A Case of Keratosis Punctata of the Palmar Creases

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Keratosis punctata of the palmar creases (KPPC) is a rare skin condition characterized by punctiform hyperkeratotic pits confined to the palmar and digital creases. Although this condition has been regarded as a variant of classical punctate keratoses, there are some differences between classical punctate keratosis and KPPC. We herein report a case of KPPC in a 22-year-old man who had numerous, tiny, hyperkeratotic pits limited to the palmar creases of both hands with typical histologic findings.


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Keratosis punctata of the palmar creases (KPPC) has been reported marked differences in prevalence rate among races. In black, the condition is a common finding, and even some authors described it as a normal variant; To review the literature, about 100 cases have been published worldwide, almost exclusively in black. But, it is a very rare disease in other races including Asian. Only one case of KPPC was reported in Korea. Herein, we report a case of KPPC in a 22-year-old Asian man.

CASE REPORT

A 22-year-old Bangladeshi man presented with slightly painful, multiple, craterlike depressions confined to the palmar creases of the digits and palms. The first lesions, which were punctiform hyperkeratotic plugs, were noticed 4 years before. Occasionaly, some lesions became painful, thicker and then were removed spontaneously, leaving tiny pits, where a new plug developed again a few days later. He was a manual worker with neither history of arsenic exposure nor syphilis. No lesion was detected on the soles. There was no familial history of similar palmar lesions.

On cutaneous examination, numerous, tiny, hyperkeratotic, skin colored pits were found on the palmar creases of both hands, with a predilection for the transpalmar crease and the proximal interphalangeal joint crease of the left hand (Fig. 1). He was generally in good condition and had no other skin lesion.

Histologic examination of the serial section of a hyperkeratotic pit revealed cup-shaped epidermal central depression with marked parakeratotic hyperkeratosis and acanthosis. Mild perivascular lymphohistiocytic cell infiltration was seen in the upper dermis. Focal vacuolated cells were shown in the epidermis, but vertical tiers of parakeratotic cells, clumped keratohyaline granules and hypergranulosis were not shown (Fig. 2).

He was treated with only topical emollients, resulting in moderate improvement.

DISCUSSION

Keratosis punctata of the palmar creases (KPPC) was first described by Arnold in 1947, in a white male, as a variant of Kyrle’s disease. The condition is defined as the presence of punctiform hyperkeratotic plugs, with a raised horn, 1-4mm in diameter.
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KPPC is a rather common finding, but it is a very rare disease in other races. Although there are some reports with a autosomal dominant inheritance pattern, KPPC is usually sporadic. In most cases, the condition is asymptomatic, but some patients experience tenderness or pain. In our case, he presented intermittent pain and tenderness. All previous reports agree that the plantar lesions are rare, and our patient did not also have them.

The cause of the KPPC remains unknown. Although some cases have been reported with a history of arsenic exposure and latent syphilis, or with a family history, our patient had neither family history, and history of syphilis nor arsenic exposure. Our patient was a manual worker and recognized hard labor exacerbated the lesions. In this sense, we agree with Rustad and Vance that KPPC seems to be due to an abnormal localized, hyperproliferative response in predisposed persons induced possibly by trauma. In addition, KPPC has been reported to occur in association with Dupuytren's contractures, pterygium inversum unguis, dermatitis herpetiformis and psoriasis and ichthyosis vulgaris.

Histologically the characteristic feature is the cup-shaped hyperkeratotic plug depressing the epidermis. Hyperkeratosis is usually orthokeratotic, but other authors have observed parakeratosis and a mild dermal mononuclear infiltration as shown in our patient. Pyknotic cells have been reported to cause vacuolization as in our case. The relationship between the keratotic plug and the acrosyringium have been found in some cases. We believe this relationship could be merely casual, due to the palmar location of the lesions, and if we could have taken some more...
sections of other pits, we would have found it.

Although KPPC has been regarded as a variant of classical punctate keratoses, there are some differences between classical punctate keratosis and KPPC. Rustad and Vance considered KPPC as a distinct condition, and proposed the term “keratotic pits of the palmar creases” to distinguish it from classical punctate keratoses, which were described as “hyperkeratotic papules scattered diffusely on the palms and occasionally the soles”. In brief, “keratotic pits of palmar creases” is a better term in that it describes both distinguishing characteristics of these lesions—pits rather than papules—and their distribution in the creases rather than diffuse distribution on the palms and soles. Our case showed characteristic keratotic pits confined to the palmar creases. In addition, the differential diagnosis includes basal cell nevus syndrome, palmoplantar porokeratosis, arsenic exposure, acrokeratoelastoidosis, and focal acral hyperkeratosis.

The management of KPPC includes simple emollients, topical tretinoin, oral retinoids. Surgical treatment has also been used for severe and localized disease. Owing to lack of symptoms associated with KPPC, treatment other than simple emollients is seldom required in most cases as well as in our case.

REFERENCES