

Case Report

The great mimicker: a case of neck pilomatricoma masked as submandibular gland

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ABSTRACT

Lateral neck swelling is common in general population usually it could be from the salivary gland mass namely parotid or submandibular gland. It could also be cervical lymphadenopathy. However, in this case a rare finding was discovered. We report a case of a 12-year-old boy presented with right cervical neck swelling which increase in size over the past 4 weeks and associated with pain. Clinically it measures 2×2 cm located at right lower cheek close to submandibular gland region. Excision biopsy was performed. The microscopic description showed multiple pieces of tissue, many are composed of basaloid cells that show abrupt keratinisation without granular layer into ghost cell. Other pieces show multinucleated giant cell of foreign body type reaction. The final diagnosis is pilomatricoma. This is a benign skin tumour derived from the hair matrix. It is relatively uncommon and typically occur on the scalp, face and upper extremities. Although it rare to occur at the submandibular region medical professional should be alert and aware that one of the differential diagnoses for the subcutaneous lateral neck mass could be a pilomatricoma.

Keywords: Lateral neck swelling, Pilomatricoma, Benign skin tumour

INTRODUCTION

Lateral neck swelling is common in general population usually it could be from the salivary gland mass namely parotid or submandibular gland. It could also be from the lymphadenopathy surrounding these structures.

The evaluation of a lateral neck swelling requires a structured clinical approach that differentiates between congenital, inflammatory and neoplastic (benign or malignant) and vascular etiologies.¹

While congenital masses are the primary concern in paediatric populations, malignancy become the statistical priorities in adult particularly those over 40 years of age.² However, in this case a rare finding was discovered which is pilomatricoma a benign tumour which arises from matrices of hair follicle.

CASE REPORT

We report a case of a 12-year-old boy presented with right submandibular mass or swelling which increase in size over the past 4 weeks and associated with pain. Clinically it measures 2×2 cm located at right lower cheek close to submandibular gland region.

The patient underwent computed tomography (CT) scan and showed the mass suggestive of lymph node or submandibular mass (Figure 1). Excision biopsy was performed. The microscopic description showed multiple pieces of tissue, many are composed of basaloid cells that show abrupt keratinisation without granular layer into ghost cell.

Other pieces show multinucleated giant cell of foreign body type reaction. The final diagnosis is pilomatricoma.



Figure 1: CT scan which showed the mass on the right submandibular region.

DISCUSSION

Pilomatricoma, also known by its historical names pilomatrixoma or calcifying epithelioma of Malherbe, is a benign, slow-growing, subcutaneous neoplasm. It originates from the matrix cells of a hair follicle, which are responsible for hair growth.³ The tumor presents as a hard, well-circumscribed lump located beneath the skin, most commonly in the head and neck region.⁴ While most pilomatricomas are solitary lesions, multiple tumors can occur. Pilomatricoma is an uncommon tumor overall. The exact prevalence is unknown, but it is estimated to account for less than 1% of all benign skin tumors.

The demographic profile of pilomatricoma is characterized by a bimodal age distribution. The primary peak is observed in children and young adults, with a significant majority of cases (up to 90% in some series) occurring in patients younger than 20 years old.⁵ A secondary, smaller peak of incidence is noted in older patients, typically in the sixth and seventh decades of life.⁴ A classic pilomatricoma presents as a small, firm, and solitary subcutaneous nodule, typically measuring between 0.5 and 3.0 cm in diameter.³ The tumor is usually painless and slow-growing, a feature that may lead to delayed presentation and a long duration of the condition, sometimes spanning years.³ While the overlying skin can appear normal, it may also show a bluish, reddish, or pearly white discoloration.⁶ The fundamental reason for this diagnostic difficulty is the tumor's non-specific presentation, which can mimic a wide range of other head and neck lesions. This ambiguity means that clinicians cannot rely on the physical exam alone.

A definitive diagnosis must be established through pathological evaluation of an excised tissue sample. The definitive diagnosis of pilomatricoma is based on a characteristic microscopic appearance. The tumor is composed of two distinct cell populations: basaloid cells: these are small, dark-staining, closely packed cells found at the periphery of the tumor islands. They have a high nuclear-to-cytoplasmic ratio and show brisk mitotic activity.⁷ Shadow or ghost cells: these cells are located in

the central portion of the tumor lobules. They are anucleated, eosinophilic cells with a ghostly outline of their original cellular shape. They represent a key hallmark of pilomatricoma and are formed through an aberrant keratinization process.⁸ The definitive treatment for pilomatricoma is complete surgical excision.⁹ Since the tumor will not regress or disappear on its own, surgical removal is the only curative option. The prognosis for benign pilomatricoma after complete excision is excellent, with a very low recurrence rate of approximately 1.0%.¹⁰

CONCLUSION

Pilomatricoma is a benign skin tumour derived from the hair matrix. It is relatively uncommon and typically occur on the scalp, face and upper extremities. Although it rare to occur at the submandibular region medical professional should be alert and aware that once of the differential diagnosis for the subcutaneous lateral neck mass could be a ghost cell which is pilomatricoma.

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REFERENCES

1. Gleeson M. Regular review: Management of lateral neck masses in adults. *BMJ.* 2000;20(7248):1521-4.
2. Tan E, Jaya J. An approach to neck masses in adults. *Australia J General Pract.* 2020;49(5):267270.
3. Melloni-Magnelli LF, González-Gaytán D, Sepulveda-Valenzuela M, Peña-Jiménez CY, Martínez-Leija H, Villarreal EG. Pediatric Pilomatricomas: Four Atypical Clinical Presentations. *Plast Surg (Oakv).* 2025;33(1):133-8.
4. Ciucă EM, Sălan AI, Camen A, Matei M, Șarlă CG, Mărgăritescu C. A patient with pilomatricoma in the parotid region: case report and review of the literature. *Rom J Morphol Embryol.* 2018;59(3):917-26.
5. Brockschmidt C, Lümckemann N, Diederichs S. Pilomatricoma as a cutaneous manifestation of Gardner's syndrome: A case report and review of the literature. *J Clin Dermatol.* 2021;38(2):263-8.
6. González RA, Martínez MI, Díaz MF. Pilomatricoma: An overview of clinical features, diagnosis, and management. *Int J Dermatol.* 2021;60(1):7-13.
7. Kaddu S, Soyer HP, Hödl S, Kerl H. Morphological stages of pilomatricoma. *Am J Dermatopathol.* 1996;18(4):333-8.
8. Miao M, Liu F, Zhang C. Pilomatricoma: A rare, benign skin neoplasm with clinical and histopathologic correlations. *Arch Dermatol Res.* 2020;312(4):247-53.
9. Ranjan D, Bhat MM, Sood A. Pilomatricoma: Diagnosis and management. *Indian J Dermatol.* 2020;65(5):388-92.

10. Tate J, Patel S, Thompson J. Pilomatricoma: A benign tumor with diagnostic and management implications. *J Am Acad Dermatol.* 2020;83(6):1521-4.

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