

Lipoma of parotid: a case report

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Lipomas are common benign soft tissue neoplasm, but they seldom occur in head and neck regions compared to other sites. Fine needle aspiration cytology (FNAC) accompanied with Computed tomography (CT) scan and Magnetic Resonance Imaging (MRI) determines its diagnosis preoperatively. In symptomatic cases, surgery remains the treatment of choice but requires an experienced surgeon because of possible damage to the facial nerve and its branches. The authors have discussed a rare case of lipoma, involving the deep and superficial lobe of parotid of a 42-year-old female patient with emphasis on its characteristics, preoperative diagnostic methods and its surgery. This case report shows MRI's to be potent diagnostic tool for Lipoma of the parotid, by means of which a surgical procedure could be planned while maintaining function and aesthetics.

Keywords:

lipoma, parotid, preoperative diagnosis

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Introduction

Lipoma is a benign soft tissue neoplasm of mesenchymal origin arising from regions where fat is usually present [1]. Lipomas are quite uncommon in the head and neck region, only occurring in about 15% of all cases [1–3]. Posterior cervical triangle and forehead are usually the sites of occurrence, with very few cases occurring in oral cavity, pharynx, larynx, parotid and parapharyngeal space. Lipoma affecting the parotid gland is extremely rare, consisting of only 0.6–4.4% of all parotid tumours [2,4]. Lipomas are usually asymptomatic, painless and slow-growing tumours, with a soft and doughy consistency, apparently occurring in fourth to sixth decade of life. Reports and statistical data show a predilection towards male sex, irrespective of race [5]. Latest improved imaging studies and evaluation procedures including computed tomography (CT), MRI and fine-needle aspiration are quite helpful for diagnosis, assessment and aid in the management of lipomas [2].

Case report

A 42-year-old female patient presented with a slow-growing, painless swelling on the right side of the neck for the past 20 years. Although she sought for medical assistance and opinion earlier, she refrained from further treatment. She sought for consultation again due to increasing size of the tumour and mild facial weakness (Fig. 1).

Clinical examination revealed a slow-growing mass in the parotid region, measuring 5 cm×4 cm and was soft, lobulated, painless and mobile. There was mild involvement of the lower branch of the facial nerve

and cervical lymph nodes were not palpable. Examination of oral cavity was found to be normal.

The patient underwent initial superficial parotidectomy (undermining performed with face lift and incision until angle of the mouth) with preservation of the facial nerve, and the lesion was resected completely, along with surrounding parotid tissue. Once the facial nerve was identified, the lipoma was removed by means of dissection from deep and superficial lobes of the parotid, wherein the superficial lobe was carefully preserved and replaced. This was performed to avoid Frey's syndrome and maintain cosmesis in the parotid

Figure 1



Preoperative swelling of right parotid extending into the neck region

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region. The resected surgical specimen was encapsulated and measured 7 cm×6 cm (Fig. 2). The weakness of the mandibular branch recovered 1 week after surgery. As aesthetics were of prime consideration, the skin lesion was repaired with Z plasty in the above two-thirds region and horizontal sutures were put in the lower one-third region. Tissue expansion and skin mobilization were performed up to 6 cm.

Histopathology revealed encapsulated mass composed of mature adipose tissue (Fig. 3), along with remnants of parotid acinar tissue at the periphery of the lesion. The findings confirmed it to be a lipoma.

Discussion

Presence of adipose tissue in the parotid is well known, but the occurrence of lipoma in parotid is rare [1]. Therefore, it is not considered as a differential diagnosis of parotid swellings [6]. The majority of parotid swellings are benign tumours [7].

Lipomas are benign, encapsulated fatty tumours arising from any location where fat is normally present. Most lipomas are subcutaneous and are usually found on extremities, trunk and neck regions. Few cases of hibernoma and lipoblastoma have been reported in infants, in the parotid gland region [7].

Various causes of lipoma include heredity, diabetes, obesity, radiation, endocrine disorders, corticosteroids and trauma. Facial pain and paralysis associated with lipoma of the parotid are uncommon and rarely reported. The highest incidence of lipoma is stated to be 4.4%, with a predilection towards male sex, in the ratio of 5 : 1. Intraparotid lipomas usually occur in the superficial lobe (75%), whereas 8.5%

cases occur in the deep lobe extending to the parapharyngeal space and about 16.5% of cases occur both in deep and superficial lobe on the inferior part of the parotid gland [1–4,8].

