

Inflamed and Calcified Pilomatrixoma of the Mandibular Angle Mimicking an Epidermoid Cyst: A Case Report

Review began 09/29/2026
Review ended 10/14/2026
Published 10/18/2026

© Copyright 2026

Ishaq et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

DOI: 10.7759/cureus.118115

Aliya Ishaq ¹, Alaa AL Jarrad ¹, Mohammed AL Jarrad ², Syeda A. Raza ³

1. Department of General Surgery, Canadian Specialist Hospital, Dubai, ARE 2. Department of General Surgery, University of Sharjah, Sharjah, ARE 3. Department of Obstetrics and Gynecology, Canadian Specialist Hospital, Dubai, ARE

Corresponding author: Aliya Ishaq, draliya786@gmail.com

Abstract

Pilomatrixoma is a benign hair follicle tumor seen mainly in children and young adults. Its diagnosis may be less straightforward when inflammation changes the usual clinical appearance. We describe the case of a 14-year-old girl with a one-year history of swelling at the left mandibular angle. The lesion had repeatedly discharged blood and pus, becoming smaller after discharge before enlarging again. Three connected nodules were eventually noted, and an epidermoid cyst was initially suspected. Ultrasound showed a solid subcutaneous lesion with echogenic foci and posterior acoustic shadowing. Computed tomography (CT) demonstrated internal calcification and raised the possibility of pilomatrixoma before surgery. The lesion was completely excised, and histopathology confirmed an inflamed and calcified pilomatrixoma without malignant changes. Recovery was uncomplicated. This case draws attention to an inflammatory presentation of pilomatrixoma that can resemble an epidermoid cyst and shows how calcification on imaging may help guide the diagnosis when the clinical findings are misleading.

Categories: General Surgery, Pathology, Pediatrics

Keywords: calcification, computed tomography, epidermoid cyst, inflammation, mandibular angle, pilomatrixoma, ultrasonography

Introduction

Pilomatrixoma is a benign tumor of hair follicle matrix origin that occurs predominantly in children and young adults [1]. In pediatric patients, the head and neck are the most commonly affected regions [2]. The lesion usually presents as a solitary, firm, slow-growing subcutaneous nodule. However, its appearance can vary considerably, and the diagnosis may not always be apparent on clinical examination [3]. In particular, pilomatrixoma can resemble common superficial lesions such as epidermoid and other cutaneous cysts, especially when inflammatory changes are present [3].

Imaging can be helpful when the clinical findings are uncertain. Ultrasonography may demonstrate internal echogenic foci with posterior acoustic shadowing, whereas computed tomography (CT) can better demonstrate calcification [4]. A definitive diagnosis is established by histopathological examination.

We present the case of an inflamed and calcified pilomatrixoma at the mandibular angle with recurrent bloody and purulent discharge and a multinodular appearance, initially suspected clinically to be an epidermoid cyst. This case highlights an unusual inflammatory presentation of pilomatrixoma and illustrates how imaging findings, particularly internal calcification, can provide an important clue to the diagnosis before excision.

Case Presentation

A 14-year-old girl presented to the general surgery clinic with a swelling over the left cheek near the angle of the mandible that had been present for one year. Surgical excision had previously been advised; however, the lesion spontaneously discharged blood and pus and temporarily decreased in size. Because the swelling had improved, the patient and her family did not seek medical evaluation at that time, believing that the lesion might resolve. The swelling later increased in size slowly and gradually over a period of one year, and three connected nodules became noticeable in the same area. She continued to have occasional discharge from the lesion, along with intermittent pricking pain.

There was no history of fever, weight loss, trauma, dysphagia, difficulty breathing, or similar swellings elsewhere. Her past medical and surgical history was unremarkable, with no family history of malignancy.

On examination, three firm, interconnected, mobile nodules were palpable in the subcutaneous tissue over the left angle of the mandible (Figure 1). An epidermoid cyst was initially suspected clinically.

How to cite this article

Ishaq A, AL Jarrad A, AL Jarrad M, et al. (October 18, 2026) Inflamed and Calcified Pilomatrixoma of the Mandibular Angle Mimicking an Epidermoid Cyst: A Case Report . Cureus 18(10): e118115. DOI 10.7759/cureus.118115



FIGURE 1: Preoperative view of the swelling at the left mandibular angle. Arrows denote the location of three subcutaneous nodules (clinically palpable as firm, mobile, and interconnected).

