Clubbing/Pseudoclubbing only in Fingernails Previously Affected by Psoriasis

Valentina A. Antonucci*, Vera Tengattini, Federico Bardazzi and Annalisa Patrizi

Department of Internal Medicine, Geriatrics and Nephrology, Division of Dermatology, University of Bologna, Italy

Abstract

We report a case of fingernails clubbing in a 55-year-old man suffered since the age of 40 from cutaneous psoriasis. The patient had no clubbing before and had no familial cases of clubbing. Cardiological and pneumological visits revealed no abnormalities. All laboratory tests were within normal limits and X-rays excluded the presence of pachydermoperiostosis. We made the diagnosis of atypical clubbing exclusively in the fingernails previously affected by psoriasis. Till now the ACH has been treated with acitretina 25 mg daily with good results but the enlargement of the distal phalanx persists at the 6 months follow-up visit.

Discussion

The mechanism for the development of clubbing is not clear, and several hypotheses have been proposed. Brouwers et al. hypothesized several hypotheses have been proposed. Brouwers et al. hypothesized

Case Report

A 55-year-old man came to our attention. He had been suffering since the age of 40 from cutaneous psoriasis with nail involvement and no symptoms of arthritis psoriasis. Rheumatologic visit did not find any signs of arthritis as well. We started therapy with cyclosporine 2.5 mg/Kg/day (increased to 5 mg/Kg/day), and later with methotrexate 15 mg once weekly with no results in both cases. Only acitretina 25 mg daily had good response just after 2 months. Since then he has experienced long periods of remission and has had follow-up visits as needed.

After four years of good health, however, he now presented with painful lesions on his hands different from the previous psoriasis. Physical examination revealed erythema, pustules and vesicles of his right hand fingers. A diagnosis of Acrodermatitis continua of Hallopeau (ACH) was made. More precisely, in his right hand: the first digit was affected by ACH, the second and the third by nail psoriasis, while the fourth and fifth showed enlargement of the distal phalanx (Figure 1). Instead, in the left hand: the first three digits showed enlargements of the distal phalanx while the fourth and fifth were normal in appearance (Figure 2). Interestingly, the enlargement was present only in the fingernails previously affected by psoriasis. The toenails appeared normal.

Keywords: Clubbing; Pseudoclubbing; Psoriasis; Nail; Koebner; Enthesis organ

Abbreviations: ACH: Acrodermatitis Continua of Hallopeau; PC: Pseudoclubbing; HOA: Hypertrophic Osteoarthropathy; VEGF: Vascular Endothelial Growth Factor

Clubbing is the enlargement of the distal phalanx of digits, assuming the form of a “drumstick”, so the Lovibond’s angle (angle between the nail plate and the proximal nail-fold) is more than 180°. Clubbing is usually associated with pulmonary, cardiac, infectious, neoplastic, endocrine and gastrointestinal disorders. It can also be an idiopathic, a hereditary trait or a part of hypertrophic osteoarthropathy (HOA) also called “pachydermoperiostosis”) that is often characterized by skin and tissue growth. Clubbing is usually symmetrical, affects all the fingernails of both hands and X-ray show an overgrowth of the tufts [1]. Instead, the term Pseudoclubbing (PC) has been utilized to describe an atypical presentation of clubbing with acroosteolysis, a preserved Lovibond’s angle or an asymmetrical distribution with involvement of only few digits. Like clubbing, the mechanism of PC is also unknown and differential diagnosis between them is not always possible [1]. We report a case of clubbing/PC of only the fingernails previously affected by psoriasis.

Figure 1: Clubbing of the third nail of the left hand and normal appearance of the fourth.
that clubbing is the return of the embryonic claw. Disease by altering cytokines levels can activate the "dormant" genes and so clubbing appeared [2]. Martinez-lavin et al. [3] suggest that the fibroblast growth factor as well as the vascular endothelial growth factor (VEGF) may be responsible for the fibroblast proliferation and collagen deposition. A study showed significant increased VEGF and platelet-derived growth factor (PDGF) in clubbed digits compared with normal ones [4].

Besides, in most cases of acquired clubbing capillaroscopy showed a significant difference in the morphologic features of the capillaries [5], as in our patient. Moreover clinical aspect and the radiographic investigation excluded HOA, but the unpressed Lovibond’s angle in any case allowed us to diagnose clubbing. Asymmetrical distribution on the fingers is, however, rare in clubbing and points to a PC. So the differential diagnosis between clubbing/PC is difficult. Peculiar too is that after four years of complete remission ACH occurred, an uncommon variant of pustular psoriasis. Even if some authors described an unusual association between HOA and psoriatic onychopathy [6], to our knowledge there are no cases reported of clubbing or PC of the fingernails previously affected by psoriasis. Fietta and Manganelli describe an unusual case of HOA coexistent with nail psoriasis without signs or symptoms of arthritis psoriasis. Even if some authors described an unusual case of HOA coexistent with nail psoriasis without signs or symptoms of arthritis psoriasis, but in these cases all the fingernails were affected and X-ray showed drumstick enlargement of fingernails and periosteal reaction at the base of the distal phalanx of fingernails [6]. It may be that a common mechanism lies at the root of psoriasis and clubbing. The nail is a complex system, functionally linked to the distal interphalangeal joint, to the musculoskeletal system and anchored to tendons, ligaments and periosteum [7]. The complex anatomy of the distal interphalangeal joints gave rise to the term "enthesis organ", highlighting the fact that inflammatory reaction intrinsic to enthesitis involves not only the enthesis itself, but neighbouring tissues as well [8]. This patient's clubbing/PC is probably related to the inflammation associated with psoriasis and the process of healing of nail psoriasis that may have invoked fibroblasts and growth factors, but it could also be an early sign of psoriatic arthritis. We report this case not knowing if it is a likely consequence of a Koebner effect or a stochastic event.

References

Submit your next manuscript and get advantages of OMICS Group submissions
Unique features:
• User friendly/feasible website-translation of your paper to 50 world`s leading languages
• Audio Version of published paper
• Digital articles to share and explore

Special features:
• 200 Open Access Journals
• 15,000 editorial team
• 21 days rapid review process
• Quality and quick editorial, review and publication processing
• Indexing at PubMed (partial); Scopus; DOAJ; EBSCO, Index Copernicus and Google Scholar etc
• Sharing Option: Social Networking Enabled
• Authors, Reviewers and Editors rewarded with online Scientific Credits
• Better discount for your subsequent articles
Submit your manuscript at: www.editorialmanager.com/clinicalgroup

This article was originally published in a special issue, Dermatology: Case Reports handled by Editor(s). Dr. Anetta Reszko, Cornell University, USA