Spiny Keratoderma Palmar que precedeu o Diagnóstico de Micose Fungóide: Uma Nova Associação Paraneoplásica?

Ana Isabel Teixeira[1], Luís Soares-Almeida[2], Paulo Leal Filipe[3]
[1]Interna do Internato Complementar de Dermatovenereologia/Resident, Dermatology and Venereology, Serviço de Dermatovenereologia, Centro Hospitalar Lisboa Norte, Lisboa, Portugal
[2]Assistente Hospitalar Graduado de Dermatovenereologia/Graduated Consultant, Dermatology and Venereology, Professor convidado de Dermatologia/Invited Professor - Unidade de Investigação em Dermatologia, IMM Lisboa, Lisboa, Portugal, Serviço de Dermatovenereologia, Centro Hospitalar Lisboa Norte, Lisboa, Portugal
[3]Assistente Hospitalar Graduado de Dermatovenereologia/Graduated Consultant, Dermatology and Venereology; Director de Serviço/Head of the Department; Professor associado de Dermatologia/Associated Professor - Unidade de Investigação em Dermatologia, IMM Lisboa, Lisboa, Portugal, Serviço de Dermatovenereologia, Centro Hospitalar Lisboa Norte, Lisboa, Portugal

RESUMO – Os quadros de *spiny keratoderma* são raros, de etiologia desconhecida e ocorrem de forma esporádica ou hereditária. A variante esporádica ocorre frequentemente em associação a neoplasias ou doenças sistémicas. Os autores relatam o caso de um doente caucasiano que recorreu à consulta de Dermatologia com multiplas pápulas hiperqueratósicas filiformes palmares presentes desde há um ano. Foi realizada uma biópsia cutânea que permitiu efectuar o diagnóstico de *spiny keratoderma*. Após dez meses de *follow-up*, o doente desenvolveu lesões cutâneas de micose fungóide, tendo sido classificado como estadio IB de acordo com a European Organization for Research and Treatment of Cancer e tratado com PUVAterapia com controlo satisfatório da dermatose. Os autores discutem a hipótese de este caso se tratar de uma nova associação paraneoplásica de um quadro de *spiny keratoderma*.
PALAVRAS-CHAVE – Micose Fungoide; Neoplasias da Pele; Queratodermia Palmoplantar.

Palmar Spiny Keratoderma Preceding the Diagnosis of Mycosis Fungoides: A New Paraneoplastic Association?

ABSTRACT – *Spiny keratoderma is a rare dermatosis of unknown etiology that has been described with both hereditary and acquired variants. The acquired form has been associated with underlying malignancy and systemic diseases. We report a case of a 65-year-old caucasian male presenting with multiple filiform hyperkeratotic papules in the palmar aspect of his hands which were present for the past year. Skin biopsy revealed aspects compatible with spiny keratoderma. After 10 months of follow-up, the patient developed mycosis fungoides, staged as IB according to the European Organization for Research and Treatment of Cancer and treated with PUVAtherapy with good control of both dermatosis. The authors raise the hypothesis of a new paraneoplastic association of spiny keratoderma.*
KEY-WORDS – *Keratoderma, Palmoplantar; Mycosis Fungoides; Skin Neoplasms.*

Correspondência: Ana Isabel Teixeira
Departamento de Dermatovenereologia,
Centro Hospitalar de Lisboa Norte -Hospital de Santa Maria
Avenida Professor Egas Moniz - 1649-035 Lisboa, Lisboa, Portugal
E-mail: anaisa_tx@hotmail.com

Recebido/*Received*
7 Setembro/7 *September* 2016
Aceite/*Accepted*
6 Novembro/*6 November* 2016

Caso Clínico

INTRODUCTION

Spiny keratoderma (SK) is a rare disorder of keratinization, of unknown aetiology, characterized by the presence of multiple, firmly-attached, keratotic projections on the palms and/or soles. Due to its rarity and overlapping features with other types of keratoderma, its nomenclature is not well established and it has been reported in the literature under several designations: "music box spine keratoderma", "filiform hyperkeratosis", "multiple minute palmo-plantar digitate hyperkeratosis", "punctate keratoderma", "punctate porokeratotic keratoderma", and "porokeratosis punctata palmaris et plantaris". Spiny keratoderma is now the favored term because it describes more accurately the clinicopathological findings.[1] There are two variants of this dermatosis: the hereditary and acquired ones. The former appears in the first decades, is transmitted by autosomic dominant inheritance and is considered benign. The latter typically presents after the age of 50 and has been associated with both underlying malignancies and systemic diseases.[2] This diagnosis is evidenced by brownish punctate spicules on dermoscopy, which can be inconspicuous with unaided vision.[3]

We describe a case of acquired SK which preceded the diagnosis of mycosis fungoides (MF).

