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Case Report

Infra-Auricular Subcutaneous Myxoma: Surgical Challenges and Histopathological Insights

Sanjeev Yadav[1]* and Ashish Gupta[2]

[1]*Assistant Professor, Department of ENT and Head Neck Surgery, UPUMS - Saifai, Uttar Pradesh, India*

[2]*MS General Surgery, Assistant Professor, Department of General Surgery, Dr B.R. Ambedkar Institute of Medical Sciences, Mohali, Punjab, India*

***Corresponding Author:** Sanjeev Yadav, Assistant Professor, Department of ENT and Head Neck Surgery, UPUMS - Saifai, Uttar Pradesh, India.

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Abstract

Myxomas are benign and rare mesenchymal neoplasms characterized by locally invasive growth, composed of undifferentiated stellate cells. This case report details a rare instance of a myxoma located in the infraauricular region of a middle-aged male patient. The primary surgical challenge lay in effectively reconstructing the defect resulting from wide local excision. The patient underwent successful surgical excision, and the subsequent reconstruction using a bilobed advancement flap. The histopathological examination conclusively confirmed the diagnosis of myxoma. Follow-up over one year revealed uneventful and healthy wound healing.

Keywords: Myxomas;

Introduction

Myxomas are mesenchymal non metastatic neoplasm composed solely of undifferentiated stellate cells surrounded by a loose mucoid stroma. They are benign, rare, locally invasive tumours of connective tissue that seldom occur in the neck region. Overall incidence of intramuscular myxoma is estimated to be 1 in 1,000,000 [1]. Since the establishment of diagnostic criteria in 1948, fewer than 200 reported cases of myxomas in the head and neck have been reported [1]. This case reports highlights the clinical features, surgical management, and histopathological findings of an infraauricular subcutaneous myxoma. The uniqueness of this case lies in its uncommon location.

Case Presentation

A middle-aged male patient presented with a polypoidal mass on the left side of his neck that had developed over 3-4 months. The patient complains of discharge over the swelling and occasional pain. There was no history of trauma, fever, dysphagia, hoarseness, weight loss and no other remarkable medical or family history. Clinical examination revealed a firm, non-mobile fungating mass present in infraauricular region posterior to ramus measuring 3x3 cm (Figure 1). There was no other significant lymphadenopathy. Examination of oral cavity, oropharynx, nasopharynx, ear examination was normal. All cranial nerves were intact and symmetric. A biopsy was done that was suggestive of dermoid cyst with secondary inflammation. Patient then subsequently underwent wide local excision with reconstruction using bilobed flap (Figure 2a). Informed written consent was obtained from the patient for surgery and publication of pictures and data. After local excision there was a defect of 5x5 cm with depth up to muscular plane (Figure 2b and 2c). A bilobed flap marked with dimensions as shown in figure 3 and advanced to cover the defect (Figure 2d). Immediate post operatively a 12 French suction drain was kept in situ that was removed on post operative day 1 (Figure 2e). Post operative picture after 6 months shows well healed wound (Figure 4).

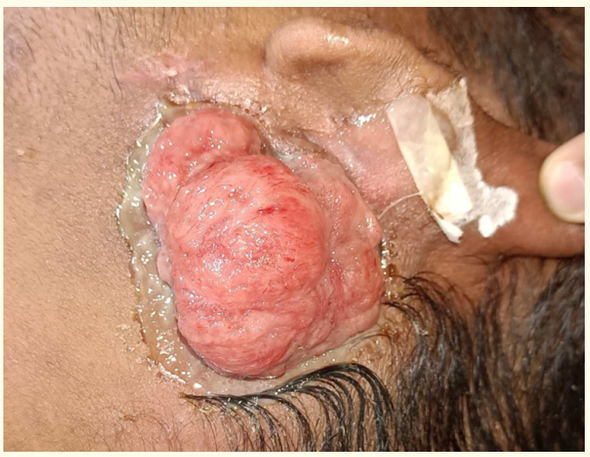


Figure 1: Patient observed in the outpatient department with a polypoidal mass located in the infraauricular region, alongside discharge surrounding the area.

