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CASE REPORT

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The Diagnostic Value of Ultrasonography in a Case of Unusual Pilomatrixoma

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ABSTRACT

Introduction: Pilomatrixoma or pilomatricoma is a benign appendageal growth, originating from hair cortex cells. **Case presentation:** We present an unusual case of a 65-year-old female patient who has been diagnosed and treated for a presumed recurrent furunculosis localized on the abdominal area. Ultrasonography raised the suspicion of pilomatrixoma. A large excision was performed and histopathology confirmed the diagnosis. **Conclusions:** Ultrasonography could be a simple and reliable diagnostic tool in daily practice.

Keywords: ultrasonography, pilomatrixoma, Doppler, skin tumors

INTRODUCTION

Pilomatrixoma was initially named Malharbe's calcified epithelioma due to its hypothesized origin in the sebaceous glands when Malharbe and Chenantais first described it in 1880.[1] However, in 1961, Forbis and Helwig renamed the lesion pilomatrixoma based on its proved origin in the hair follicle matrix.[2]

Pilomatrixoma or pilomatricoma is a benign appendageal growth, originating from the cells of the hair cortex, representing 0.12% of cutaneous tumors.[3] Its highest incidence is in the first and second decades of life, although some patients have been reported in their sixties.[4,5] The tumor is commonly reported in Caucasians and the women/men ratio is 1.5 to 2.5:1, highlighting a female predominance.[4] It is localized predominantly on the cephalic and cervical region, followed by the trunk, the superior and lower extremities.[6]

Most lesions are unique, asymptomatic, presenting as a firm mass, with a variable size between 0.5–3 cm and a red-blue appearance.[7] Multiple lesions have been reported in 2–10% of cases, and giant lesions, exceeding 5 cm (up to 24 cm) have also been reported.[6,8] Malignant transformation rarely occurs, and surgical

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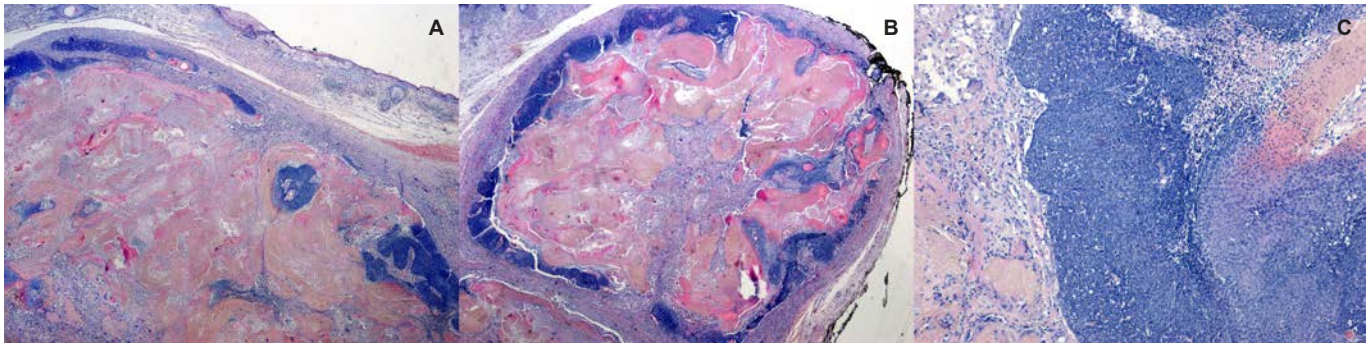

FIGURE 1. **A** – Nodular large mass, with chalky white nodules seen through the skin, presenting regular borders and accompanied by inflammatory signs beyond the margins of the lesion. **B** – Color Doppler sonogram showing well-defined mass located in the subcutaneous tissue with scattered dot calcifications and peripheral vascularity. **C** – Histological image showing sharply demarcated lesion, composed of nodular aggregates of small basaloid cells at the periphery undergoing abrupt keratinization in the central part and forming the so-called ghost cells, x2, Hematoxylin-Eosin.

resection is the gold standard treatment. Histopathological examination establishes the definitive diagnosis.

CASE PRESENTATION

A 65-year-old female patient presented to the Dermatology Unit with a firm, bluish, painless, large tumoral plaque located in the abdominal area (Figure 1A). The patient did not report any local trauma in her history, nor pus discharge, although she was previously treated with systemic antibiotics for one month for furunculosis. Skin inspection revealed a painless, non-compressible mass of 3/3.8 cm, with regular borders, covered by erythematous skin, with a blue hue. On palpation, the lesion was firm but mobile and painless.

A high-resolution ultrasonography was performed, showing a distinct subcutaneous circular lesion. Color Doppler assessment revealed a slightly amplified vascularization in the mass and the presence of calcifications within the tumor (Figure 1B).

The patient was referred to the surgeon, who performed a large excision. Postoperative evolution was uneventful, and a complete healing was achieved without a pathological scar.

On microscopic examination, the lesion was sharply defined and composed of nodular aggregates of small basaloid cells at the periphery, suffering an abrupt keratinization in the central part, and forming thus the so-called ghost cells, compatible with pilomatrixoma (Figure 1C). No atypia was observed, but areas of foreign body reaction and calcification were seen throughout the lesion.

The patient agreed to the publication of his data and the institution where the patient had been admitted, approved the publication of the case.

DISCUSSIONS

Most studies report very unspecific radiological findings in pilomatrixoma, such as heterogeneity and calcification, features that can be present in various types of lesions such as benign or malignant soft tissue tumors, hematoma or abscess. In our case, ultrasound studies found hypoechogenicity, heterogeneity and internal calcified regions in a scattered-dot outline. The tumor was measured, and its location was established to be deep in the subcutaneous tissue. The presence of a hypoechoic rim and peripheral vascularity were arguments in favor of the diagnosis of pilomatrixoma, excluding other subcutaneous tumors.[9,10]

The presented case is a histopathologically certified benign pilomatrixoma, diagnosis initially presumed by clinical and ultrasound examination. The tumor was typical in size, but atypical in location and age of the patient.

CONCLUSION

The diagnosis of pilomatrixoma is usually established by clinical features of the tumor, and then confirmed by histopathological examination, but ultrasonography is a valuable complementary investigation that could be a simple and reliable diagnostic tool in daily practice.

CONFLICT OF INTEREST

Nothing to declare.

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