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Case Report

Pseudo -knuckle Pads a Bridge to Psychodermatology

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Abstract

Knuckle pads are a harmless unappealing skin condition described as fibromas located over the small joints of the hands and feet. It has been rarely reported, making physicians less familiar with this disorder which may lead to extensive and pricey workups. The distinction between the primary and secondary forms also called pseudo-knuckle pads allows a better management approach. Hence, we are reporting a case of pseudo- knuckle pads due to an obsessive-compulsive disorder in an adolescent.

Keywords: knuckle pads; chewing pads; pseudo knuckle pads; psychodermatology; psychiatry

Introduction

Knuckle pads are uncommon and cosmetically unattractive skin lesions. They have frequently been described on the dorsal surface of the hands, the primary form is unrelated to trauma, though the secondary type called "pseudo-knuckle pads" may be considered as a form of callosity that appears after repeated friction. It has been mostly described in children with obsessive behavior as "chewing pads" and in adults as an occupational disorder. Here we describe a 15-year-old patient with pseudo-knuckle pads overlying the joints of several fingers developed after a repeated trauma underlying an obsessive-compulsive disorder characterized by a tic-like habit.

Case report

A healthy 15-year-old girl presented to our dermatology outpatient clinic for a painless indurated skin over the metacarpal (MCP) and proximal interphalangeal (PIP) joints on several digits, accentuated on the right hand. The patient and her parents denied any traumatizing activity on her fingers including unusual hobbies or sports. During the consultation we observed a repeated attitude of crossing hands, hence further investigations revealed a habit of crossing, rubbing, biting, and chewing hands-on daily basis to relieve anxiety. On physical examination asymmetric, slightly hyperpigmented, well-circumscribed, smooth to dome-shaped fibrous plaques over joints on the dorsal surfaces of the hands (figure1,2).

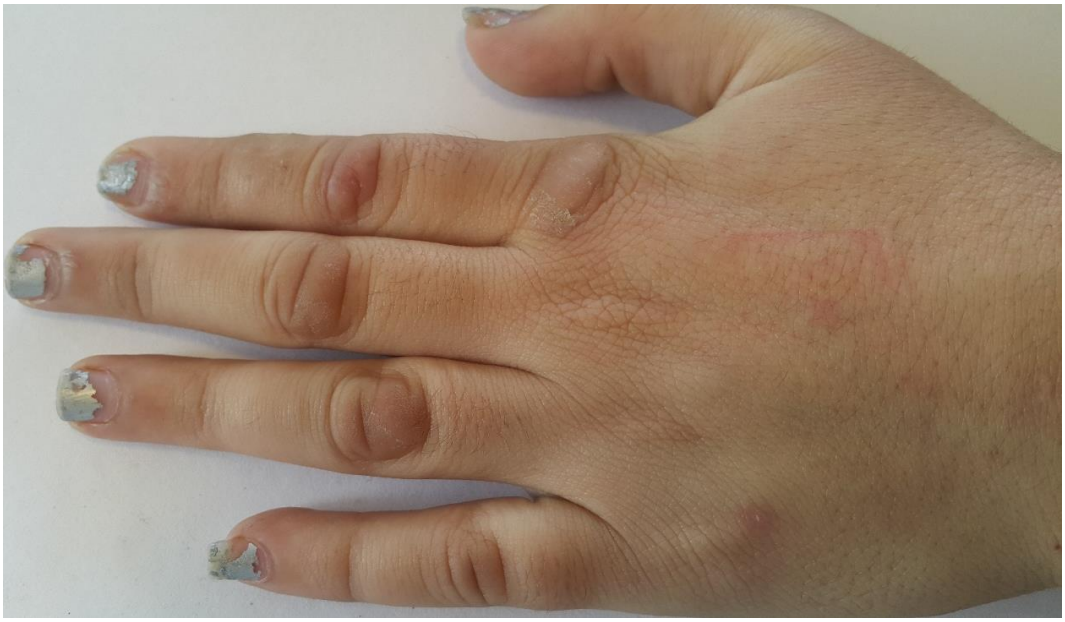

Figure 1: Pseudo Knuckle pads over PIP and MCP joints

Figure 2 : Asymmetric, slightly hyperpigmented and scaly , well-circumscribed nodules over joints on the dorsal surface of the hand