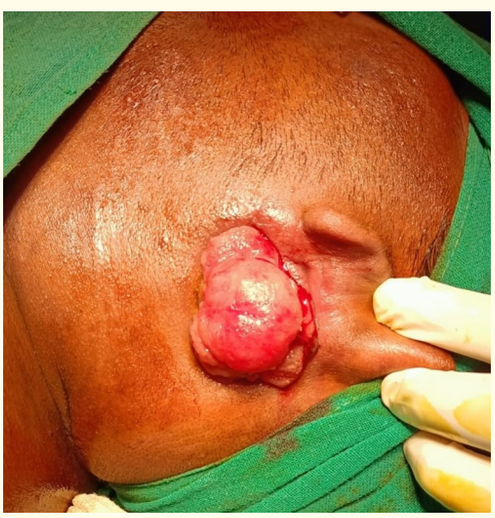
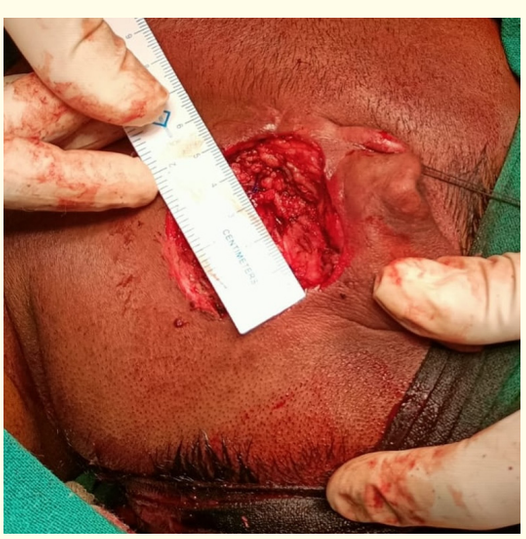


Figure 2a: Surgical precision: excising 3x3 cm mass with 1 cm margins.



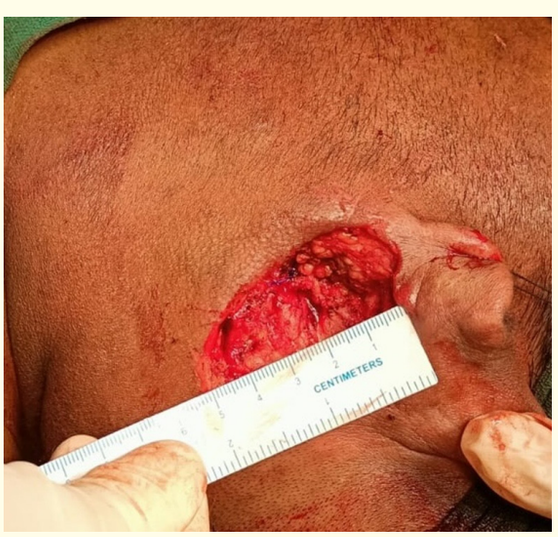


Figure 2b and c: Revealing the post excisional void measuring 5x5cm.

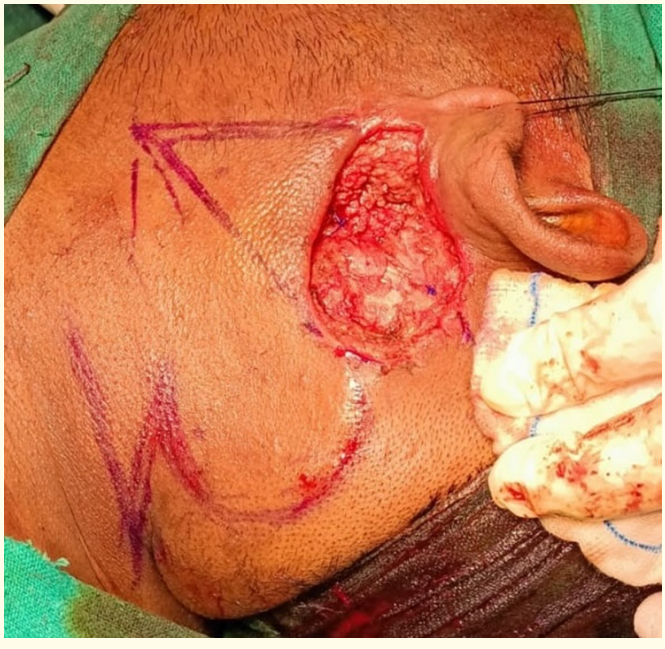


Figure 2d: Architecting tissue reconstruction, unveiling the bilobed flap strategy.