Ultrasonography revealed a well-defined, predominantly solid subcutaneous lesion measuring $2.3 \times 1.6 \times 0.6$ cm, with internal echogenic foci and posterior acoustic shadowing. No abnormal vascularity was seen on color Doppler (Figure 2).

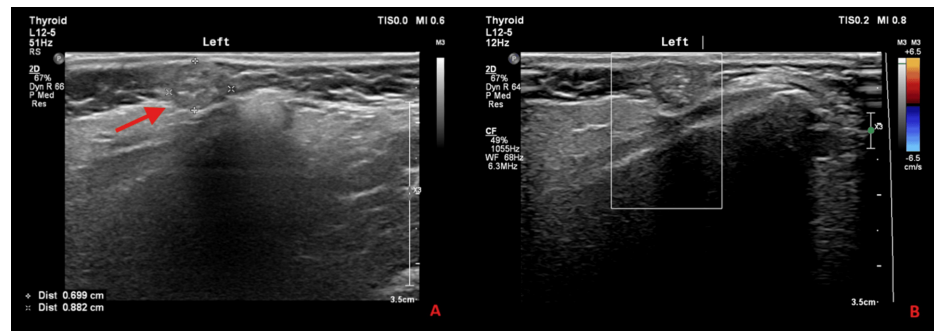


FIGURE 2: Ultrasonographic findings of the left mandibular angle lesion.

(A) Well-defined, predominantly solid subcutaneous lesion with internal echogenic foci and posterior acoustic shadowing. (B) Color Doppler imaging demonstrates no abnormal internal vascularity.

A CT scan was then obtained to assess the depth of the lesion and its relationship to the surrounding structures and salivary glands. It showed a well-defined lobulated subcutaneous lesion measuring $20 \times 10 \times 10$ mm, with an internal calcific focus and no significant post-contrast enhancement. The radiological appearance was suggestive of pilomatrixoma (Figure 3).

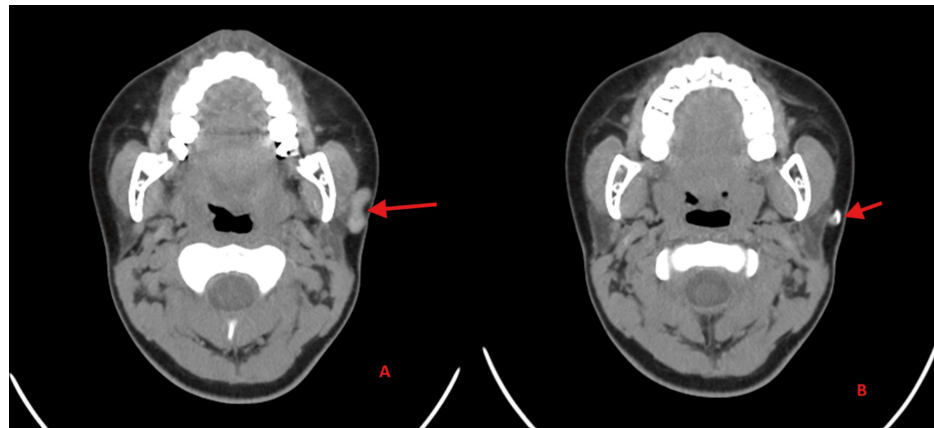


FIGURE 3: Axial CT findings of the left mandibular angle lesion.

(A) Well-defined subcutaneous soft tissue lesion at the left mandibular angle. (B) Adjacent axial section demonstrating an internal calcific focus within the lesion.

The lesion was excised under local anesthesia. Intraoperatively, a hard, irregular, calcified mass was identified in the subcutaneous tissue, superficial to the platysma, and completely excised without complication (Figure 4). Dissection remained in the subcutaneous plane, and no major nerves or vessels were encountered.



FIGURE 4: Gross appearance of the excised left mandibular angle mass, noted intraoperatively to be irregular, hard, and calcified.

Histopathological examination demonstrated islands of basaloid cells with abrupt keratinization without an intervening granular layer, consistent with infundibulomatricial keratinization, along with characteristic ghost cells. Foci of metaplastic bone formation were identified. Tumor keratin was associated with an inflammatory response, foreign-body giant cells, granuloma formation, and calcification (Figures 5-7).

