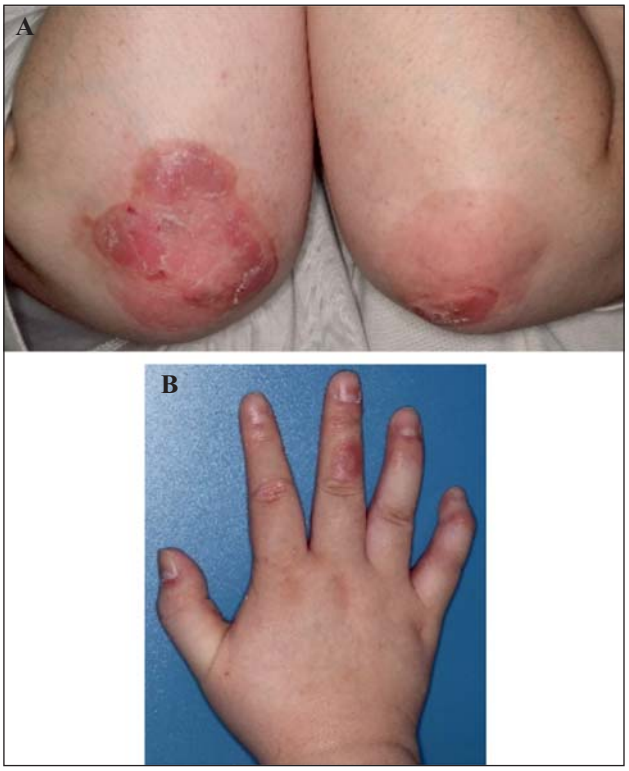

Figure 1. A) Scaly erythematous plaques on the elbows. **B**) Tender and swollen proximal interphalangeal and distal interphalangeal joints of the right hand.

relapses requiring treatment one month after the second dose of SARS-CoV-2 mRNA vaccination [6]. The use of combination therapy (conventional DMARD and biologics and/or glucocorticoids, or biologics and glucocorticoids) and reports of flare during the six months prior to vaccination were associated with flares. The relationship between these factors and vaccination is unclear, but caution may be warranted in patients with a high level of disease activity requiring combination therapy.

The viral vector vaccines for COVID-19 have been reported to cause flares of inflammatory rheumatic diseases with almost equal frequency compared to mRNA vaccines, but the frequency of flares for other vaccine types is not clear [7]. Both the mRNA and viral vector vaccines encode the SARS-CoV-2 spike (S) protein, which is a major target for neutralizing antibodies arising from natural infection and therapeutic monoclonal antibodies [8]. This triggers a robust CD8+ and CD4+ T-cell-mediated response, eventually producing memory T and B cells and neutralizing antibodies to the spike protein [9]. The adjuvant nature of these vaccines is based on agonism of toll-like receptor (TLR)-7 or TLR-9, resulting in the production of type I interferon and multiple pro-inflammatory cytokines and chemokines [8], which is different from previous vaccines and is a common pathogenetic mechanism of immune-mediated inflammatory diseases such as psoriasis. In the present case, exacerbation of PsA may also have been attributable to these immunological alterations. Further studies and case reports are required to clarify the pathogenetic changes occurring in psoriasis flare-ups caused by COVID-19 vaccination. With the widespread availability of the COVID-19 vaccine, dermatologists need to be prepared to discuss the risks and benefits of vaccination, keeping in mind that vaccines against SARS-CoV-2 can exacerbate immune disorders such as PsA, and that patients need to be followed carefully. ■

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Clinical characteristics of Mycosis fungoides *palmaris et plantaris*: two cases and a systematic literature review

Involvement of the palms and soles, occurring at some time in the course of mycosis fungoides (MF), is seen in 11.5% of cases, but 0.6% of cases present with limited lesions or initially present with lesions on the palms and/or soles [1]. This form is rare but well established [2]. The aim of this study was to evaluate the clinical characteristics of patients

with *mycosis fungoides palmaris et plantaris* (MFPP). A retrospective study was conducted with a systematic review of the literature via Medline in Pubmed to identify patients with MFPP. Some cases were not included due to missing data [3-5]. The unilesional form was not included in order to exclude the Woringer-Kolopp type [6].

We collected data from two patients in our dermatology department and data from 35 patients in the literature between 1982 and 2020 [1, 7-23]. The mean age was 56 years (11-85) with a male/female ratio of 3:1. Palmar involvement was present in 35/37 (95%) cases and plantar involvement in 27/37 (73%) cases (*figure 1*). Palmar and plantar involvement was concomitant at the time of diagnosis in 51% of cases. Palmar involvement was characterized by six different forms: eczematous annular or diffuse lesions in 77% of cases, dyshidrosis lesions in 14%, pustulosis in 6%, verrucous lesions in 6%, dry pulpitis in 6% and ulcerated nodular lesions in 3%. Plantar involvement was characterized by five different forms: eczematous annular or diffuse lesions in 74% of cases, hyperkeratosis with fissures in 19%, dyshidrosis lesions in 7%, pustulosis in 7% and verrucous lesions in 4%. Nail dystrophy characterized by atrophy, hyperkeratosis or onycholysis associated with palmar or plantar involvement was rare and only present in 5% of cases. All patients had typical MF histology, and one case presented with syringotropic MF. All assessable cases (18 patients) were CD4+ (100%). Among these cases, 44% were CD4+ CD8+. Cutaneous T-cell receptor genes were monoclonally rearranged (Southern blot or polymerase chain reaction) in 87% of cases. The diagnosis was made after a median of 36 months (1-300). The median follow-up period was 20 months (0-122). The most commonly used treatments were topical steroids in 22/37 (60%) of cases but without efficacy in 82% of patients, phototherapy (UVA in 15/17 cases and UVB in 2/17 cases) in 17/37 cases (46%) with a complete response (CR) in 59% of cases, radiotherapy in 9/37 cases (24%) with a CR in 89% of cases, and chlormethine gel (11%) with a partial response (PR) in 2/4 cases (50%) and a CR in 1/4 cases. Other treatments used were methotrexate in 8/37 cases (22%) with a CR in 50% of cases, acitretin in 6/37 cases (16%) without efficacy in 67% of cases, and calcipotriol in 4/37 cases (11%) without efficacy in 50% of cases. Bexarotene was used in one patient without efficacy. Mogamulizumab in 2/37 cases (5%) (one case received treatment after developing a diffuse form three years later, and the other case presented with an isolated palmoplantar form), brentuximab in 1/37 cases (3%) (an ulcerated nodular form), alitretinoine (3%), bexarotene gel (3%), extracorporeal photopheresis (3%), and CO_2 laser (3%) showed a good response (partial or complete) in a very small number of patients. Finally, in six cases (16%), lesions evolved into a diffuse MF form, over three months to three years. Among these six cases, a tumour and transformed form developed in one patient, and erythrodermic MF in another.