CASE REPORT

A 65-year-old caucasian male presented with multiple filiform hyperkeratotic papules in the palmar aspect of his hands which were present for the past year (Fig. 1). These papules had a cylindrical shape and were 0.2-0.5 mm wide and 0.5-2 mm tall. No other similar lesions were found in other locations. They were asymptomatic and the patient regularly self-treated them by shaving. There were no systemic diseases and no relevant family history.

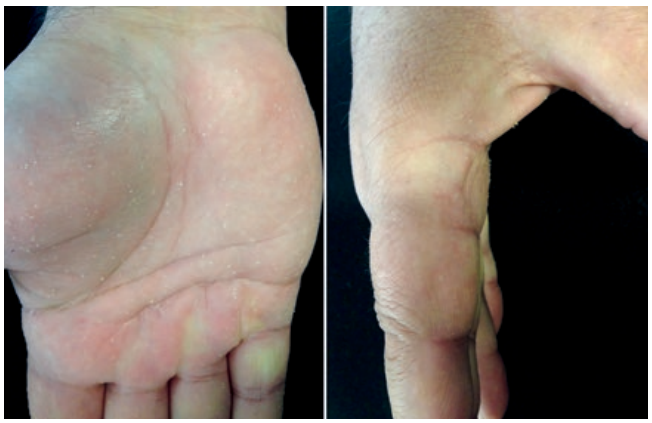

Figure 1 - Multiple digitate projections arising in the palmar surface of the hands.

A skin biopsy revealed a keratin column with parakeratosis, emerging on a slight invaginated epidermis with a thinner granular layer (Fig. 2A). No atypical lymphocytes were observed in the dermis or at the dermal-epidermal junction. Immunohistochemical staining for Ki-67 showed an increased number of proliferating keratinocytes in the lesioned vs perilesional skin (Fig. 2B).

The patient was treated with a 30% urea ointment with only mild relief. No further treatment was attempted because the disorder caused little discomfort and was well tolerated. After 10 months of follow-up, the patient developed several erythematous pruritic oval plaques confined to the abdominal and buttock areas. Histopathology was diagnostic of MF. The lymphoma was staged as IB according to the European Organization for Research and Treatment of Cancer consensus and treated with oral PUVAtherapy, completing 28 triweekly sessions. After a two year follow-up period, the patient maintains regression of the palmar lesions without MF progression.

DISCUSSION

The acquired form of SK has been associated with both nonmalignant systemic conditions (Darier´s disease, hyperlipoproteinemia, chronic renal failure, insulin treatment, polycystic kidney disease, and pulmonary tuberculosis), and malignant neoplasms including rectal, bronchial, renal, breast and squamous cell carcinomas, malignant melanoma, chronic lymphoid leukaemia and multiple myeloma.[4] To the best of our knowledge, our case is the first description of SK associated with MF.

The pathomechanism of SK has not been fully elucidated. One study reported the expression of cytokeratins typical for hair cortex in the digitate projections, suggesting that SK represents an aberrant ectopic hair formation in the palms and/or soles[5] In this case, we performed immunohistochemical staining for the proliferation marker Ki-67, showing a significant increase in the number of proliferative keratinocytes in the affected skin when compared with perilesional skin, indicating that the hyperkeratosis seen in SK is a hyperproliferative hyperkeratosis rather than a retention hyperkeratosis.

Despite the absence of a consistently successful treatment for spiny keratoderma, several therapeutic approaches for this condition have been reported in the literature, including 5-fluoruracil, topical tacalcitol 0.002% ointment (an active form of vitamin D), and acitretin.[6] In our patient, PUVAtherapy primarily used for the treatment of MF, was also effective in controlling the hyperkeratotic palmar lesions. The efficacy of this treatment might be linked to the well documented antiproliferative action of PUVAtherapy on basal keratinocytes.

Some authors question the paraneoplastic association of SK as it often begins years before any cancer appears and persists after the cancer is treated. However, the incidence of malignancies in acquired cases of spiny keratoderma remains unusually high and it appears prudent to perform age-appropriate cancer screenings to rule out a possible underlying neoplasm, and to maintain a long-term follow-up.[7] Further investigations using a larger case series are warranted to better understand these associations.