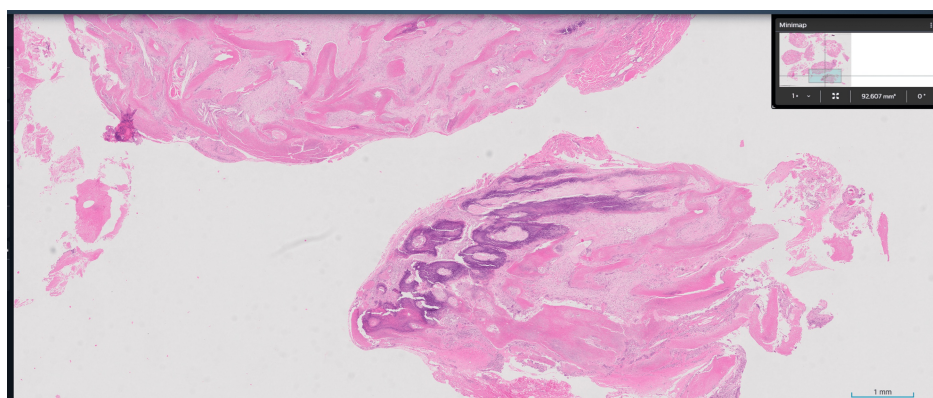


FIGURE 5: Islands of basaloid cells exhibiting abrupt keratinization, without intervening granular layer (infundibulomatricial keratinization). Metaplastic bone formation is present.

H&E: hematoxylin and eosin stain; Magnification 1×.

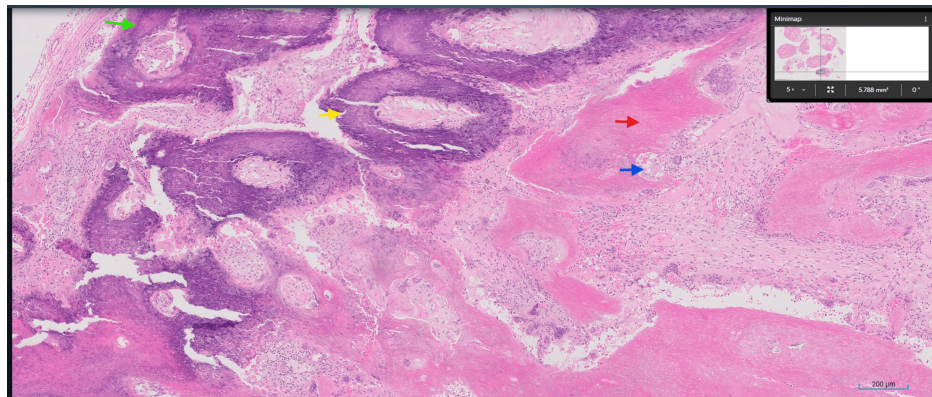


FIGURE 6: The green arrow points to basaloid cells. The yellow arrow shows the calcifications. The blue arrow shows foreign body giant cells. The red arrow points to ghost/shadow cells.

H&E: hematoxylin and eosin stain; Magnification 5×.

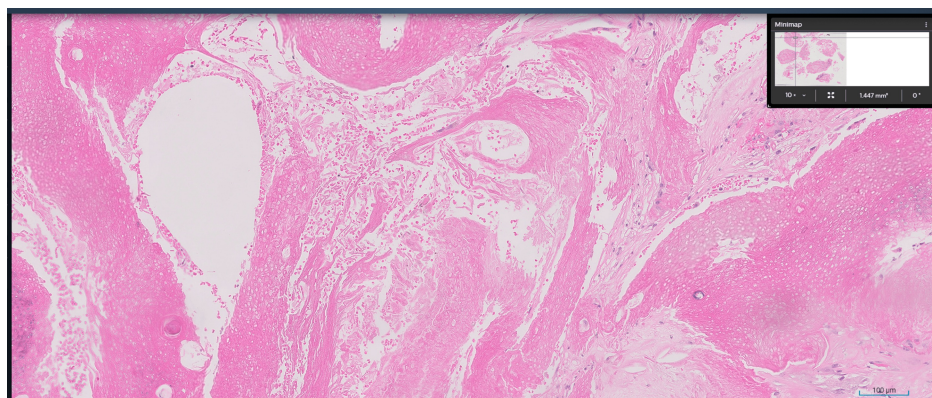


FIGURE 7: Tumor keratin with inflammatory response, foreign body giant cells, granuloma, and calcification.

