

Knuckle Pads: An Uncommon Finding

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Abstract**Case Report**

Knuckle pads, or Garrod's nodes, are uncommon benign lesions consisting of fibro-adipose tissue that appear over finger joints, particularly in the hands. Though painless and non-inflammatory, they can resemble early signs of joint diseases, making diagnosis challenging. This report presents a 25-year-old man with slowly evolving plaques over his finger joints. Clinical and dermoscopic evaluations revealing hyperkeratosis and fibrotic features confirmed the diagnosis without the need for biopsy. While treatment with keratolytics was attempted, the response was minimal. Despite occasional links to trauma or genetic fibromatoses, most cases remain idiopathic. Imaging and dermoscopy are helpful tools to distinguish knuckle pads from other articular or systemic conditions.

Keywords: Garrod's nodes, fibro-adipose lesions, hyperkeratosis, idiopathic, keratolytic treatment.

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INTRODUCTION

Knuckle pads, also known as Garrod's nodes, are a rare, non-inflammatory condition characterized by the presence of well-circumscribed benign fibro-adipose tissue located over the small joints of the hands and feet. The evaluation of swelling in the small joints of young patients can be complex, as this clinical manifestation must be differentiated not only from joint diseases but also from lesions in the para-articular tissues, such as soft tissue growths or other masses. While swelling of the small joints in the hands is commonly associated with inflammatory diseases (such as psoriatic arthritis, rheumatoid arthritis, or connective tissue diseases), non-inflammatory conditions must also be considered in the differential diagnosis. Indeed, non-inflammatory conditions like knuckle pads may be confused with early

signs of arthritis or caused by local lesions such as synovial cysts or giant cell tumors, or even systemic diseases like acromegaly. This distinction is crucial, and ultrasound or MRI may be useful in making an accurate diagnosis, particularly in doubtful cases. Dermoscopy may also assist in identifying changes in the epidermis and dermis [1]. Here we describe a case of knuckle pads.

CASE REPORT

A 25-year-old man presented with asymptomatic plaques of chronic and slow evolution on his hands. The dermatological examination revealed small, round, slightly hyperkeratotic plaques, pink in color, and infiltrated upon palpation, located on the dorsal aspect of the interphalangeal joints (Figure 1).



Figure 1: Small, round, pink, slightly hyperkeratotic plaques on the dorsal interphalangeal joints, infiltrated on palpation

The dermoscopic examination revealed scaling due to hyperkeratosis and white-yellow areas corresponding to fibrosis (Figure 2). The diagnosis of

knuckle pads was evident, and we did not resort to skin biopsy. The patient was treated with keratolytics, but without significant improvement.



Figure 2: Dermoscopy revealed hyperkeratotic scaling and white-yellow structureless areas

DISCUSSION

Knuckle pads are benign fibro-adipose subcutaneous pads found on the proximal interphalangeal (PIP) joints, which can sometimes be mistaken for arthritis. In rare cases, they may also affect the dorsal aspect of the metacarpophalangeal (MCP) joints. [2]

Clinically, knuckle pads are painless and often affect both hands asymmetrically. They are firmly attached to the skin and have limited mobility over the extensor tendon. These pads are round or oval in shape, with a smooth surface and a firm, elastic texture. The skin covering them may appear normal or hyperpigmented. The development of knuckle pads is gradual and progressive; in some cases, they may shrink spontaneously without completely disappearing. [3] KP may be associated with camptodactyly (a fixed flexion deformity of the interphalangeal joints of the little finger), exhibiting overlapping symptoms, and is linked to various genetic factors. While they can result from repetitive local trauma (such as repeated knuckle strikes, for example by boxers, or finger sucking by children), they may also coexist with conditions like palmar fibromatosis (Dupuytren's disease), plantar fibromatosis (Ledderhose's disease), or Peyronie's disease. However, most cases of KP are idiopathic. [2] The distinction between dorsal cutaneous pads and dorsal Dupuytren's nodules is generally difficult to make clinically and is unnecessary, as the findings are typically similar.

Histologically, knuckle pads show a proliferation of fibroblasts developing into dense fibrosis. The fibroblast nuclei are of regular size, without mitoses or atypical forms. The fibrous areas still contained some vessels but did not have elastic fibers.

Under polarized light, they appeared more or less dense. [4] Although knuckle pads are histologically similar to palmar nodules in Dupuytren's disease, they do not cause contraction. [5] In general, the diagnosis is clinical and does not require additional tests. Treatment is not always satisfactory, as surgery has a high rate of keloid formation, and the application of keratolytics yields a partial response. [6]

CONCLUSION

Knuckle pads are benign and typically harmless, but their resemblance to joint diseases can complicate diagnosis. Since treatments often have limited success, especially surgical options, a conservative, non-invasive approach focused on observation is usually the best course of action.

Conflicts of interest: The authors declare no conflicts of interest.

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