

A case of pilomatrixoma in the cheek

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ABSTRACT

We report a case of pilomatrixoma presenting in the right cheek of a 6-year-old girl. In the panoramic view, a small, ovoid-shaped, and nonhomogenous calcified mass was superimposed on the right mandibular angle. The mass was located on the skin overlying the right mandibular ramus area in the skull P-A view. The tumor had a strongly reflective pattern with acoustic shadowing in sonographic view. We also illustrate how these lesions can be effectively diagnosed. (*Korean J Oral Maxillofac Radiol* 2003; 33 : 231-4)

KEY WORDS : Pilomatrixoma; Skin Neoplasms

Formerly known as calcifying epitheliomas of Malherbe, a pilomatrixoma is a benign, deep dermal or subcutaneous tumor. A pilomatrixoma was originally described by Malherbe and Chenantais¹ as a calcifying tumor arising from the sebaceous gland. However, immunohistochemical and ultrastructural studies showed that a pilomatrixoma originates from a hair follicle.²

The tumor occurs most often in the head and neck especially in woman younger than 20 years old.³ The mass grows slowly forming a nodule in the dermis.⁴ Although multiple lesions are reported in literatures,⁵ solitary lesions without symptom are prevalent.⁶

Conventional radiography shows a well-defined soft calcific mass in the subcutaneous tissue. The mass is attached to the dermis without infiltration into deeper tissues.^{7,8} The pilomatrixoma has nothing to do with a history of trauma or inflammation. However, the skin overlying the pilomatrixoma may be easily bruised by trauma.⁹ The treatment is complete excision and recurrence is rare.¹⁰

We report a case of pilomatrixoma in the right cheek and comment on the differential diagnosis of dystrophic calcification.

Case report

A 6 year-old girl visited for a regular examination. She had

no previous dental and medical history. On the clinical examination, there was a palpable asymptomatic mass in right cheek area.

A small but well-defined ovoid calcified mass was superimposed on the right mandibular angle in a panoramic view (Fig. 1). In the skull PA view, this ovoid radiopaque mass was found in the right cheek (Fig. 2).

In sonographic view, a 6.5 mm by 8.0 mm mass had a strongly reflective pattern with acoustic shadowing and was located in the subcutaneous area exterior to masseter muscle



Fig. 1. Well-defined and non-homogenous calcified mass is superimposed on the right mandibular ramus in a panoramic view.

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Fig. 2. The skull P-A view shows an ovoid radiopaque mass in the skin overlying the right mandibular ramus area.



Fig. 4. Intraoral photograph shows a mass in the cheek and the lower photograph shows an excised specimen.



Fig. 3. Sonographic view shows a 6.5 x 8 mm sized mass that has strongly reflective pattern with acoustic shadowing.

(Fig. 3). The patient had gotten the area pricked by a pencil. The authors tentatively diagnosed the mass as a dystrophic

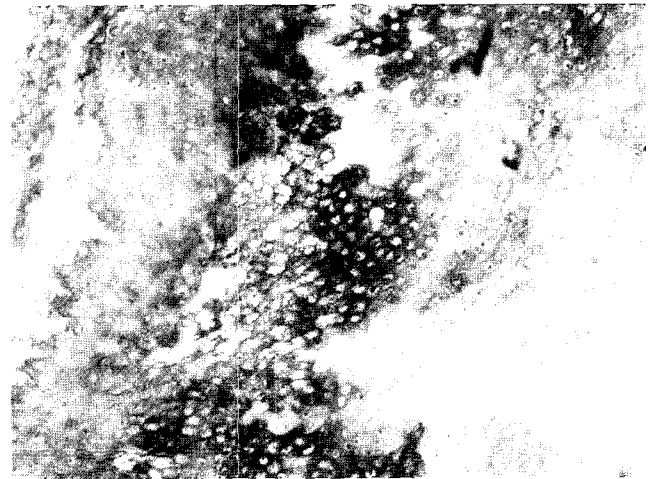


Fig. 5. Histopathologic finding shows basophilic epithelial cells and shadow cells, which are partly calcified (H & E, x200).

calcification following the trauma.

Simple excision was performed intra-orally under local anesthesia (Fig. 4). Histologically, there were calcifying epithelial cells in the epithelial strands with mild inflammatory cell infiltration. The parenchymal tumor cells were composed of basophilic epithelial cells and shadow cells like chondrocytic cells. There was no evidence of basal cell infil-

tration or malignant transformation. The lesion was concluded as a calcifying epithelioma of Malherbe (pilomatrixoma) (Fig. 5).

Discussion

Pilomatrixomas are frequently misdiagnosed when the evaluation is based on a clinical or radiographic examination alone. Therefore, histopathologic examinations are required for the final diagnosis.¹² This case presented an asymptomatic and movable mass on palpation. A small radiopaque mass was superimposed on the right mandibular angle in a panoramic view. The mass was located beneath the dermis in a sonographic view. The authors diagnosed the mass as a dystrophic calcification because the patient had a history of trauma by a pencil.

Danielson-Cohen et al.¹⁰ said that the preoperative diagnosis may be improved by the awareness of the fact that the pilomatrixoma is a common and benign skin tumor in children. Hughes et al.¹³ examined the preoperative ultrasound scans of 28 suspected pilomatrixomas in 25 children through retrospective study. The findings on sonography were correlated with the histologic results in 19 cases. The results suggest that the sonography of suspected pilomatrixomas in children is a useful and noninvasive procedure, offering a significant improvement in the accurate diagnosis of pilomatrixomas. Yoshimura et al.¹⁴ suggested that the diagnosis of pilomatrixoma should be suspected when the mass is adherent to the skin but not fixed to the underlying tissue.

Ichikawa et al.⁸ reported that a pilomatrixoma revealed a well-defined subcutaneous mass with amorphous calcifications on CT and that the mass showed intermediate signal intensity on T2-weighted MR images and slight contrast uptake on contrast-enhanced MR images. De Beuckeleer et al.⁷ presented two cases of pilomatrixomas including magnetic resonance imaging. Both cases showed intermediate signal intensity on T1-weighted images. On T2-weighted images, the first case showed slightly inhomogenous with multiple areas of intermediate signal while the second case showed homogenous and intermediate signal intensity. As mentioned above, the difficulty lies in distinguishing a pilomatrixoma from a dystrophic calcification by MR imaging and CT imaging. This hospital used the conventional radiography and sonography to diagnose the pilomatrixoma. Sonography is a useful method for locating the pilomatrixoma in the subcutaneous tissue.

The lesion can be treated by complete excision with rare

recurrence. About 9% of all the benign pilomatrixomas transformed to malignancy.¹⁵ Yoshimura et al.¹⁴ said that it is difficult to distinguish between benign and malignant tumors by imaging methods alone, so the recommended treatment must be complete excision including adherent skin. The prognosis of complete excision is promising even in the presence of malignant changes.

It is difficult to differentiate pilomatrixoma from dystrophic calcification because the radiographic findings of dystrophic calcification are similar to those of pilomatrixoma.

The characteristic sonographic appearance of a pilomatrixoma is an ovoid complex mass showing echogenic center surrounded by a hypoechoic rim with acoustic shadowing found at the junction of dermis and subcutaneous fat.¹³ One can diagnose a pilomatrixoma in this case as well.

If the patient is a female in her teens without history of trauma or inflammation,⁹ and has a slowly growing and asymptomatic small inhomogenous radiopaque mass located in the subcutaneous area in the head and neck, the mass should be suspected of a pilomatrixoma.

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