H&E: hematoxylin and eosin stain; Magnification 10×.

Gross examination showed a firm, tan-to-brown tissue fragment measuring 2.4×1.5 cm. These findings were consistent with an inflamed and calcified pilomatrixoma. No malignant changes were identified.

She recovered well after the surgery and went home the same day. A week later, she returned to the clinic for a follow-up visit. The incision was healing well, with no signs of infection or fluid collection. Examination showed no evidence of injury to the marginal mandibular branch of the facial nerve; lower-lip movement was intact, and her smile was symmetric. At her six-month follow-up, there was no sign of recurrence. She was advised to return if any new symptoms developed.

Discussion

Pilomatrixoma is commonly seen in children and young adults, with the head and neck being among the most frequently affected sites. Most lesions are solitary, firm, slow-growing, and located within the dermis or subcutaneous tissue [1,2,5]. Our patient fits the usual age group and location, but the course of her lesion was unusual. The lesion was associated with recurrent episodes of bloody and purulent discharge. It temporarily decreased in size but later enlarged again, with three connected nodules becoming apparent. These features initially made an inflammatory or cystic lesion seem more likely.

Similar presentations have been described in the literature. Alkatan et al. reported a 14-year-old girl with recurrent inflammation and discharge whose pilomatrixoma was clinically mistaken for a ruptured epidermal cyst [6]. Mohr and Tschen described a perforating pilomatrixoma in a child with a persistently draining lesion [7]. Scabora et al. also reported an ulcerated pilomatrixoma in an 11-year-old girl that produced intermittent purulent drainage and serohematic crusting [8]. These cases are important because

they show that pilomatrixoma does not always have its familiar firm, uncomplicated appearance. Inflammation and drainage can make the diagnosis considerably less obvious. Our case shared these inflammatory features, although the lesion was diagnosed histologically as an inflamed and calcified pilomatrixoma rather than a perforating variant.

Confusion with an epidermoid cyst is also understandable. Pilomatrixoma can resemble epidermoid and other pilosebaceous cysts, particularly when the lesion is inflamed or only partly calcified [3]. Its degree and pattern of calcification can change over time, affecting its consistency and clinical appearance [3]. This difficulty is reflected in larger studies, where correct preoperative diagnosis has remained relatively limited, reported at under 50% in a series of over 1,500 cases [9]. In this case, the recurrent discharge and temporary decrease in swelling supported the initial clinical impression of an epidermoid cyst.

The imaging findings helped change that impression. On ultrasound, pilomatrixoma typically presents as a well-defined heterogeneous subcutaneous lesion with internal echogenic foci and posterior acoustic shadowing [4]. CT may show varying amounts of calcification [4]. Importantly, ultrasound does not always distinguish pilomatrixoma from an epidermoid cyst, making the overall clinical and radiological picture important. In our case, calcific features were seen on ultrasound and more clearly demonstrated on CT, leading the radiologist to consider pilomatrixoma before surgery.

Histopathology ultimately established the diagnosis. Pilomatrixoma displays varying degrees of keratinization, calcification, inflammatory infiltrate, and multinucleated giant cells as it evolves [3]. The inflammatory changes in this lesion were compatible with its presentation, while the calcification seen microscopically was also evident on imaging. No malignant changes were identified.

Complete surgical excision is the usual treatment for benign pilomatrixoma. Recurrence is uncommon, with a reported rate of approximately 1.0%, more often associated with incomplete removal [10]. Our patient underwent complete excision and was followed for six months postoperatively, with no evidence of recurrence.

Conclusions

The unusual presentation in this patient made the diagnosis less straightforward. Recurrent bloody and purulent discharge and the temporary decrease in swelling after discharge initially favored an epidermoid cyst. However, the calcification seen on ultrasound and CT suggested pilomatrixoma before surgery, and the diagnosis was later confirmed by histopathology.

