Acropustulosis (Acrodermatitis continua) with resorption of terminal phalanges

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Introduction:

PUSTULAR ERUPTION of the fingers and toes has been described under various names and various aetiology has been proposed. The team acropustulosis, though merely descriptive, is most suitable till more is known about the pustular eruption of the extremities.

In 1897, Hallopeau gave the name *Acrodermatitis continua* to the disease with symmetrical pustular eruption near the nails and the first patient also had lesions in the mouth. The condition was subdivided into three types according to the extent and the destructive nature of the disease. In 1922, Fisch reported radiographic bone changes in some of his patients with *Acrodermatitis continua*. Since then, others have described the pustular eruption of the extremities as a form of pustular psoriasis even though the characteristic lesion may be absent elsewhere on the body. Barber (1930) distinguished clearly between *Acrodermatitis continua* and pustular psoriasis and our patient has features which are more in favour of the former. To our knowledge, this is probably the first report of a case in Malaysia.

Case Report

About 25 years ago, a 66-year-old Chinese female developed a rash on the dorsal surface of the left thumb near the base of the nail, gradually spreading proximally. The nail of the affected finger was soon involved and she lost the nail within one year of the onset of the rash. Similar lesions appeared on the remaining fingers of the left hand, the left thenar and hypothenar eminence and the fingers of the right hand, again starting at the tip of the right thumb. In the left foot, the rash developed first on the sole and subsequently the toes were involved. Periods of remission lasting for two or three weeks, with rash clearing completely, were noticed in the initial stages. She is not aware of similar skin disease in the family.

Fig. 1: Lesions on the tip of the fingers and the palm (left side only).

Fig. 2: Loss of nails with shortenting of the digits.

On examination, the left hand showed glazed erythematous scaly lesion, with collar of pustules at the proximal edge of the lesion, on the terminal phalanx of the thumb, index and middle fingers with shortening in length of these digits and total loss of nails. The thenar and hypothenar eminence of the palm showed an erythematous patch with collar of pustules beneath the thickened scales. The right palm, thumb, index, middle and ring fingers were similarly involved. (Figs 1 and 2). Similar lesions were seen on the toes of left feet with an intact third toe. The right foot and the rest of the body had no rash. Blood count, L.F.T., blood urea, serum calcium, electrolytes, S.G.O.T. and S.G.P.T. and urine were normal. E.S.R. 37mm. L.E. Cells negative. K.T. negative. The pustules were sterile and leprosy was excluded.

A biopsy of the pustular edge of the lesion on the left thenar eminence showed hyperkeratosis, parakeratosis and spongiform pustule just beneath the parakeratotic layer. The pustule consisted of outlines of the epidermal cells forming a sponge-like network with neutrophils interspersed between them. The neutrophils appeared to have originated from the vessels of the dermal papillae. There was acanthosis with elongation of the rete pegs. (Figs. 3 and 4). The X-ray of the hand shows shortening of the terminal phalanges of the thumb, index and middle fingers of both hands. (Fig. 5). X-ray of the feet showed similar changes. The lesion responded well to topical steroid application with polythene occlusion but recurred two months after the treatment was discontinued.

Fig. 3: X-rays show the shortening of the phalanges.

Discussion

The absence of psoriatic lesion elsewhere and the characteristic loss of nails are suggestive of a diagnosis of *Acrodermatitis continua*. The lesion on the left palm may resemble psoriasis, but instead of the evenly spread pinhead size pustules typical of psoriasis, subcorneal collection of pus at the periphery of the lesion with stripping of the corneal edge was present. Barber (1930) thought that bony changes were due to osteitis as he isolated *Staphylococcus aureus* from the lesion. Others explained bony changes as due to disuse atrophy. No bacteria was isolated from our patient and she was not inconvenienced by the changes in the fingers. It is probably the inflammatory process of the disease itself which caused the shortening of the fingers (phalanges). Lever (1967) believes that pustular psoriasis and *Acrodermatitis continua* have the same histologic picture. The biopsy showed features of both diseases. However, the sponge like network of the cellular wall of the epidermis with accumulation of neutrophils is diagnostic of *Acro-*

Fig. 4: Microphotograph showing the pustule beneath the hyperkeratotic layer.

Fig. 5: Magnification of Fig. 4. Epidermal cells form a ghost-like network in the pustule.

dermatitis continua, according to Barber (1930), whereas in pustular psoriasis the epidermal cells totally disrupt, leaving the cavity filled with neutrophils.

Summary

A rare case of acropustulosis (*Acrodermatitis continua*) in an elderly Chinese female is described. The clinical and histological features in favour of such a diagnosis are discussed. To the lengthening list of differential diagnosis of shortening of digits, *Acrodermatitis continua* must be added.

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