasal sinuses. The CT shows soft tissue density opacities in the left frontal, ethmoidal, maxillary and sphenoid sinuses and the nasal passage. Linear hyperdensities were noted within. Bony erosion was seen in the medial wall of the left maxillary sinus and floor of the left orbit and these opacities were extending to the posterior part of the left orbit on both side of the optic nerve pushing the globe anterior and superiorly. The left optic nerve however appeared intact. In fig-2,3 and 4 the CT shows soft tissue density opacities in the left frontal, ethmoidal, maxillary and sphenoid sinuses and the nasal passage.

DISCUSSION

There are 3 steps to evaluate the orbit. The 1st step is to obtain a detailed medical history, 2nd step is clinical examination of the orbit by the optometrist and ophthalmologist. 3rd step is the radiological evaluation using CT and MRI.⁶ Acute unilateral proptosis is suggestive of either infective or vascular etiology. Chronic unilateral proptosis is usually suggestive of tumor.⁷

We describe a patient with proptosis and sinonasal symptoms who was subsequently diagnosed as having fungal sinonasal polyposis. This disease is characterized primarily by chronic rhinosinusitis, nasal polyposis, allergic mucin, and growth of fungal organisms in culture and a positive histologic examination.⁸ Clinical features are those associated with chronic rhinosinusitis, which include facial pressure, nasal obstruction, and rhinorrhea. The common ocular symptoms are proptosis, ptosis and diplopia but these conditions are rarely the initial manifestation of the disease. The CT and MRI characterize the orbital mass based on their location, margins, presence of bone erosion and contrast enhancement pattern. Biopsy of the masses are rarely required after the advent of CT and MRI. It is done mainly for the lymphomas to pathologically define the type of lymphoma.⁹ The nasal

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Figure-1: Note the proptosis of the left eye.

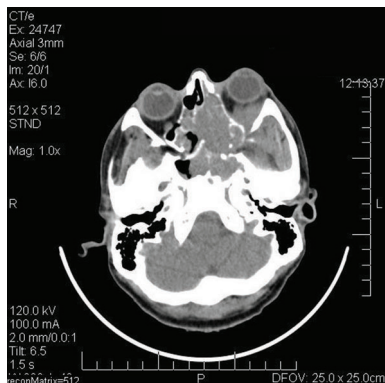


Figure-2: The CT shows polyposis in bilateral sphenoid and ethmoidal sinuses and soft tissue opacity seen in the posterior part of the left orbit causing proptosis.

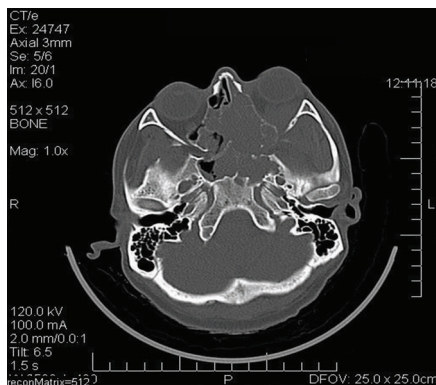


Figure-3: Soft tissue opacities are extending to the posterior part of the left orbit on both side of the optic nerve pushing the globe anterior and superiorly.

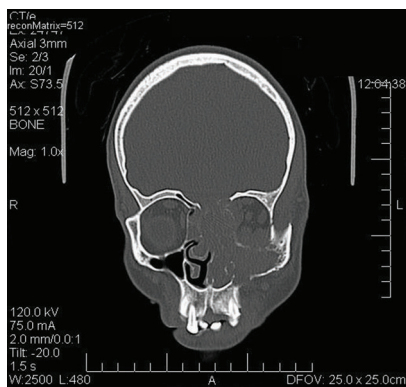


Figure-4: Bone erosion noted in the floor of the left orbit and the opacities are extending to the left orbit.

mucus specimens of these patients are designated as allergic mucin because of the presence of large number of eosinophils and their degradation products within the mucus.

Although standardized treatment is not well defined, surgical debridement and systemic corticosteroid therapy are commonly recommended.

CONCLUSION

The typical patient with fungal sinonasal polyposis is young and immunocompetent with a history of asthma or atopy.¹⁰ Orbital involvement in fungal sinonasal polyposis is caused by the direct extension of sinus inflammation and can result in compressive ocular symptoms. Although well described in the medical literature, fungal sinonasal polyposis has rarely been described with ophthalmic involvement. We had one such patient and take this opportunity to present our case report.

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