IS KERATOSIS PUNCTATA OF THE PALMAR CREASES RARE?

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We determined the prevalence of keratosis punctata of the palmar creases (KPPC) in 5000 individuals. The group screened included patients, visitors and children. Fifteen (0.3%) cases were discovered to have characteristic KPPC lesions. The patients were mainly young with a male predominance (14M : 1F). The lesions in almost all cases were asymptomatic. No predisposing factors could be ascertained by history. Histopathologically, the lesions consisted of focal hyperkeratosis, and an epidermal depression corresponding to the pits. Special stains did not reveal any dermal components in the keratin masses. On comparing our findings with those reported earlier it appears that KPPC is not so rare as believed.

Key Words : Keratosis punctata, Palmar creases

Introduction

Keratosis punctata of the palmar creases (KPPC) appears clinically as small hyperkeratotic plugs or pits exclusively limited to the flexural creases of the palms and digits. This disease has been considered an uncommon variant of keratosis punctata which itself is considered a rare condition.[1] Because of some recent controversy over the prevalence of this disease and little work carried out on the subject in India, the present study was undertaken to determine the prevalence of KPPC with its possible associations.

Materials and Methods

Our study population of 5000 individuals included patients, their attendants, staff and school-going children. Patients found to have lesions characteristic of KPPC were subjected to a detailed clinical history especially family history, involvement of the soles, symptoms, duration of the lesions and associated diseases if any. Biopsy was taken in 8 cases. Two specimens were subjected to serial sectioning and some of these sections were stained with Verhoeff van Gieson's Masson's trichrome and alcian blue stains.

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Results

Of the 5000 individuals surveyed, we found 15 cases (0.3%) to have keratotic papules and pits characteristic of KPPS (Fig. 1). No KPPC was found in the age group of 21 years and below, which constituted 2625 of the study subjects. The incidence in the remaining population (2375) was 0.63%. In 5 cases, the lesions were quite prominent while in ten patients the lesions were few and small. None had involvement of the soles. Majority of the cases belonged to the northern part of India. The patients were mainly young adults (22-30 years) with a male predominance (14M :1F).

In all cases the finding was incidental, and only one case of KPPC was symptomatic. Duration of the lesions was either unknown or as long as one could remember. No history of syphilis or arsenic ingestion was available and none had positive family history. No associated conditions were found.

Histologically, the stratum corneum showed marked uniform thickening, while rest of the epidermis was essentially normal except that at some places, it was thrown into

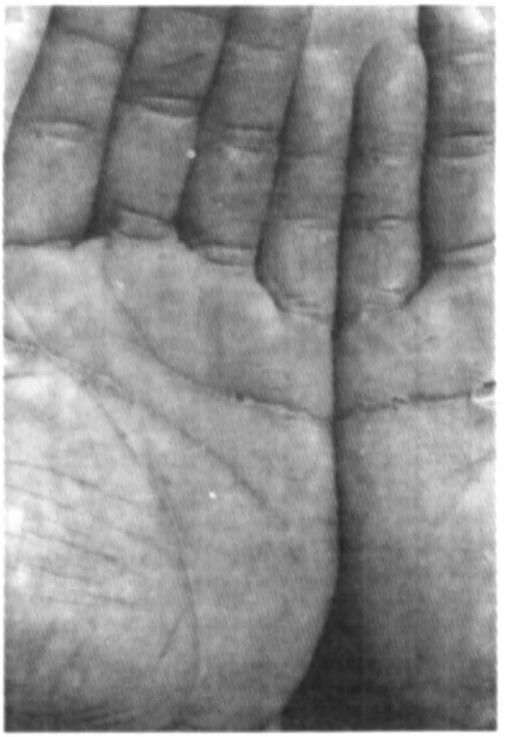

Fig. 1. Keratotic papules and pits on the palmar creases.

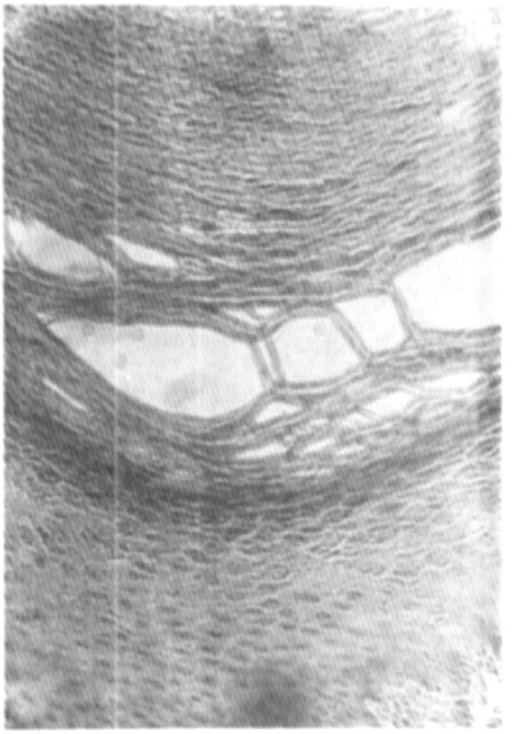

Fig. 2. An epidermal depression containing massive keratin plug (H & E x 400).

deep depressions filled with concentric masses of keratin (Fig. 2). The dermis showed no specific findings except a sparse mononuclear infiltrate. One specimen showed a central epidermal depression with loss of the granular layer and focal vertical parakeratosis in the horn overlying the depressed area. Serial sections and special stains showed that the concentric masses were made up of keratin only, there being no evidence of penetration of the epidermis or transepidermal elimination of the dermal components.

Discussion

The earliest cases of KPPC were described almost simultaneously by Phillips[2] and Arnold.[3] Arnold[3] and later Fischer et al[4] considered their cases as a variant of Kyrle's disease. Unlike Kyrle's disease however, in none of these cases the keratin plug was observed to penetrate into the dermis.

In our review of the literature, we found that only one case of KPPC was in non-black patient.[3] It also appears that KPPC is occasionally seen with involvement of the soles as well.[2,5,6] However, none of our patients had any such involvement. The age range of our patients and those described in the literature suggests that this process occurs in young and middle aged adults.[1-8]

Majority of our cases (93%) were asymptomatic. This corresponds well with the earlier reported cases.[1-8] Male predominance as seen in our study is also in agreement with the findings of most workers.[1-8] A familial

tendency of the disease has been noted.[4] Conversely, we did not obtain a positive family history in any of our patients. Since the condition is often asymptomatic, the reliability of a negative family history is not good. Direct observation of family members in positive cases would be more fruitful.

Our findings on the skin biopsies from patients are not any different from what is established in the literature.[5,7] Histopathological changes such as parakeratosis, thinning of the epidermis, proliferation of the epidermal rete ridges described in some of the reports[3,5] have not been seen in all the cases and therefore, they are probably not important. Recently, Pierard el al[8] considered KPPC as a sweet gland disorder because histopathologically they found marked hyperkeratosis located at the site of acrosyringia.

The reason for limitation of the lesions to the flexural creases is not known. It is possible that a crease provides a greater opportunity for the epidermis to be thrown into a depression in which the keratin ball can form. This tendency may be inherited because there has been a marked difference in the racial susceptibility between blacks and whites.[7]

Till 1979, KPPC has been considered to be a rare condition.[3,4,6] But thereafter, a few reports have quoted incidence rate as high as 1-3%.[5,7,8] On comparing our findings with the data reported we agree that though KPPC is a rare entity in whites, it is a relatively frequent finding in the coloured races.

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