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Glomangiopericytoma of the Nasal Sinus Mimicking Dacryocoele: A Case Report and Literature Review

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Abstract **Case Report**

***Introduction*:** Glomangiopericytoma (GPC) of the nasal sinus is a rare mesenchymal tumor that can mimic various benign pathologies in this anatomical region. We report an unusual clinical case and describe the diagnostic and therapeutic challenges encountered. ***Case Presentation*:** A 62-year-old woman presented with swelling of the left inner eye angle, tearing, and ipsilateral nasal obstruction. Clinical examination and imaging initially suggested chronic dacryocystitis. A polypoid nasal sinus mass was detected on endoscopy and computed tomography. Complete excision was performed via endoscopic nasal sinus surgery. The histopathological analysis confirmed the definitive diagnosis of glomangiopericytoma. ***Discussion*:** Nasal sinus GPC is a rare tumor, typically benign, derived from perivascular cells. Its clinical presentation is nonspecific and can mimic more common pathologies. Diagnosis is based on imaging and histopathological analysis with immunohistochemistry. The treatment of choice is complete surgical excision, preferably via minimally invasive endoscopic approach. Long-term close monitoring is recommended due to the risk of local recurrence. ***Conclusion*:** This clinical case highlights the importance of considering glomangiopericytoma in the differential diagnosis of nasal sinus masses, even in cases of initial benign presentation. A multidisciplinary approach, involving imaging, surgery, and histopathological analysis, is essential for optimal management.

Keywords: Glomangiopericytoma, Nasal Sinus Tumor, Endoscopic Surgery, Differential Diagnosis, Orbital Mass.

INTRODUCTION

Nasal sinus tumors encompass a wide range of benign and malignant pathologies, some of which are extremely rare. Among these, glomangiopericytoma (GPC) is a rare mesenchymal tumor derived from perivascular cells (pericytes) and can develop in various regions of the body, including the nasal sinus area [1]. Although generally benign, GPC can have the potential for local recurrence and, more rarely, distant metastasis [2]. Its occurrence in the nasal sinus is particularly rare, with fewer than a hundred cases reported in the literature [3]. The clinical presentation of nasal sinus GPCs is polymorphic and nonspecific, mimicking other more common pathologies in this anatomical region [4]. Early diagnosis and appropriate therapeutic management are crucial for ensuring a favorable prognosis.

CASE PRESENTATION

We report the case of a 62-year-old woman who initially presented to her ophthalmologist with painless swelling of the left inner eye angle (Figure 1), accompanied by intermittent tearing and ipsilateral nasal obstruction. Ophthalmological examination revealed a positive bone contact and pathological lacrimal duct irrigation. Nasal endoscopy revealed a polypoid mass occluding the left middle meatus (Figure 2). Computed tomography (CT) imaging of the facial sinuses showed a moderately enhancing mass after contrast injection, with an expansive and compressive effect on the lacrimal-nasal canal, resulting in dilatation of the lacrimal sac (Figure 3).

Figure 1: Swelling of the inner eye angle.

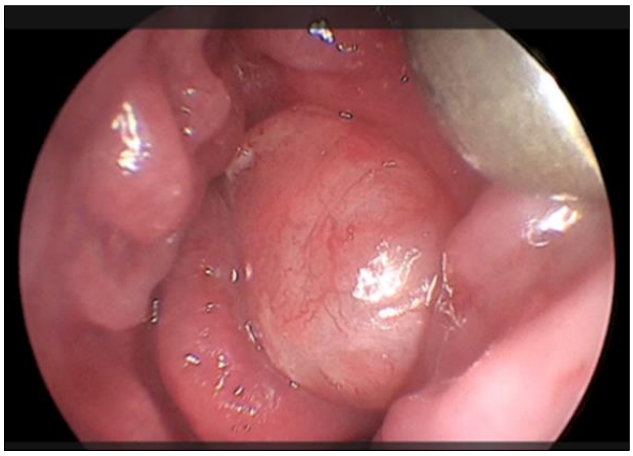

Figure 2: Polypoid mass occluding the middle meatus.

Due to the initial suspicion of dacryocoele, the patient was referred to the Department of Otolaryngology-Head and Neck Surgery at our institution for surgical management. Complete excision of the mass was performed via endoscopic nasal sinus surgery. This intervention resulted in an immediate disappearance of the swelling of the inner eye angle.

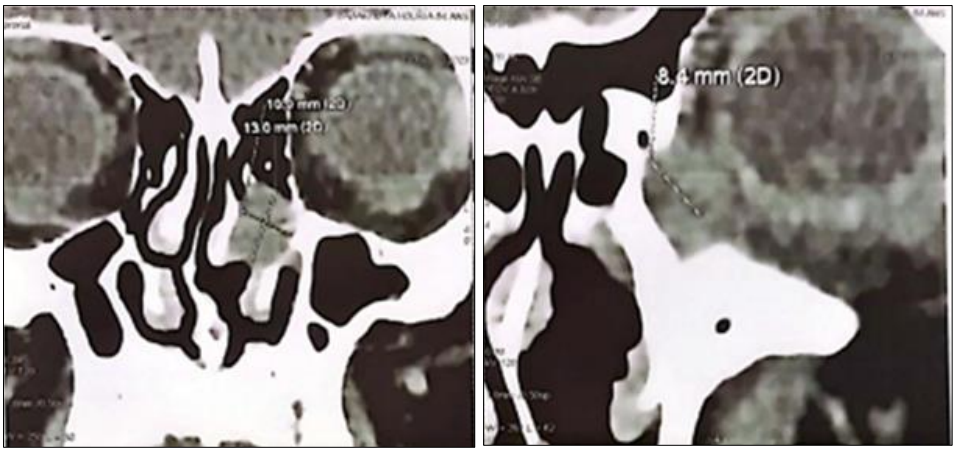

Figure 3: Computed tomography (CT) images showing a mass in the middle meatus with dilatation of the lacrimal sac