Figure 2: Illustrating surgical sequence.

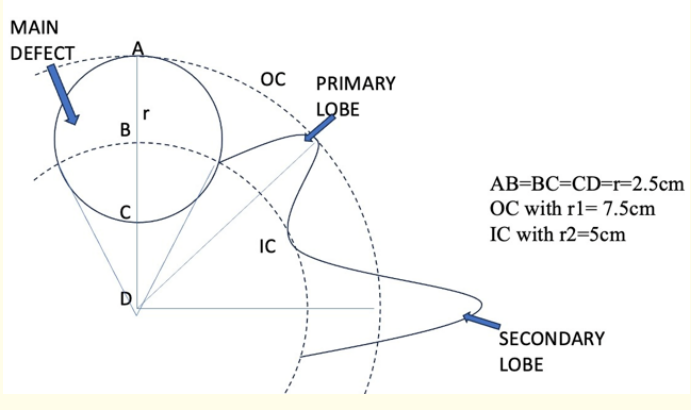


Figure 3: Geometric blueprint if bilobed advancement flap. The radius (r) of defect is 2.5 cm with points AB=BC=CD. The outer circle (OC) has a radius of r1=7.5cm. The inner circle (IC) has a radius of r2=5cm. This design of a bilobed flap with Burrow's triangle minimizes tissue protrusion.

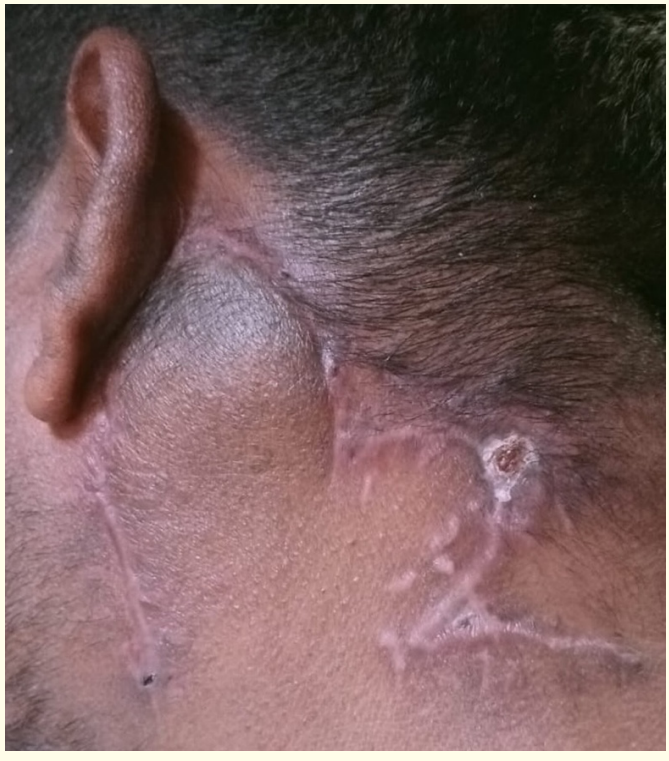


Figure 4: Monitoring progress: wound healing status at 6 months postoperative.

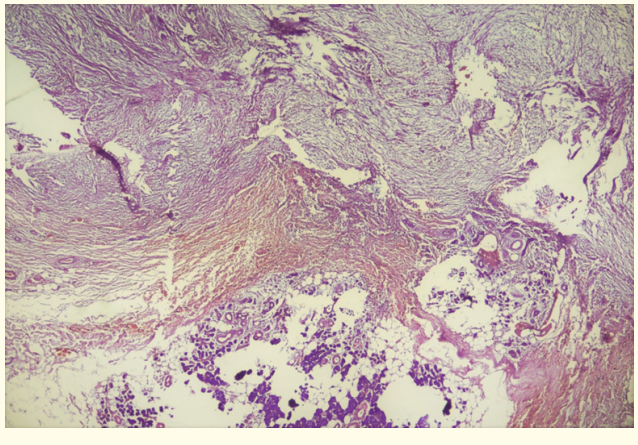


Figure 5a: Hematoxylin-Eosin stain; 4x, low power view shows circumscribed myxoid tumor on top and normal looking salivary glamd lobules (parotid) at bottom separated by a pseudocapsule formed of compressed connective tissue.