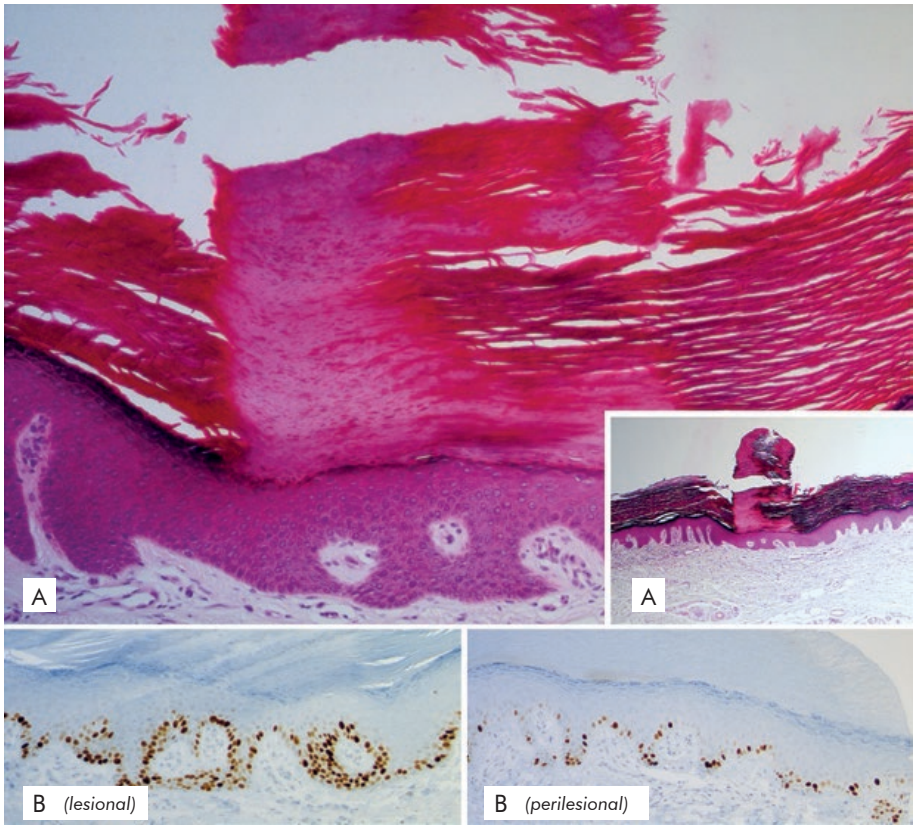

Figure 2 - (A) Histopathology showing a keratotic column in a slightly depressed epidermis, consisting of parakeratosis (H&E stain, original magnification × 100); (B) Immunohistochemical study shows a significant increase in the number of basal keratinocytes positive for Ki-67 in the lesional epidermis compared to perilesional epidermis (anti-Ki-67 antibody, original magnification, × 100).

Conflitos de interesse: Os autores declaram não possuir conflitos de interesse. **Suporte financeiro**: O presente trabalho não foi suportado por nenhum subsídio ou bolsa. **Confidencialidade dos dados**: Os autores declaram ter seguido os protocolos do seu centro de trabalho acerca da publicação dos dados de doentes. **Protecção de pessoas e animais**: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia da Associação Médica Mundial.

Conflicts of interest: The authors have no conflicts of interest to declare. ***Financing Support:*** *This work has not received any contribution, grant or scholarship.* ***Confidentiality of data:*** *The authors declare that they have followed the protocols of their work center on the publication of data from patients.* **Protection of human and animal subjects**: The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

REFERENCES

1. Caccetta T, Dessauvagie B, McCallum D, Kumarasinghe S. Multiple minute digitate hyperkeratoses: a proposed algorithm for the digitate keratoses. J Am Acad Dermatol. 2012; 67:e49-55.
2. Torres G, Behshad R, Han A, Castrovinci AJ, Gilliam AC. "I forgot to shave my hands": A case of spiny keratoderma. J Am Acad Dermatol. 2008; 58:344-8.
3. Pedrosa A, Morais P, Moreira C, Ferreira O, Azevedo F. Dermatoscopia - casos selecionados de aplicações menos exploradas e revisão da literatura. Revista Soc Port Dermatol Venereol. 2013; 71: 487-94.
4. Mehta RK, Mallett RB, Green C, Rytina E. Palmar filiform hyperkeratosis (FH) associated with underlying pathology? Clin Exp Dermatol. 200227:216-9.
5. Hashimoto K, Toi Y, Horton S, Sun TT. Spiny keratoderma: a demonstration of hair keratin and hair type keratinization. J Cutan Pathol. 1999; 26:25-30.
6. Nagler A, Boyd KP, Patel RR, Lee HS. Spiny keratoderma. Dermatol Online J. 2013; 19:20706.
7. Adegbayibi A, Doherty V, Biswas A. Multiple keratotic papules on the palm and fingers. Spiny keratoderma. Am J Dermatopathol 2015; 37:620658.