Journal of Clinical & Experimental Dermatology Research

Antonucci et al., J Clin Exp Dermatol Res 2012, S:6
DOI: 10.4172/2155-9554.S6-005

Commentary Open Access

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 pachyodermoperiostosis. We made the diagnosis of atypical clubbing exclusively in the fingernails previously affected by psoriasis. It may be that a common mechanism lies at the root of these two phenomena.

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.

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 metotrexate 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.

The patient had no enlargement of the distal phalanx before (unfortunately we don't have photo) and had no familial cases of clubbing. Cardiological and pneumological visits revealed no abnormalities. All laboratory tests were within normal limits. The patient underwent X-rays that excluded the presence of pachyodermoperiostosis. Capillaroscopy of the fingers with the enlargement of the distal phalanx showed alterations in the capillarity pattern like splayed and arborized loops and plexus. We made the diagnosis of clubbing/pseudoclubbing 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

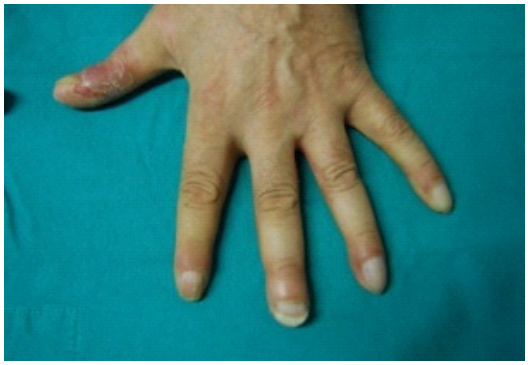

Figure 1: Clubbing of the third nail of the left hand and normal appearance of the fourth.

***Corresponding author:** Valentina A. Antonucci, Department of Internal Medicine, Geriatrics and Nephrology, Division of Dermatology, University of Bologna, Italy, Tel: +390516364198; Fax: +390516363091; E-mail: av_antonucci@yahoo.it

Received December 12, 2012; **Accepted** January 16, 2013; **Published** January 24, 2013

Citation: Antonucci VA, VTengattini era, Bardazzi F, Patrizi A (2012) Clubbing/Pseudoclubbing only in Fingernails Previously Affected by Psoriasis. J Clin Exp Dermatol Res S6:005. doi:10.4172/2155-9554.S6-005

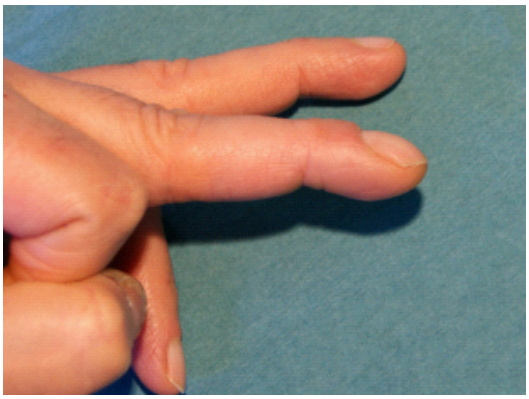

Figure 2: The right hand shows acrodermatitis continua of hallopeau and nail psoriasis in the first three fingers and clubbing in the last two.

that clubbing is the return of the embryonic claw. Disease by altering cytokines levels can activates 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 plated 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 unpreserved 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 onycopathy [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, 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 muscoskeletal 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 arthrits. We report this case not knowing if it is a likely consequence of a Koebner effect or a stochastic event.

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

References

1. Santiago MB, Lima I, Feitosa AC, Braz Ade S, Miranda LG (2009) Pseudoclubbing: is it different from clubbing? Semin Arthritis Rheum 38: 452-457.
2. Brouwers AA, Vermeij-Keers C, van Zoelen EJ, Gooren LJ (2004) Clubbed fingers: the claws we lost? Med Hypotheses 62: 321-324.
3. Martinez-Lavin M (2007) Exploring the cause of the most ancient clinical sign of medicine: finger clubbing. Semin Arthritis Rheum 36: 380-385.
4. Atkinson S, Fox SB (2004) Vascular endothelial growth factor (VEGF)-A and platelet-derived growth factor (PDGF) play a central role in the pathogenesis of digital clubbing. J Pathol 203: 721-728.
5. Fara EF, Baughman RP (1989) A study of capillary morphology in the digits of patients with acquired clubbing. Am Rev Respir Dis 140: 1063-1066.
6. Fietta P, Manganelli P (2003) Pachydermoperiostosis and psoriatic onychopathy: an unusual association. J Eur Acad Dermatol Venereol 17: 73-76.
7. McGonagle DG, Helliwell P, Veale D (2012) Enthesitis in Psoriatic Disease. Dermatology 225: 100-9.
8. Benjamin M, McGonagle D (2009) The enthesis organ concept and its relevance to the spondyloarthropathies. Adv Exp Med Biol 649: 57-70.