A skin biopsy showed epidermal and dermal changes. Mild acanthosis, hyperkeratosis, and papillomatosis along with hyperplasia of collagen. The diagnosis of pseudo Knuckle pads was made and the patient was treated with topical keratolytic ointment (high dose de salicylic acid, urea) and was referred to a psychiatrist for an obsessive-compulsive disorder. The follow-up period was marked by an improvement of lesions.

Discussion

Knuckle pads, first described by Garrod in 1893; also known as athlete's nodules, subcutaneous fibroma, keratosis supracapitularis, discrete keratoderma, Heloderma, tylositas articuli and Garrod pads. It's a discrete fibromatosis, observed as well-defined, mobile, dome-shaped nodules, or plaque-like lesions, frequently localized on the proximal interphalangeal joints over the dorsal surface of fingers more than toes. It may affect the metacarpophalangeal or distal interphalangeal joints. The skin is indurated flesh-colored or hyperpigmented, lesions are asymptomatic and not associated with rheumatology symptoms. Knuckle pads may appear at any age, they are permanent and grow in size [1,2,3]. Inherited (primary) or secondary (acquired) knuckle pads should be differentiated. Most of the inherited cases are idiopathic however some may be associated with fibromatosis disorders (e.g. palmar Dupuytren contracture, plantar Ledderhose disease) and Peyronie's disease [1,3]. Some papers have reported a family history to develop the disease at the same age [3]. Primary knuckle pads may be a hallmark of different genetic

syndromes along with a cortege of clinical symptoms, such as Bart-Pumphrey syndrome, epidermolysis palmoplantar keratoderma, acrokerato elastoidosis of Costa, camptodactyly [1,2,3]. It was also been described along with finger pebbles in the context of metabolic syndrome, type 2 diabetes [4]. Secondary knuckle pads called pseudo knuckle pads should be recognized separately as clinical and management approaches are different. It appears in younger age, lesions are hyperkeratotic secondary to chronic friction or repeated trauma, as well as psychiatric disturbances (eg chewing or sucking fingers, bulimia nervosa), or along with occupational or athletic activities such as boxing or surfing. The diagnosis is made upon clinical features; however, further investigations may be considered to rule out differential diagnosis. Ultrasound shows a subcutaneous hypoechoic nodule without vascularization on color Doppler [3] and pathology patterns reveal hyperkeratosis, acanthosis and proliferation of myofibroblasts with a decrease of elastic filaments in the deep dermis.

There is a wide range of differential diagnoses including dermatological conditions such as Gottron papules as a part of dermatomyositis signs, subcutaneous granuloma annulare, foreign body granulomas, tumors, warts or rheumatoid nodules, gouty tophi, and osteoarthritis with Heberden nodules [5]. Concerning our case, the prompt recognition of the disorder allowed an early management of its underlying cause. Treatment is difficult, not effective and should be gentle as aggressive procedures may induce keloid formation. First-line treatment is based on education to avoid repetitive trauma and irritation as wearing protective gloves and considering a change of professional or vocational activities. Psychodermatology therapy is indicated in case of behavioral and emotional disorders. Topical emollients, keratolytics and intralesional corticosteroids or fluorouracil injections may be used while the outcome is not fully appreciated [1,2].

Conclusion

Regardless of the benignity of this entity, its diagnosis and management are guided by the age of the onset, the associated disorders, and the clinical presentation. In fact, treatment ranges from active surveillance or daily application of emollient to psychiatry consultation or orientation to industrial medicine.

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