

# Parotid Gland Lipoma: A Common Tumour at an Uncommon Location

Ruchi Agarwal<sup>1</sup>, Kulwant Singh<sup>2</sup>, Swaran Kaur<sup>3</sup>, Deepti Agarwal<sup>4</sup>

## ABSTRACT

**Introduction:** Lipoma is the most common benign tumour of mesenchymal origin. They are quiet uncommon in head and neck region, constituting approximately 13% of all lipomas. Parotid gland lipomas are extremely rare with incidence ranging from 0.6% to 4.4%.

**Case report:** We are reporting a rare case of parotid gland lipoma in a 42 year male presented with a slow growing painless swelling on the right side of the neck without any signs and symptoms of facial nerve degeneration.

**Conclusion:** These tumours are seldom diagnosed clinically but imaging methods and fine needle aspiration can help reaching a pre-operative diagnosis. Surgical removal is treatment of choice in symptomatic cases.

**Keywords:** Facial nerve, lipoma, parotid, superficial parotidectomy

Ultrasonography revealed a hyper-echoic rounded mass, in superficial lobe of parotid measuring 3.3x2.5 cm suggestive of parotid lipoma. Fine needle aspiration smears examined from swelling right parotid region show multiple fragments of mature fibroadipose tissue in a background of lipoproteinaceous material and red blood cells. Cytological features are suggestive of lipomatous lesion.

The patient underwent superficial parotidectomy with preservation of the facial nerve. Grossly, a grey brown soft tissue piece was received measuring 5x4x2cm. On serial sectioning, a well capsulated yellowish mass identified surrounded by rim of salivary gland tissue at the margin (Figure 1). Haematoxylin and eosin stained sections showed a tumour mass composed of sheets of mature adipose tissue surrounded by a thin fibrous capsule and remnants of parotid acinar tissue at the periphery of the lesion (Figure 2). Final diagnosis of parotid lipoma was given. Patient was followed up till 4 months post operatively without any complaints.

## DISCUSSION

Lipomas are benign tumour of adipose tissue and usually present as asymptomatic, painless, slow-growing swelling with soft and doughy consistency.<sup>4</sup> It is frequently found as subcutaneous mass in upper back, shoulders, arms, buttocks and upper thighs. Although adipose tissue is normally found in parotid gland, the incidence of lipoma is rare. The maximum reported incidence of lipoma in parotid gland was 4.4% with M:F ratio of 5:1. Three fourth of the lipomas of parotid gland are detected in superficial lobe while 16.5% are found in both lobes followed by 8.5% in deep lobe.<sup>1,8,10</sup> Different causes of lipomas as mentioned in the literature are diabetes, radiation, endocrine disorders, heredity, obesity, insulin injection, corticosteroid therapy and trauma.<sup>5</sup> Lipomas are also believed to develop as a result of hypertrophy from increased uptake of acetate and increased fatty synthesis.<sup>5</sup> Fine needle aspiration cytology is of great

## INTRODUCTION

Lipoma is the commonest benign tumour of mesenchymal origin. They are usually detected in 4<sup>th</sup> to 6<sup>th</sup> decades with male sex preponderance. Lipomas are quiet uncommon in head and neck region, constituting approximately 13% of all lipomas. They present as subcutaneous painless masses in posterior cervical triangle and forehead region.<sup>1</sup> Very few cases of lipomas are reported in the oral cavity, pharynx, larynx and parotid gland with incidence ranging from 0.6% to 4.4% in parotid gland.<sup>2,3</sup> It can arise in every location where fat is normally present, however it is not considered as common differential diagnosis of parotid tumours due to its rarity at this location. Imaging studies like CT, MRI and fine needle aspiration cytology contribute significantly not only in diagnosis but also help in planning management of such cases. Surgical removal is treatment of choice in symptomatic cases, however require due care of facial nerve during surgery to avoid its injury.