Macroscopically, the surgical specimen consisted of a partially encapsulated ovoid nodular formation, measuring 1.8 x 1.5 cm, with a firm consistency and whitish color. Microscopic examination revealed a nodular mesenchymal proliferation composed of regular spindle and round cells, without cytological atypia or significant mitotic activity. Immunohistochemical analysis showed positive staining for smooth muscle actin (SMA) and negative staining for caldesmon, CD31, CD34, and Stat6. These findings were consistent with the diagnosis of nasal sinus glomangiopericytoma.

At the 6-month follow-up, the patient showed no signs of clinical (Figure 4) or radiological recurrence. She is currently being followed up annually with nasal sinus endoscopy and imaging, in accordance with the recommendations for this pathology.

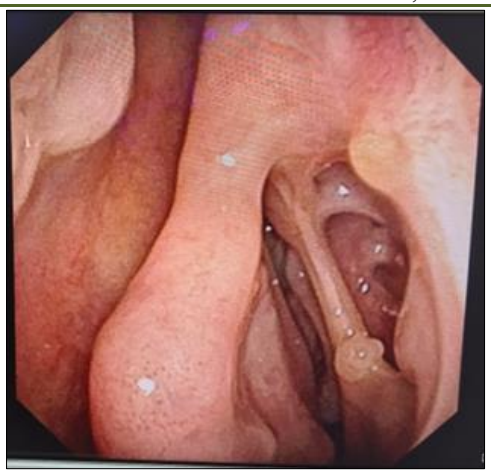

Figure 4: Post-operative status after 6 months

DISCUSSION

Glomangiopericytoma (GPC) is a rare mesenchymal tumor derived from perivascular cells and can develop in various regions of the body, including the nasal sinus area [5]. Although generally benign, it can have the potential for local recurrence and, more rarely, distant metastasis [2]. Nasal sinus GPCs are particularly rare, with fewer than a hundred cases reported in the literature [3]. In a study published in 2016 by Kansakar *et al*., 25 cases of nasal GPC reported since 1942 were identified [9]. The average age of onset for nasal sinus GPC is around 60 years, with a slight female predominance. The most commonly affected sites are the maxillary sinuses and nasal fossae [11, 12].

The clinical presentation of these tumors is nonspecific and can mimic other more common nasal sinus pathologies such as polyps, mucoceles, or malignant tumors [4-6]. In addition to nasal and orbital obstructive symptoms, patients may also experience epistaxis, unilateral nasal obstruction, headaches, or facial pain. In advanced cases, neurological symptoms (visual deficits, cranial nerve paralysis) may occur in cases of intracranial extension [13, 14]. In our case, the initial symptoms (swelling of the inner eye angle, tearing, and nasal obstruction) led to a mistaken suspicion of dacryocoele, suggesting the need for endonasal dacryocystorhinostomy. Once the obstruction (tumor mass) was removed, the dilatation of the lacrimal sac regressed, resulting in the disappearance of the orbital swelling.

On imaging, GPCs typically appear as well-defined lesions with heterogeneous enhancement after contrast administration. The radiological differential diagnosis includes other mesenchymal tumors (hemangiomas, schwannomas), mucoceles, or malignant tumors [15, 16]. Glomangiopericytoma is generally considered an intermediate malignant potential tumor, with a risk of local recurrence and distant metastasis. However, the biological behavior of nasal GPCs seems to be generally less aggressive than those in more common soft tissue locations. In a study of 33 cases of nasal GPC by Sanaullah, F. & Desai, N. B, only 3 patients (9%) experienced local recurrence, and none developed distant metastases [10]. Poor prognostic factors include large tumor size, involved surgical margins, and high cellular proliferation index. The rate of local recurrence after complete excision ranges from 10 to 50% in various series. A small percentage (approximately 5%) of GPCs metastasize, typically to the lungs [17, 18].

Surgical excision can be supplemented with adjuvant radiotherapy in cases of involved margins or high-grade tumors. The role of adjuvant chemotherapy is not well-established but may be considered in cases of metastatic disease [19, 20]. In conclusion, although rare, recognizing the clinical, radiological, and histological characteristics of nasal sinus GPCs is important for appropriate multidisciplinary management.

CONCLUSION

Nasal sinus glomangiopericytoma is a rare tumor that can mimic various more common pathologies in this anatomical region. Early diagnosis and appropriate surgical management are essential for ensuring a favorable prognosis. Our clinical case illustrates the importance of considering this entity in the differential diagnosis of nasal sinus masses, even when the initial presentation appears benign. A multidisciplinary approach, involving imaging, endoscopic surgery, and rigorous histopathological analysis, is crucial for optimal management of these rare tumors.

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