Pilomatrixoma is, therefore, worth considering in young patients with persistent facial swelling, particularly when the clinical findings do not fit neatly with a simple cyst. Imaging may offer an important clue when calcification is present, but histopathology remains necessary to confirm the diagnosis. The lesion was completely excised, and the patient had an uncomplicated early recovery.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Aliya Ishaq, Alaa AL Jarrad, Mohammed AL Jarrad, Syeda A. Raza

Acquisition, analysis, or interpretation of data: Aliya Ishaq, Alaa AL Jarrad, Mohammed AL Jarrad, Syeda A. Raza

Drafting of the manuscript: Aliya Ishaq, Alaa AL Jarrad, Mohammed AL Jarrad, Syeda A. Raza

Critical review of the manuscript for important intellectual content: Aliya Ishaq, Alaa AL Jarrad, Mohammed AL Jarrad, Syeda A. Raza

Supervision: Aliya Ishaq, Alaa AL Jarrad, Mohammed AL Jarrad, Syeda A. Raza

Disclosures

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have

declared that there are no other relationships or activities that could appear to have influenced the submitted work.

References

1. Hu JL, Yoo H, Kwon ST, et al.: Clinical analysis and review of literature on pilomatricoma in pediatric patients. *Arch Craniofac Surg*. 2020, 21:288-93. [10.7181/acfs.2020.00528](https://doi.org/10.7181/acfs.2020.00528)
2. Chessa MA, Baracca MF, Rossi AN, et al.: Pilomatricoma: clinical, dermoscopic findings and management in 55 pediatric patients and concise review of the literature with special emphasis on dermoscopy. *Dermatol Pract Concept*. 2024, 14:e2024140. [10.5826/dpc.1402a140](https://doi.org/10.5826/dpc.1402a140)
3. Zhao A, Kedarisetty S, Arriola AG, Isaacson G: Pilomatricoma and its imitators. *Ear Nose Throat J*. 2024, 103:183-9. [10.1177/01455613211044778](https://doi.org/10.1177/01455613211044778)
4. Won S, Cho KJ, Ryu S, Seo JH, Lee JS, Park JJ: Evaluation of ultrasonography and CT for imaging of head and neck pilomatricoma in children and adolescents. *Korean J Otorhinolaryngol-Head Neck Surg*. 2021, 64:922-7. [10.3342/kjorl-hns.2021.00381](https://doi.org/10.3342/kjorl-hns.2021.00381)
5. Hao Q, Huang CG, Wu CY, Kuang R, Li MZ: Clinical, pathological, and imaging study of pilomatricoma: a retrospective study. *Health Sci Rep*. 2026, 9:e71807. [10.1002/hsr.2.71807](https://doi.org/10.1002/hsr.2.71807)
6. Alkatan HM, Alhothali W, Alnuhayer O, Alessa D: Pilomatricoma in a child mimicking a ruptured epidermal cyst clinically and histopathologically: case report. *Int J Surg Case Rep*. 2021, 84:106068. [10.1016/j.ijscr.2021.106068](https://doi.org/10.1016/j.ijscr.2021.106068)
7. Mohr C, Tschen J: Atypical pediatric presentation of pilomatricoma. *Cureus*. 2023, 15:e39909. [10.7759/cureus.39909](https://doi.org/10.7759/cureus.39909)
8. Scabora R, Alberti JGR, Bartos CSH, Ito LM, Pastore AR, Zveibil DK: Clinically ulcerated and granulomatous pilomatricoma in a cutaneous vaccination site: case report. *Surg Cosmet Dermatol*. 2022, 14:0112. [10.5935/scd1984-8773.2022140112](https://doi.org/10.5935/scd1984-8773.2022140112)
9. Kinoshita Y, Ogita A, Ito K, Saeki H: A retrospective study of the clinicopathological characteristics of approximately 1,600 pilomatricomas treated at a single institution. *J Nippon Med Sch*. 2024, 91:391-401. [10.1272/jnms.JNMS.2024_91-409](https://doi.org/10.1272/jnms.JNMS.2024_91-409)
10. Lu C, Zhang R, Bi L, Luo T, Lai W, Fan W, Jing H: Clinical features, diagnostic challenges, and therapeutic outcomes of 105 pilomatricoma cases. *Clin Cosmet Investig Dermatol*. 2025, 18:1801-7. [10.2147/CCID.S518408](https://doi.org/10.2147/CCID.S518408)