2. Punctate palmoplantar keratoderma

Punctate palmoplantar keratoderma (PPPK) is an inherited (autosomal dominant) disorder characterized by multiple hyperkeratotic lesions on the palms and soles. These lesions are round to oval hyperkeratotic papules, typically 2 to 8 mm in diameter. Keratoses are most commonly concentrated in skin creases. The number of papules in an individual patient has been reported to range from 1 to more than 40, with an average of 8.3.

Epidemiology

Punctate palmoplantar keratoderma has a prevalence of approximately 1.7 per 100,000, and cases have been recorded worldwide. However, it is seen most commonly in men with black skin, in whom the incidence is substantially higher than in the general population. The onset of PPPK is usually during adolescence or early adulthood, but it has also been known to develop in the fourth or fifth decade of life. Hyperkeratotic lesions are often aggravated by mechanical stressors such as manual labour. Physical trauma typically results in enlargement of the papules, giving them a more pronounced wartlike appearance.

Diagnosis and differential diagnosis

Punctate palmoplantar keratoderma is commonly mistaken for warts or callosities. However, PPPK-associated lesions lack the thrombosed capillaries present in verrucae, which clinically appear as black dots and result in pinpoint bleeding when pared. Callosities lack the keratin-pluglike centre and are present on stress-bearing regions of the palm and sole. Porokeratoses can be distinguished clinically by the presence of a thin, raised, scaly border, corresponding to the cornoid lamella. Arsenical keratoses from contaminated drinking water and other sources tend to be randomly distributed on the palms and soles, rather than concentrated in palmar creases. Also, if the central core is removed, PPPK can be confused with palmar pits, as seen in some syndromes (eg, Gorlin syndrome).

Management and treatment

Punctate palmoplantar keratoderma management is centred on minimizing secondary symptoms. Careful choice of footwear and regular use of a pumice stone are useful in alleviating discomfort associated with PPPK lesions. In addition, PPPK can be managed through the use of topical keratolytics, such as 5% to 10% salicylic acid, 10% to 40% propylene glycol, 10% to 20% urea, or 10% lactic acid. Surgical modalities such as mechanical debridement or excision might also be of benefit.

Discussion

Punctate palmoplantar keratoderma belongs to a diverse family of skin disorders described as palmoplantar keratoderma. Palmoplantar keratoderma is characterized by abnormal thickening of palms and soles; it might be diffuse, focal, or punctate, and can be hereditary or acquired.

Hereditary, diffuse palmoplantar keratoderma often presents as an even, thick hyperkeratosis over the entire palm or sole, and onset is often in the first few months of life. It can sometimes be associated with other defects of the skin, teeth, and other organs.

A common form of acquired diffuse palmoplantar keratoderma can also be seen in women after menopause (climacteric keratoderma); it can be treated with the same topical keratolytics prescribed for the punctate form. Acquired palmoplantar keratoderma disorders might more rarely appear as secondary disorders to an underlying infection such as syphilis, human papillomavirus, or AIDS, or as a direct symptom of a condition such as arsenic exposure, psoriasis, or eczema.

Punctate palmoplantar keratoderma, on the other hand, is a benign entity most commonly seen in the palmar and plantar creases of patients with black skin. It is most commonly confused with warts or callosities. Conservative therapy for symptomatic disease or simple reassurance is all that is usually necessary.

Competing interests

None declared

References