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Bilobe Parotid Lipoma: A Rare Case Report

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Abstract **Case Report**

Lipomas arising from the parotid gland are very rare. They compromise 0.6%-4.4% of all parotid tumor. Because of their rarity at this site, they are not often considered in the differential diagnosis of parotid tumors. A surgical procedure is challenging due to the associated risk factor of facial nerve injury. In this article, we report a rare case of lipoma of the superficial and deep lobe of the parotid gland. ***Case Report*:** A 72-year-old male patient was presented with swelling of the right parotid region for about 2 years. His facial nerve was fully intact and his salivary flow through Stenson's duct was normal. The patient benefited from magnetic resonance imaging (MRI) to guide the diagnosis. The patient underwent a superficial parotidectomy, during which the lipoma was removed. There was no complication or recurrence of the tumor after a follow-up of 1 year. ***Conclusion*:** Lipoma rarely grows in the parotid gland. They should be taken into consideration in the preoperative differential diagnosis. Careful diagnosis should be performed to establish a precise surgery for parotid dissection and facial nerve preservation.

Keywords: Lipoma, Parotid gland, Magnetic resonance imaging, Parotidectomy.

INTRODUCTION

Lipoma is one of the most common types of benign mesenchymal neoplasms that can arise wherever fat is normally present [1]. It usually occurs in the abdomen, back, and shoulder. Head and neck area is less frequently affected, and its involvement has ranged between 15 and 20% [2]. Their parotid location is rare and accounts for 0.6%-4.4% of tumors in the region. Most lipomas grow quietly, painlessly, and asymptomatically, and they may affect surrounding structures. However, they represent a distinct entity in parotid pathology and their management in terms of exploration and surgical treatment is very specific [3]. Lipomas involving both lobe of parotid gland are extremely rare and till date a few cases has been reported in the literature. This case report presents the diagnostic method and surgical approach of a rare case of lipoma of the superficial and deep lobes of the right parotid gland.

CASE REPORT

A 72-year-old male patient, with no medical history, consulted for a swelling of the right parotid region that had been progressively evolving for 2 years. Clinical examination revealed a mass on the right parotid region, with a size within $4 \times 3 \times 3$ cm, firm in consistency, mobile and painless. The skin over the swelling appeared normal (Figure 1). Facial nerve function was intact, and head and neck examination was unremarkable.

Figure 1: Patient's preoperative view showing swelling of the right parotid region

Head and neck Ultrasonography (USG) performed preoperatively demonstrated a cystic formation within the superficial portion of the right parotid gland with a size of 2.2x2.3x4.7 cm, hypoechoic, nonvascular, fusing towards the deep lobe.

MRI revealed a lesional process of the superficial lobe of the right parotid gland extended to the deep lobe, measuring 2.7x3.1x4.5 cm, homogeneous and well limited, in T1 and T2 hyper signal, not enhanced after contrast injection, which suggested a parotid gland lipoma (Figure 2).

Figure 2: Axial MRI showing a lipoma developing into the right parotid gland

The surgery was performed under general anesthesia using a classical Blair's incision. The lipoma was identified between the two lobes of the right parotid gland (Figure 3). Lipoma was successfully enucleated after a superficial parotidectomy and full exposure with preservation of facial nerve (Figure 4).

Figure 3: Lipoma seen in between the two lobes of parotid gland

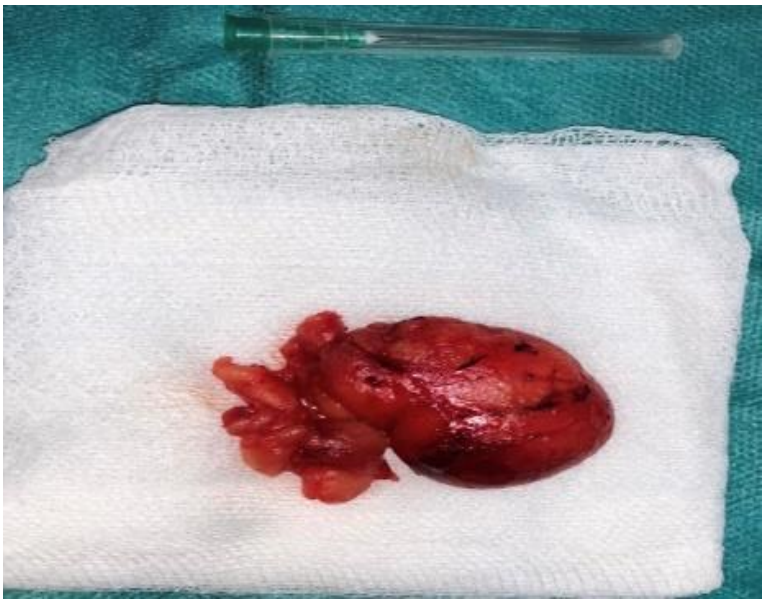

Figure 4: Excised piece

Histological examination confirmed the diagnosis of Lipoma. The follow-up was unremarkable, with no tumor recurrence or Frey's syndrome observed one year after surgery.