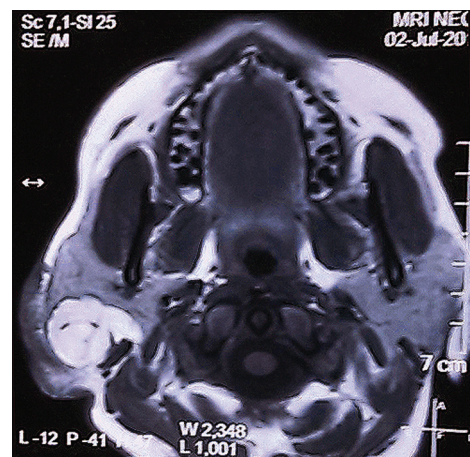
Lipomas appear as a slow-growing, painless, mobile and well-differentiated mass in the parotid region [6]. There is a lack of suitable procedures to preoperatively diagnose lipoma of salivary glands [7]. Fine-needle aspiration is an important diagnostic procedure towards detecting parotid tumours. However, its accuracy is quite questionable to only 50% in most cases of parotid lipomas [6]. Although CT scans can accurately pinpoint tumours of the parotid, they fail to distinguish between benign and malignant neoplasms. Usually a malignant parotid lesion shows ill-defined margins, local invasion, diffuse spread entirely in the gland, along with enlarged lymph nodes. However, unfortunately, they are also encountered with benign neoplasms [7]. Typically, lipomas show a homogeneous mass with few separations within a range of negative scale of -50 and -150 HU in routine CT scans, without any contrast medium [2,6,8,9]. MRIs remain the best diagnostic tool for detecting lipomas, by comparing signal intensities on T1-weighted and T2-weighted images. MRI, used for the identification of parotid gland tumours, presents with a sensitivity of 99%. MRI of the suprahyoid neck region is better than CT in the diagnosis of parotid neoplasms. MRI has a superior contrast resolution and aids the surgeon to detect early perineural spread along the facial and auriculotemporal nerve. MRI enables in differentiating parapharyngeal space lesions from deep parotid lobes and provides better tissue characterization [10]. In typical MRIs, lipoma shows a high T1 and low T2 signal of fatty tissue, which is comparable to subcutaneous fat [11].

Figure 2



Resected specimen

Figure 3



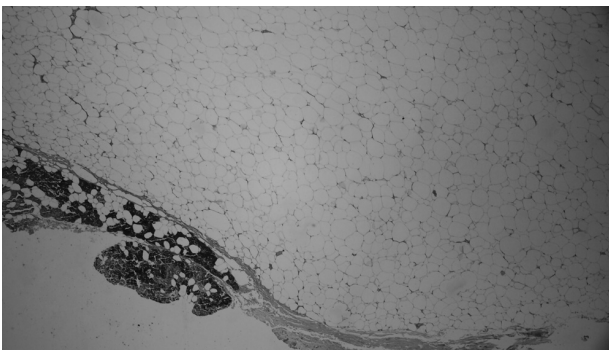
MRI, T1 weighted image of Neck shows high signal intensity

Figure 4



MRI, T2 (Fat Suppressed) image, showing intermediate signal intensity

Figure 5



Photomicrograph (H&E, 4x10 magnification), shows encapsulated lesion composed of mature adipose tissue

The case discussed here showed a high signal intensity on T1 MRI images (Fig. 4) and intermediate intensity on T2 images (Fig. 5). The MRI shows a capsulated, well-margined homogeneous mass arising from the right superficial and deep parotid lobe. The lipoma is well demarcated from the adjoining structures by a distinct black rim differentiating it from surrounding subcutaneous tissue.

MRIs can also distinguish between lipomas and liposarcomas quite accurately. Although lipoma presents as a homogeneous lesion in MRI, liposarcoma shows a heterogeneous nature [2].

Therefore, comparing MRIs and CT scans proves to be a precise and cost-effective method for diagnosing lipoma of parotid.

Histopathologically, lipomas resemble normal mature adipose tissue, but are distinguished separately from simple fat tissue by the presence of a fibrous capsule [2,6].

In the majority of the cases lipoma is managed conservatively. Active surgical treatment is carried out for cosmetic reasons and or if the facial nerve branches are involved. The extent of surgery depends on pathology, size of tumours and its relationship with surrounding tissues. The surgery involves precise dissection of facial nerve branches, together with superficial parotidectomy, partial excision of parotid or near total parotidectomy in cases of parapharyngeal extensions, keeping in mind the postoperative aesthetics and functions [1,2,6,7] Recurrence rate of lipoma after surgery is 5%, when the lesion is well capsulated [6].

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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