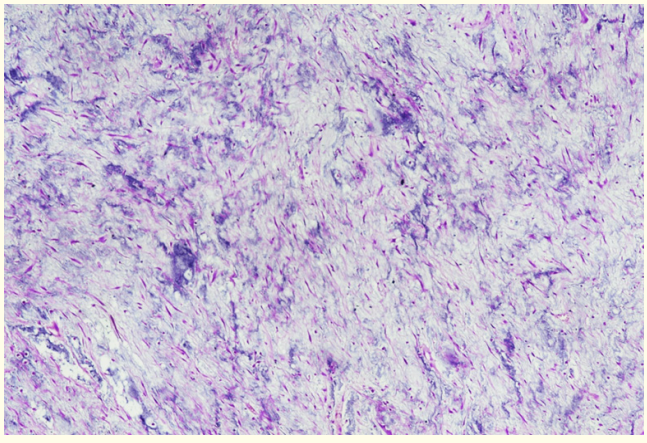


Figure 5b: Hematoxylin-Eosin stain; 10x, Hypocellular lesion composed of spindle shaped cells and occasional stellate cells in abundant myxoid stroma.

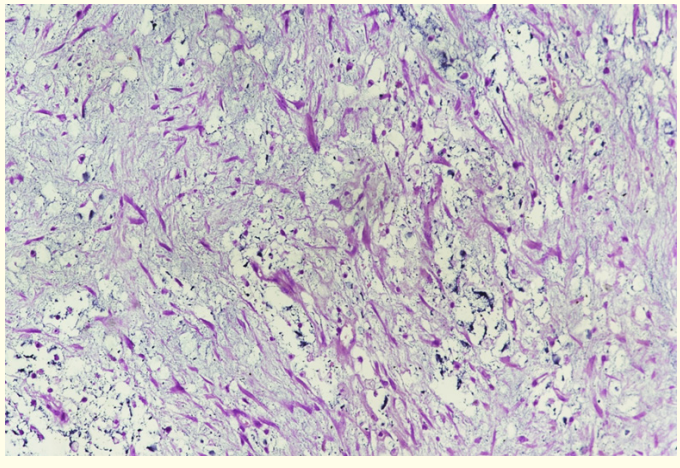


Figure 5c: Hematoxylin-Eosin stain; 20x, Cells are spindle shaped with moderate amount of eosinophilic cytoplasm. Interspersed stellate cells (A) are also seen. Background shows abundant myxoid stroma.

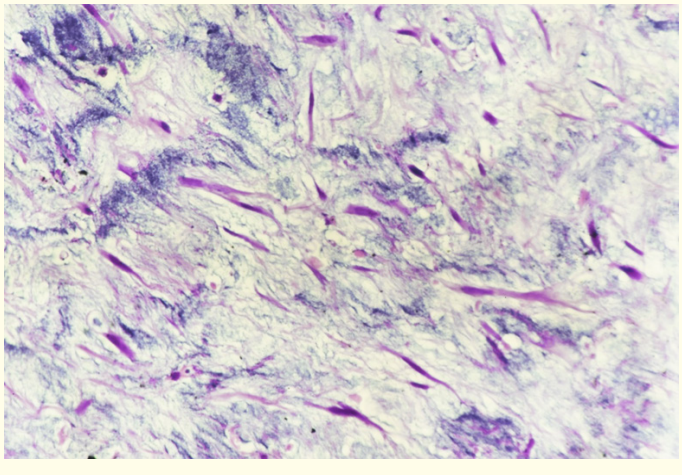


Figure 5d: Hematoxyline-Eosin stain; 40x, On high power, cells show oval to elongated bland nuclei and inconspicuous nucleoli. No mitosis or nuclear pleomorphism observed.

