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Case Report

Case of inverted papilloma of nasal cavity with malignant transformation involving both orbits

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ABSTRACT

Inverted papilloma is an interesting benign tumour arising from lining epithelium of paranasal sinuses which most commonly involves nasal cavity and paranasal sinuses. Extension to orbit is a rare presentation. It is an uncommon intermediate grade epithelial tumour of the nasal cavity, with tendency to recur and associated with malignancy, arising from Schneiderian membrane of paranasal sinuses. Reporting a case of inverted papilloma of right nasal cavity with well differentiated squamous cell carcinoma, invading to both orbits.

1. Introduction

Inverted papilloma is a sub type of Schneiderian papilloma is a unique tumour characterized by proliferation of epithelium into the stroma of the tumour. It is locally invasive with tendency to recur. Though intermediate grade, it can undergo malignant transformation. Typically seen in men of age group 40 to 70 years. Inverted papilloma usually presents with nasal obstruction and discharge, ocular involvement is rare, signify extensive disease[1].

Inverted papilloma of the nose and paranasal sinuses are uncommon neoplasms, characterized by their tendency to recur and with invasive potential to the adjacent structures, also association with malignancy. Reporting a case of inverted papilloma of right nasal cavity with well differentiated squamous cell carcinoma, invading to both orbits.

2. Case Report

A 56 years old male patient referred from otorhinolaryngology department with complaints of proptosis, restricted extra ocular movements and bilateral ptosis and exposure keratopathy in the right eye.

The patients 9 months ago had first developed right sided nasal obstruction and few episodes of nasal bleeding and noticed deformity over right nasal wall after 2 months. There was no history of nasal discharge or hyposmia. Proptosis was insidious onset gradually progressive associated with right side headache, drooping of the right eyelid in the last 6 months, and gradual diminution of vision in the last 4 months. There was no history of diplopia.

On clinical examination, Patient had right eye non-axial proptosis with eye ball pushed infero-laterally and with esodeviation and PL negative vision with complete ophthalmoplegia and upper lid ptosis. Conjunctival congestion and chemosis with corneal opacification and exposure keratitis was present in the right eye. Pupillary reaction, lens and other details of anterior chamber were

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not appreciated under torch light or slit lamp examination.

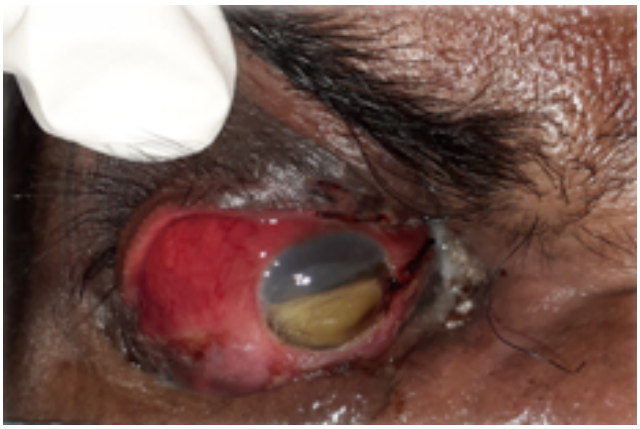

Fig. 1: Right eye Lid oedema, chemosis and congestion of conjunctiva & Exposure keratitis

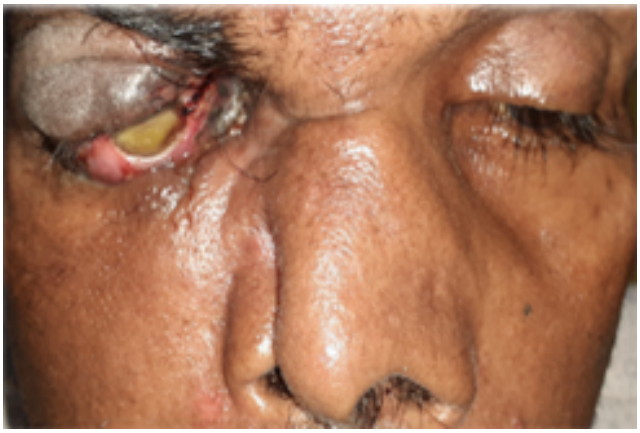

Fig. 2: RE clinical presentation with ptosis and proptosis.

RE had inferior scleral show and inability to close eyelid and tender eyeball. No visible pulsation, absent bells phenomenon. Peri-orbital fullness present but orbital margins were intact. Finger insinuation was possible all around the globe. Resistance felt on retropulsion. Globe was firm to hard in consistency. On measuring from lateral orbital margin to corneal apex (Axial measurement) it was 35mm which is 11 mm more than left eye. Horizontal measurement done from middle of nose to nasal limbus 20mm, 12 mm less than left eye since eye ball is eso-deviated and vertical measurement from upper orbital margin up to inferior limbus 30 mm increased by 8 mm on comparison with left eye. No bruit heard on auscultation.

Ptosis present in both eye with poor levator palpebrae superioris function, with negative fatigue and icepack test. Corneal sensation reduced in right eye. Schirmers test 4mm & tear break up time was 2s implying dry eye. LE vision was 6/18 Pin hole improvement to 6/12(P) with upper lid ptosis and Extraocular movements was restricted medially. Pupillary reaction, Anterior chamber examination, lens and fundus in the left eye were normal. Collapse of right lateral wall of the nose noted.

