Case 3: A Lady with a Chronic Non-Healing Wound

Dr. K. Y. Chow

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CASE SUMMARY

History

A 32 year-old lady was punctured on the lateral nail fold of her left index finger by a wooden splinter from a table's edge. She pulled it out and wrapped the wound in plaster for three days. The wound became inflamed with pustular discharge. There was no improvement with daily dressings and she consulted a general practitioner a month later. At that stage, there was pus in the nail fold and nail bed already. Nail extraction was done and she was started on systemic antibiotics. Wound swab culture had been repeatedly negative. She consulted various doctors and was eventually referred to our unit one year later for further management.

She enjoyed good past health and there was no history of diabetes mellitus. There was no history of psoriasis in her family.

Physical examination

Her left index finger was swollen distal to the distal interphalangeal joint. The nail plate was absent. There were superficial pustules and crusting (Figure 1). No cutaneous lesion was detected elsewhere. In particular the other fingers and toes were normal. There was no nail dystrophy and the scalp was not affected.

Investigations

Wound swab for culture was repeated and was negative for bacteria, fungus or mycobacterium,

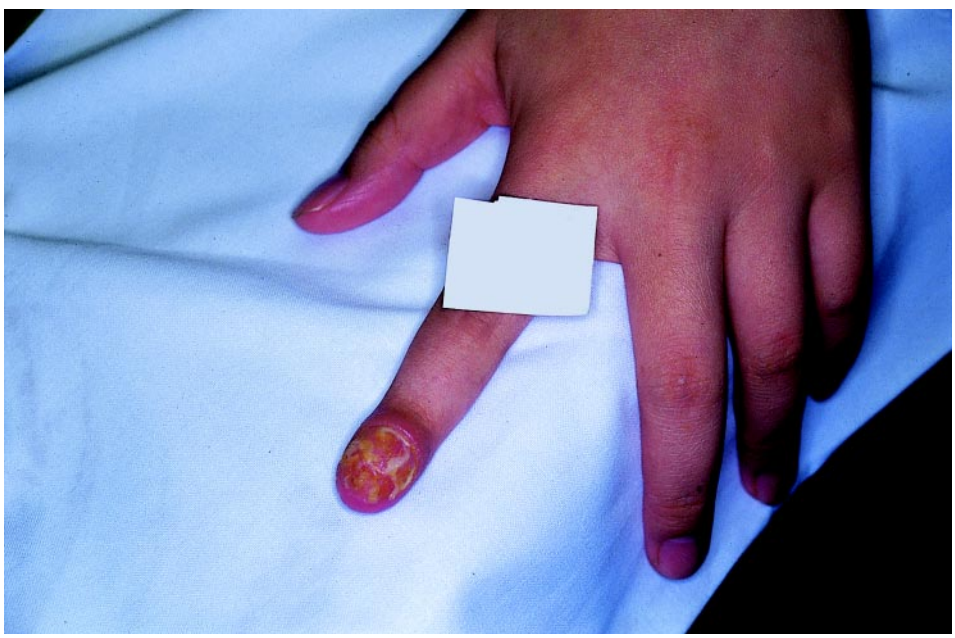

Figure 1: Left index finger of the patient with pustulosis

including M. tuberculosis and atypical mycobacteria. Radiological examination of her left index finger did not reveal any underlying bony abnormality. Incisional biopsy of the nail bed showed surface ulceration and pseudo-epitheliomatous hyperplasia. A small amount of neutrophils were seen infiltrating the epidermis. There was no evidence of any granulomatous inflammation. No fungal organism was demonstrated. Tissue was also sent for culture and was negative for fungus and mycobacterium.

Differential diagnosis

Acrodermatitis continua was considered as the most likely diagnosis in view of the clinical picture of persistent sterile pustulosis of the nail apparatus, repeated negative cultures and the histological picture. Chronic infections such as deep fungal and mycobacterial infection had been seriously considered especially with the history of preceding penetrating injury. Other diagnoses that should be considered include foreign body granuloma, chronic inflammatory dermatoses such as pyoderma gangrenosum and neoplasia like squamous cell carcinoma.

So far the patient had been treated with various antibiotics and antifungal drugs, both topical and systemic but to no avail. She had been given topical steriod cream once by a private practitioner and she subjectively noticed mild improvement to her finger lesion.

Discussion

It is difficult to take a sizable biopsy from the nail bed. Treatment of this condition has always been difficult and is generally less responsive to treatment when compared to other forms of pustular psoriasis. Satisfactory results have been seen with photochemotherapy. Topical calcipotriol may be tried because it is simple and safe to use and lacks any significant side effects.

REVIEW ON ACRODERMATITIS CONTINUA

Acrodermatitis continua is a chronic sterile pustular eruption affecting initially the tips of fingers or toes which tends to extend locally. Synonyms of this condition include pustular acrodermatitis, acrodermatitis continua suppurativa Hallopeau, dermatitis perstans and dermatitis, Crocker.

Clinical Features

The disease most often begins at the tips of one or two fingers, less often on the toes. It is not unusual for only one digit to be involved.[1] It may evolve into generalized pustular psoriasis, especially in adults. It is rare in children, and is more common in females. Interestingly, the onset is often related by the patient to minor trauma or infection at the tip of the digits. Slow proximal extension is the rule.

The first sign consists of small pustules which, on bursting, leave an erythematous, shiny area in which new pustules develop. These tend to coalesce, forming polycyclic lakes of pus. Pustulation of the nail bed and the nail matrix almost always occurs and quite often leads to loss of the nail plate or severe onychodystrophy. Acrodermatits continua of long duration may show complete destruction of the nail organ and lead to anonychia. The skin becomes shiny and severely atrophic, and there is atrophic thinning of the distal part of the phalanx.

Histology

The histopathological features are essentially the same as psoriasis. The central feature is a fully developed large pustule within the epidermis, unilocular and full of neutrophils.

Treatment

Treatment of this condition is generally difficult and disappointing. It is usually less responsive than other forms of pustular psoriasis. No controlled trial has been carried out to compare the efficacy of various modalities of treatment. Success of individual treatments have been reported in isolated cases.

Tar-impregnated occlusive bandages may be useful. Topical potent corticosteroid may be used but quickly causes atrophy, especially if used under occlusion. PUVA-bath therapy has yielded satisfactory results in some patients.[2] Etretinate[3] and cyclosporin A[4,5] have also been used in resistant cases, but the results

have generally been less remarkable than in psoriasis vulgaris or generalized pustular psoriasis. Successful treatment has also been seen with topical calcipotriol.[6]

Learning points:

History of preceding injury and single digit involvement do not preclude the diagnosis of acrodermatitis continua.

References

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