Histopathological Findings

On gross examination there was a 4.2x3.2x1.5cm polypoidal ulcerated mass with an underlying globular smooth skin. On cut sections grey white to grey brown areas noted. Microscopy suggested a tumour which is encapsulated, circumscribed and exhibit an expansive growth pattern with a copious myxoid matrix (Figure 5a). The tumour cells are predominantly spindle in shape, with occasional stellate cells having bland nuclear chromatin, inconspicuous nucleoli and scant amount of ill-defined cytoplasm. These are seen embedded within mucin as short fascicles and whorls. No evidence of mitosis or any pleomorphism seen (Figure 5 b, c, d). Adjacent salivary gland lobules are also included which are not involved by tumour. Overall specimen exhibits features of Myxoma.

Discussion

Myxomas, originating from fibroblastic primitive mesenchyme, are benign tumours producing excess mucopolysaccharide and lacking mature collagen production [2]. The uncertain aetiology of myxomas is widely discussed. Researchers propose derivation from primitive embryonic mesenchyme or fibroblasts capable of abundant mucopolysaccharide elaboration [2]. These tumours can manifest in various body locations, such as bones, heart, skin, genitourinary tract, retroperitoneal tissues, intestinal tract, pharynx, joints, and skeletal muscles. In the head and neck, these myxomas are rare, with only few cases reported in the literature to date. Myxomas exhibit indolent growth, and patients typically present with a painless mass, although up to 20% may experience pain or tenderness [3]. Soft-tissue myxomas, originating from widely distributed mesenchymal tissue and may lack a complete fibrous capsule. Intraoperatively, these masses appear greyish and gelatinous, with varying consistency [4]. Soft tissue myxomas exhibit local infiltration and expansion but do not metastasize. Microscopic examination involves identifying stellate cells and a reticular fibre meshwork in a mucoid matrix containing hyaluronic acid. Differentiated elements like chondroblasts, rhabdomyoblasts, or lipoblasts indicate myxoid degeneration, excluding a myxoma diagnosis [4]. Treatment for head and neck myxomas involves surgical excision with adequate margins. The optimal surgical approach is debated, ranging from enucleation or curettage to extensive surgery with wide margins. Due to their recurrent nature, thorough removal with clear margins is crucial. The question of extensive resection remains debatable, especially for lesions near vital structures, where a conservative approach with close follow-up may be warranted. In addressing an infra-auricular defect, we applied a bilobed flap technique, drawing insights from esteemed methodologies. These flaps, renowned for reducing dog-ears and tissue distortion, proved advantageous. Incorporating elements from McGregor and Soutar's bilobed design and akin to Zitelli's concepts, we positioned the rotational center closer to the excised area [5]. This innovative M-shaped flap minimized deformities and simplified our drawing process by introducing 'wrinkle lines.' Our adaptation of established techniques for infra-auricular reconstruction yielded promising outcomes, enhancing tissue reconstruction efficacy [6]. Myxomas, though benign, require careful consideration of functional and aesthetic compromises during treatment decisions [1,4].

Conclusion

This case report highlights the rare occurrence of subcutaneous myxoma in the infraauricular region. Surgical excision with reconstruction using bilobed flap was successful. A thorough histopathological examination revealed the diagnosis of myxoma. The literature review underscores the infrequency of myxomas in the neck region and the importance of accurate diagnosis and management.

Main Points

- **Rarity of Infraauricular Subcutaneous Myxoma:** Highlighting the exceptional rarity of this condition, emphasizing the need for accurate diagnosis and specialized management.
- **Surgical Complexity:** Addressing the challenges encountered during wide local excision due to the anatomical location and subsequent need for effective defect reconstruction.
- **Bilobed Flap Success:** Demonstrating the efficacy of bilobed advancement flap reconstruction in achieving tension-free closure and optimal wound healing post-surgery.
- **Histopathological Confirmation:** Underscoring the importance of histopathological examination in confirming the diagnosis of myxoma through characteristic findings such as stellate cells within a myxoid matrix.
- **Favourable Postoperative Outcome:** Highlighting the uneventful and healthy wound healing observed during postoperative follow-up, reflecting the success of meticulous surgical technique and comprehensive care.

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Conflict of Interest

There are no financial or non-financial interests that are directly or indirectly related to the work submitted for publication.

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