GENETICS AND GENODERMATOSES

PUNCTATE PALMOPLANTAR KERATODERMA: CHARACTERIZATION OF THREE FAMILIES WITH AAGAB MUTATION

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Introduction: Punctate palmoplantar keratoderma type 1 (PPKP1), also known as Buschke-Fischer-Brauer syndrome, is a rare autossomal dominant genodermatosis characterized by multiple hyperkeratotic papules on the palms and soles. Lesions typically appear in adolescence and increase with age. Recently, mutations have been described in the AAGAB gene, with 40 mutations reported to date.

Objective: We present the clinical and genetic study of three families with PPKP1.

Materials and Methods: Between 2015 and 2017, three women, aged 59-65 years, were referred to the Dermatology Department for a symmetrical, monomorphic and asymptomatic palmoplantar dermatosis, with ten to forty years of evolution.

Results: They denied exposure to arsenic or personal history of neoplasia. All patients had at least one relative with a similar clinical picture and one patient had a family history of consanguinity. Physical examination revealed multiple hyperkeratotic papules and plaques with 0.3-3 cm diameter, central indentation and irregular distribution in palms and plants. Cutaneous biopsies revealed orthokeratotic hyperkeratosis with hypergranulosis. Inheritance pattern, clinical appearance and histological findings were compatible with the diagnosis of PPKP1. The genetic study identified, in each family, a mutation in heterozygosity in the AAGAB gene: c.535 + 1 G> A in intron 5; c.83delG in exon 2 and c.1A> G in exon 1.

Conclusions: The AAGAB gene located on chromosome 15 encodes alpha- and gamma-adaptin-binding protein p34. Mutation of this protein increases the expression of growth factor receptors, which can lead to epidermal hyperproliferation. We describe this serie of cases because it is a rare genodermatosis, often diagnosed in adulthood, and to highlight the importance of genetic counseling. The c.83delG mutation (p.Gly28Glufs * 9) was also identified for the first time.