MRI Brain and orbit showed irregular T2 & T1 isointense lesion in the intra and the extraconal compartments of the right orbit extensions to the region of right cavernous sinus and extraconal compartment of the left orbit, there was moderate post contrast enhancement, with enhancing soft tissue components along the dural lining of the anterior cranial fossa. Anteriorly lesion is causing deformation of globe and extending to subcutaneous plane. Superiorly lesion is extending to intracranial compartment showing peripheral enhancement with defect in cribriform plate and also extending into right frontal sinus. Inferiorly lesion extending to subcutaneous tissue in premaxillary region. Few irregular T2 hyperintense lesions showing peripheral enhancement noted in the bilateral basifrontal regions. Right globe shows a crescentic T1 hypointense T2 hyperintense lesion and no enhancement post-contrast measuring 15.3mm x 7mmon temporal aspect – likely choroidal haemorrhage

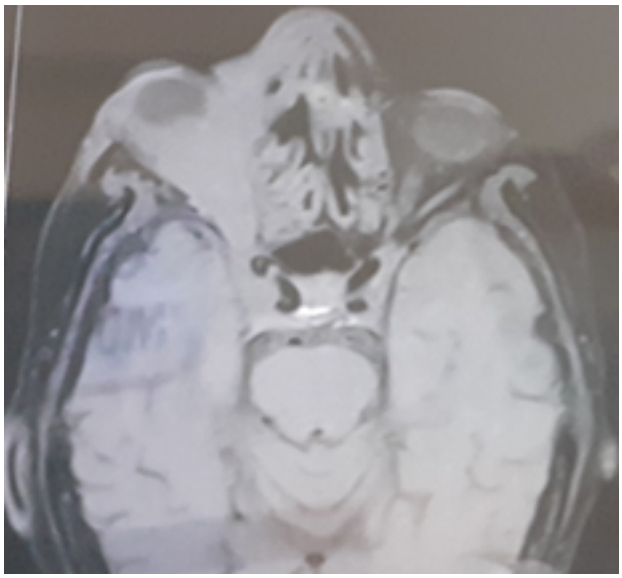

Fig. 3: MRI Bain and Orbit, Axial -Inverted Papilloma in right nasal cavity invasion to right orbit

Nasal endoscopic examination revealed a mass on the right lateral wall of the nose and unhealthy mucosa that bleeds on touch. Endoscopic guided biopsy on 20/8/2020 of mass from the lateral wall of right side of nose showed inverted papilloma and a focus of moderately differentiated squamous cell carcinoma.

The Patient was examined and lid tapping was advised with topical lubricating agents, systemic antibiotics and NSAIDS are prescribed. However, Lesion was not amenable for surgical excision, patient was referred for oncology for further management

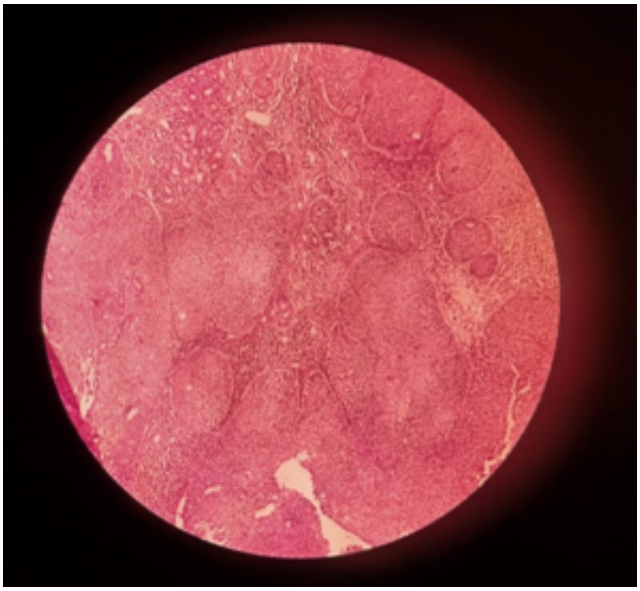

Fig. 4: Histopathology image of inverted papilloma with 10 X magnification showing, stroma containing mucous glands, chronic inflammatory cells, congested blood vessels, dysplastic squamous epithelial cells with mild to moderate pleomorphism and keratin pearl formation.

3. Discussion

Inverted papilloma is an uncommon intermediate grade epithelial tumour of the nasal cavity, with tendency to recur and associated with malignancy, arising from Schneiderian membrane of paranasal sinuses. Hopmann (1883) classified them as hard and soft papillomas. Ringertz described the true inverting nature of hyperplastic epithelium into the stroma.[1] Hyams classified papilloma as fungiform (exophytic) papillomas. oncocytic schneiderian and inverted papilloma. Microscopically, IPs are composed of hyperplastic ribbons of basement membrane enclosed epithelium that grow endophytically into the underlying stroma.[2]

Sagar ponum et al reported, case of Inverted papilloma presenting as unilateral proptosis. Mass lesion was invading orbit and extending to sinuses. Nasal endoscopy and biopsy confirmed inverted papilloma. Lesion was surgically excised with good visual prognosis.[3]

Kumar Ashok J et al reported a case of Inverted papilloma of nose with orbital involvement and malignant transformation soft tissue mass in right nasal cavity, sinuses with orbital invasion. Debulking surgery and radiotherapy was done rendering patient disease free.[4]

Our patient reported with advanced disease with intracranial extension and therefore surgically amenable.

4. Conclusion

Although a rare cause of proptosis, inverted papilloma with orbital invasion must be considered in the differential diagnosis of naso-sinus tumors invading the orbit. It has tendency of malignant transformation, most commonly presenting as squamous cell carcinoma. Intracranial extension has poor prognosis, therefore early diagnosis and management is of importance. The role of ophthalmologist in such cases is crucial as awareness of ocular manifestations and lead to recognition of the condition of the and therefore aid in multidisciplinary management.

5. Conflict of Interest

None.

6. Source of Funding

None.

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