The limitations of this study are the retrospective aspect, sparse data in the literature and a limited number of patients. There is no physiological explanation for the involvement of isolated palms and soles. A Koebner phenomenon remains possible although rarely described [24]. The diagnosis may be delayed because the clinical picture may resemble eczema, psoriasis or simple hyperkeratosis. Palmar involvement is more frequent, and half of the cases present with

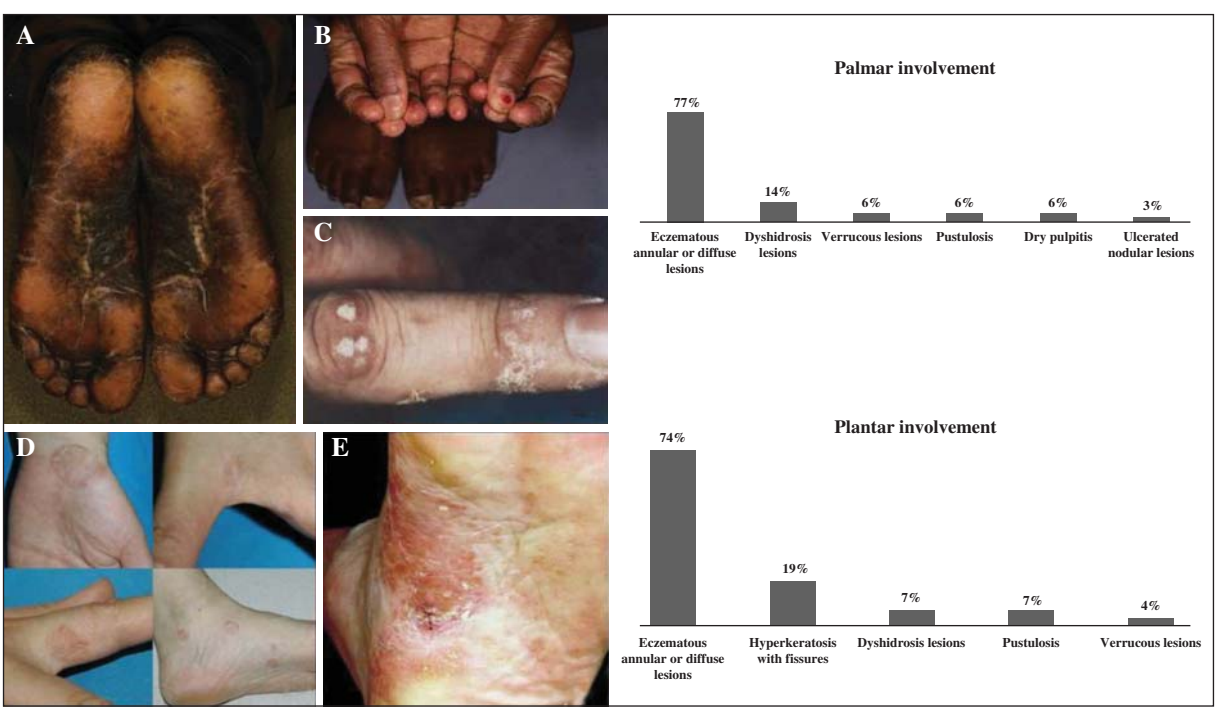

Figure 1. Different forms of palmoplantar MF: diffuse hyperkeratosis lesions with fissures on the soles (our patient) (**A**), diffuse eczematous lesions with dry pulpitis on the palms (our patient) (**B**), verrucous lesions on a finger (**C**) (from ref. [21]), typical annular lesions of MF on the palms and soles (**D**) (from ref. [20]), and dyshidrosis lesions on the soles (**E**) (from ref. [11]).

concomitant palmar and plantar involvement. Eczematous lesions or typical annular lesions of MF are the most common forms, followed by dyshidrosis lesions on the palms and hyperkeratosis with fissures on the soles. Histology is essential to clearly differentiate from eczema or psoriasis. Resistance to topical steroids, observed in these patients, could be an evocative sign. Phototherapy and radiotherapy are the most widely used and effective treatments according to this study. Radiation doses were not always given; they varied between 10 and 40 Gy, but lower doses could also be effective. However, chlormethine gel seems to be a good first-line topical treatment with a 75% response rate. Finally, in this study, the prognosis appears to be more favourable compared to "classic" MF, with only 5% of cases developing a severe form of MF. ■

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