Five fingernail onychogryphosis in a claw hand

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Abstract:

Onychogryphosis is characterized by thickening, increase in length and curvature of the nail plate. Commonly described in great toe nail but no toenail is exempted. However five fingernail onychogryphosis as in our case has not been previously reported.

Case Report:

Thirty- nine year old male presented with long thickened and curved nails of all the five fingers of the left hand (Fig.1) with significant past history of orthopaedic surgery for displaced compound fracture of both bones of the left forearm. On examination, the left forearm was wasted and had "claw-hand" deformity with bilaterally symmetrical radial and ulnar pulses. All the five nails of the left hand were long, thickened, curved with horizontal ridging on the dorsal surface and brownish yellow in color. Skin over the left hand and fingers was thin, shiny, atrophic, with loss of hairs and few hypo-pigmented macules. Flaccid blisters were present in mid palmar area and palmar aspect of left hand fingers. All modalities of sensations were lost in the involved hand. Potassium Hydroxide (KOH) test and fungal culture of nail scrapings were negative. Examination of the right hand was normal. A diagnosis of neurogenic five fingernail onychogryphosis was made. Chemical nail matrix ablation was planned but patient did not comply.
Discussion:

Onychogryphosis is characterized by thickening, increase in length and curvature of the nail plate. This is sometimes referred to as a "ram’s horn nail" because of the strange shape. Higashi et al [1] reported it to be of two types; congenital and acquired. Onset of the congenital type, which is of autosomal dominant inheritance, occurs at puberty. The acquired type may be caused by trauma, inflammation of the nail bed or disorders of the peripheral circulation. [2] The nails of the great toes are most commonly involved, although, finger nails may also be affected. [1,3] The nail becomes thicker, longer, curved, and circular in cross section like a ram’s horn. There are two possible explanations for this deformity: there may be insufficient matrix under the posterior fold to exert a flattening effect, or the nail bed may contribute a greater quantity of keratin to the nail than is normally the case. [3] In this particular case the presence of bullae on the palm were explained by repeated trauma of onychogryphotic nails to the anaesthetic skin.

In treating the condition, two problems have to be solved; the nail bed deformity and the retracted dorsal skin proximal to the nail. Nail bed deformity can be improved by nail avulsion, removal of the affected nail and through ablation of the nail matrix, application of the CO$_2$ laser, [4] removal of the distal tissue bulge of the affected nail, [1] paring and trimming of the affected nail using nail clippers and a file or mechanical burr. [3] The problem of the retracted dorsal skin can be improved by skin grafting or application of a local flap to the affected digit. [5] The onychogryphosis of thumb nail has been treated with free vascularised nail graft from the great toenail. [6] In this particular case, chemical nail matrix ablation was planned but the patient did not comply.

Fig 1: Five finger onychogryphosis.

References


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