## CASE REPORT

A 42 year old male presented to ENT outpatient department with complaint of a slow growing painless swelling on the right side of the neck for the past 3 years. There was no associated history of fever, difficulty or pain during movement and chewing, weight loss and any other swelling over body. Clinical examination revealed a well defined mass in right parotid region, measuring 3x2cm. Swelling was soft, lobulated, non-tender and mobile. Overlying skin was normal in colour and texture. Oral cavity and neck examination was found to be normal. No signs and symptoms of facial nerve degeneration were identified.

<sup>1</sup>Associate Professor, Department of Pathology, <sup>2</sup>Associate Professor, Department of Pathology, <sup>3</sup>Professor, Department of Pathology, <sup>4</sup>Associate Professor, Department of Pathology, Bhagat Phool Singh Government Medical College For women, Khanpur Kalan, Sonapat, India

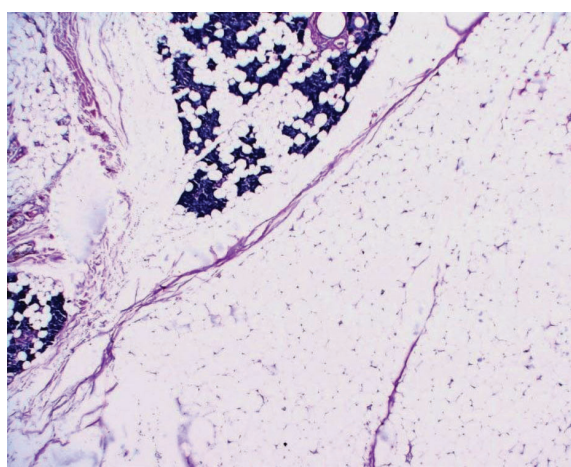
**Corresponding author:** Dr. Surbhi Jain, PG Resident, Department of Pathology, BPS GMC(W), India

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**Figure-1:** Cut surface of superficial parotidectomy specimen revealing a well capsulated lipoma.



**Figure-2:** Microphotograph showing lipoma surrounded by thin fibrous capsule and rim of parotid gland tissue (H&Ex4).

value in the diagnosis of parotid tumours, but its accuracy drops to less than 50% in the cases of parotid gland lipomas.<sup>6</sup> Histologically, parotid lipoma consist of circumscribed masses of mature adipose tissue, often with a thin fibrous capsule at the margin, differentiating them from simple aggregation of adipose tissue.<sup>7</sup> Ultrasonography can be used as the initial diagnostic modality revealing a hyper-echoic elliptical or rounded mass, sometimes iso-echoic or even hypo-echoic mass.<sup>1</sup> Computed tomography scans of lipoma shows the typical characteristics of homogeneous mass with few septations with no contrast enhancement. MRI can not only accurately diagnose lipomas but the margin of a lipoma can also be clearly defined by MRI as a 'black rim', enabling lipomas to be distinguished from surrounding adipose tissue.<sup>6</sup> This distinction will help the surgeon to plan the surgery. Surgical intervention in these cases is quiet challenging. Conservative treatment is advisable for smaller lesions and deep lobe lipoma. Active surgical treatment is carried out for cosmetic reasons and in case of facial nerve involvement. The extent of surgery depends on pathology, size of tumour and its relationship with surrounding tissues. During surgery, the facial nerve is identified and followed up to its peripheral branches, as far as possible for tumour dissection. The surgery involves precise dissection of superficial parotid,

partial excision of parotid or near total parotidectomy in cases of parapharyngeal extensions. The postoperative aesthetic and functional result should constitute a major concern. Recurrence rate of parotid lipoma is very low and reported as 5% in well capsulated tumours.<sup>8,9</sup>

A largest series on lipomatous lesions of parotid on 70 cases was studied by Starkman et al<sup>7</sup> revealed M:F ratio of 2.3:1 with 92.5% cases in superficial lobe. Fine needle aspiration was noticeably inaccurate in preoperative diagnosis. They found CT and MRI useful for diagnosis and in planning the extent of the surgery, particularly in periparotid lesions that require extracapsular dissection.

## CONCLUSION

Although rare, lipoma should be considered as one of the differential diagnosis in all cases of slowly growing, soft and non-tender parotid swellings. Surgical intervention is challenging because of the higher chances of injuring the facial nerve, thus good anatomical knowledge and diligent surgical techniques are essential.

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