DISCUSSION

Lipomatous lesions of the parotid gland are rare and seldom considered in the initial diagnosis of a parotid mass. They represent less than 4,4% of all benign tumors of the parotid gland [3]. The pleomorphic adenoma and Warthin tumor are the most frequently misleading clinical diagnoses in parotid lipomas. Males are more likely than females to develop parotid gland lipomas, which are most common in people's fifth to sixth decades of life (male-to-female ratio of 3:1) [4]. Their development takes place from the fatty tissue of the gland. Sometimes they push back and infiltrate the glandular parenchyma.

Their slow and non-infiltrating growth makes them a less symptomatic tumor. There is often a deformation of the preauricular relief and sometimes fleeting pain due to tension in the glandular compartment. Moreover, no clinical sign distinguishes them from other benign parotid tumors; only surgical excision will provide a definitive diagnosis.

Lipomas can be caused by heredity, obesity, diabetes, radiation, endocrine disorders, insulin injection, corticosteroid therapy and trauma [5]. In our case, no trauma or endocrine disorders was reported in patient’s history.

The preoperative imaging has a crucial role to correctly diagnose the nature and the location of lesions. USG has been used as an initial imaging study in cases suspected to have a head and neck mass. It may be helpful in differentiating between solid, vascular, and cystic lesions [6]. However, further anatomic detail of the lesion and its relationship to surrounding structures was lacking in this imaging modality.

On CT scans, lipomas have the typical characteristics of homogeneous masses with few septations, a specific range of CT Hounsfield Unit (usually between 50 and 150 HU), and they have no contrast enhancement. However, CT scan does not help much in differentiation of lipoma from surrounding adipose tissue. This information can be clearly collected from the MRI. MRI can accurately diagnose lipomas by comparison of signal intensity on T1 and T2 weighted images. MRI image depicts a high signal on T1 sequence, and can also clearly define the limits of lipoma from normal adipose tissue (subcutaneous tissue) with a ‘‘black-rim’’ around the mass [7, 8].

Fine needle aspiration cytology (FNAC) is a safe technique, easy to perform, and is very reliable. Its very useful for the diagnosis of parotid tumors, but its accuracy drops to less than 50% in the case of lipomatous lesions of the parotid gland [9]. Therefore, we did not perform FNAC for preoperative cytological diagnosis of parotid lipoma in this case.

Management of parotid gland lipoma is under controversy, but most authors defend superficial parotidectomy with preservation of the branches of the facial nerve followed by excision of the deep lipomatous contingent with a margin of peripheral glandular tissue. Other authors recommend tumor enucleation without margin of healthy tissue, but we believe like Malave [10] or Srinivasan [11] that enucleation alone increases the possibility of recurrence and thus increases the risk of facial nerve damage during a reintervention.

Facial nerve dysfunction, Frey's syndrome, facial scars, or an asymmetrical contour are a few potential postoperative morbidities that could arise and should be discussed with the patient [11, 12]. The primary concerns should be the postoperative esthetic and functional outcomes. Following surgery for benign tumors of the parotid gland, facial nerve injury ranged from 8.2 to 65% [1].

CONCLUSION

Lipoma of the parotid gland is a rare benign pathology, which should be considered in the differential diagnosis of parotid gland’s mass lesions. Preoperative imaging, especially MRI, is of paramount importance because, on one hand, it makes it possible to precisely locate the tumor on the parotid gland and, on the other, it facilitates the diagnosis of lipoma. Surgical intervention is challenging because of the probability of injuring the facial nerve, thus knowledge of the anatomy and meticulous surgical techniques are essential.

Ethical Statement:
Compliance with Ethical Standards: The study was conducted in compliance with ethical standards.

Funding: This research received no external funding.

Conflict of Interest: There are no conflicts of interest to declare related to this research.

Ethical Approval: While formal ethical approval was not obtained for this study, we ensured that all aspects of the research were conducted ethically and with respect for the rights and well-being of the participants.

Informed Consent: Informed consent was obtained from all participants involved in the study, and this information has been appropriately included in the manuscript.

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