

# Subungual extra skeletal chondroma with toe nail deformity: case report

## Abstract

Extraskeletal Chondroma is a rare tumor which occurs frequently in hands and feet. It's histology shows mature hyaline cartilage which is arranged in distinct lobules with fibrosis, or ossification, or myxoid areas. ESCs may recur locally but they never metastasize, which require removing the tumor completely, including the capsular structure and adhesion sites. We are reporting a case of extraskeletal chondroma which was located in the subungual right great toe in a 30-year-old male patient surgically treated. The histopathology in our case showed features of extraskeletal chondroma. So far there has been no recurrence of the tumor.

**Keywords:** extraskeletal chondroma, cartilaginous tumor, soft tissue, subungual toe, unusual location

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## Introduction

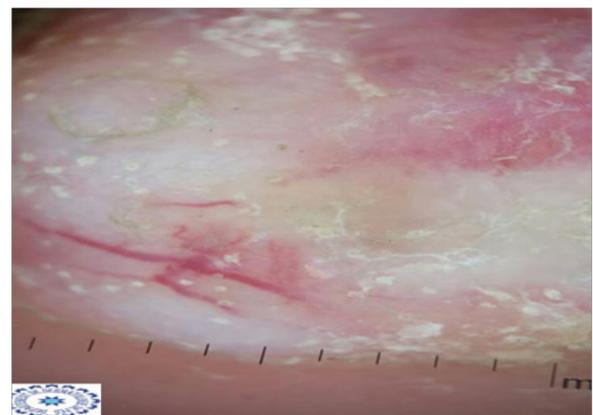
Extraskeletal chondroma (ESC) is a rare, benign, cartilaginous tumor that develops in soft tissues and is not attached to the periosteum or bone cortex.<sup>1</sup> In this article, we are reporting a case of ESC which was located in the subungual right great toe in a 30-year-old male patient surgically treated.

## Case presentation

A 30-year-old patient was seen in January 2017 because of a pink, hard nodule partly covered by whitish hyperkeratotic scales appearing beneath the nail of the right great toe (Figure 1). The nodule that caused the lifting of the distal part of the nail plate had been aching when she bumped accidentally. The patient denied any preceding trauma. The dermoscopy revealed the presence of yellowish-white scales and arborisants vessels resting on a red-milky background (Figure 2). The suspected diagnoses were exostosis, achromic melanoma, cutaneous metastasis, squamous cell carcinoma, or sarcoma. X-ray examination revealed only slight modifications of bony outline with thinning of cortex, without subungual exostosis. The tumor was radiolucent (Figure 3). Since no obvious malignant findings such as bone destruction or invasion were obtained by imaging, the tumor was considered benign. A tumor biopsy was performed under local anesthesia, aimed at establishing a histological diagnosis. Histopathological examination of the specimen revealed the presence of mature hyaline cartilage, with a relatively low cell density and small mononuclear chondrocytes with no apparent atypia in the cartilage space. Subsequently, the tumor was resected and the pathological study showed the presence of tumor proliferation made of mature cartilaginous lobules with regular chondrocytes (Figures 4 & 5). Therefore, the final diagnosis was determined as extraskeletal chondroma. So far there has been no recurrence of the tumor (Figure 6).



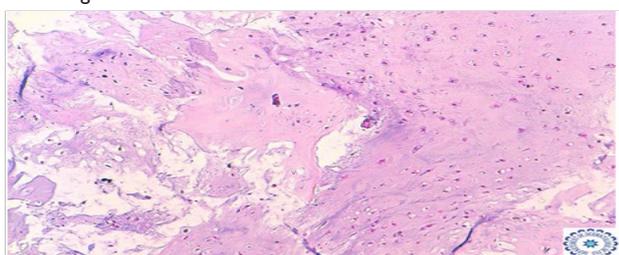
**Figure 1** Pink nodule covered by whitish hyperkeratotic scales appearing beneath the nail of the right great toe.



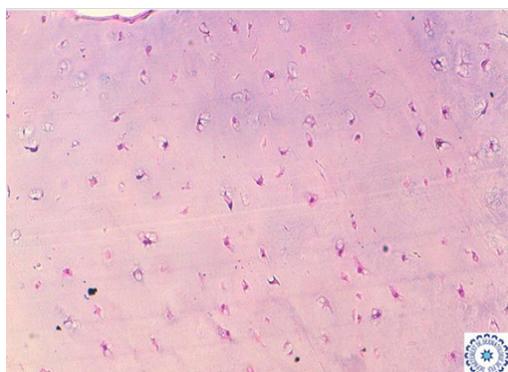
**Figure 2** Dermoscopy revealed the presence of yellowish-white scales and arborisants vessels resting on a red-milky background.



**Figure 3** X-ray examination revealed only slight modifications of bony outline with thinning of cortex.



**Figure 4** Photomicrograph showing tumor proliferation made of mature cartilaginous lobules with regular chondrocytes (H and E).



**Figure 5** Photomicrograph showing regular chondrocytes (H and E).



**Figure 6** Clinical appearance 7 months after surgery.

## Discussion

The extraskeletal chondroma is rare relative to the other soft tumor, and about 200 cases have been reported in the English literature.<sup>1,2</sup> The most common sites of occurrence are the hands, with more than 60% of all extraskeletal chondromas located here.<sup>2-4</sup> Occurrence in the fingers has been reported in more than 60% of the hands, most of which have occurred on the palmar side.<sup>5-10</sup>

Because extraskeletal chondroma is a nodular mass that grows slowly in soft tissue without any continuity with the bone, there are few symptoms and the preoperative duration of symptoms tends to be long. Until now, we are aware of only 6 case reports that describe an extraskeletal chondroma of subungual origin and each had a mild nail deformity.<sup>11-16</sup> The present case had a severe nail deformity. This created difficulty in diagnosing the extraskeletal chondroma because it grew slowly in the subungual region with few characteristic findings. The radiological appearance of the extraosseous chondroma varies with the extent of calcification and the reaction of adjacent tissues. A calcification focus develops in about one-third of cases, usually at the center of the lesion.<sup>1-3,17</sup> Diffuse calcification may occur at a late stage, making it difficult to demonstrate the cartilaginous nature of the tumor.<sup>17</sup> Bone lesions are rare, although the mass may be responsible for erosions or cortical changes as in our patient.

Histopathologically, most extraskeletal chondromas show lobulated mature hyaline cartilage tissue accompanied by myxoid degeneration, ossification, and calcification. The others (approximately 15%) show atypical features that should be differentiated from chondrosarcoma. The findings accompany increased cellularity, nuclear pleomorphism, the presence of chondroblastic cells and epithelioid cells, and the proliferation of multinucleated giant cells.<sup>2,3</sup>

The presence of cosmetic problems such as nail deformation or symptoms such as pain is considered a primary indication for surgical removal. Because the incidence of local recurrence after simple removal of the tumor itself is reported to be 17%,<sup>11</sup> it is advisable to remove the tumor completely, including the capsular structure and adhesion sites.

## Patient consent form

Patient consent related case report take the permission from concerned patient.

## Acknowledgements

None.

## Conflict of interest

The author declares no conflicts of interest.

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