

Chromonychia Following Thermal Injury

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Abstract. Two cases of chromonychia following thermal injury are reported. The various mechanisms which may be implicated in the pathogenesis of these nail changes are discussed.

Key words: Chromonychia; Nail; Thermal injury

Changes of colour, particularly hyperpigmentation of the nail plates or nail beds may be observed in many circumstances. Physical trauma, and X-ray therapy are known to induce such changes in the nails. However, colour changes in the nail following thermal injury have not been found described in the literature (1, 2).

Two patients presenting with chromonychia after heat exposure are reported.

CASE REPORT

Case I

A 47-year-old man with a Raynaud's syndrome of one year's duration had burned grass in his garden one month prior to the development of symptoms. Despite receiving no direct burn to the skin, he subsequently experienced a burning sensation on the left hand, but there was no erythema or bulla formation. Later, a brown-yellow colour developed in all the nails of the left hand which were uniformly hyperpigmented, including the lunulae. The nails of the right hand were not involved.

Three weeks later, he still showed a diffuse brownish discoloration of all the nail plates of the left hand. No other alteration in the structure of the nail plate was observed. There was no onycholysis and Beau's lines were not apparent. The chromonychia was not painful, spontaneously or on pressure.

Regrowth of the nails which had occurred during the time between the trauma and the dermatological examination appeared normal. It was marked by a thin (1 to 2 mm) arciform band of normal colour at the proximal part of the nail plate.

Case II

A 24-year-old man attempted suicide by gas. After explosion of the gas container, he suffered severe burns on 45% of the body surface. The dorsa of the hands was involved. He also experienced pain on the nail beds during the



Fig. 1. Case I. Diffuse brownish hyperpigmentation of the nails. No structural abnormalities of the nail plate are observed.

weeks following the thermal injury. Unfortunately, no examination of the nails was performed at this time.

One month later patient was seen at the dermatological clinic. At that time, erythematous plaques and scars were visible on the dorsa of both hands and fingers, and a yellowish discoloration of nail beds of both hands was seen. In places this hyperpigmentation was dark brown. The chromonychia was located at the distal part of the nail bed. Regrowth of the nail appeared normal, as shown by the pinkish colour of the proximal part of the nail bed.

COMMENTS

In these 2 patients, the change of colour in nail beds and nail plates seemed to be related to the thermal

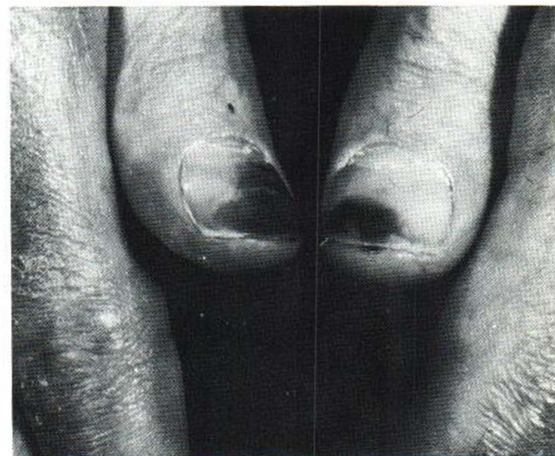


Fig. 2. Case II. Dark hyperpigmentation of the distal part of the thumbnails.



Fig. 3. Case II. Skin lesions (erythema, scars) are observed in association with the chromonychia. Structural abnormalities of the nail plate are present.

injury. Thus, heat must be considered as a further possible cause of chromonychia. Nevertheless, the pathogenesis of the nails in our 2 patients probably corresponds to two different mechanisms.

In the first case, no onycholysis occurred. Hyperpigmentation probably did not involve the structure of the nail bed. One may suggest that the changes in colour involved only the nail plate and were thus related to chemical modifications induced by heat.

In the second case, onycholysis preceded the hyperpigmentation. Changes in colour after onycholysis are common. Ultrastructural study in one case of photo-onycholysis induced by 8-methoxypsoralen showed that the hyperpigmentation was related to extravascular deposits of hemosiderin (3). Photo-onycholysis induces alterations in the walls of the blood vessels. The same phenomenon was probably present in case 2. Heat induced bulla formation of the nail bed. According to the description of the bullae, numerous erythrocytes were extruded from the blood vessels to the nail bed.

Thus, more than one mechanism may be involved in the pathogenesis of chromonychia following thermal injury.

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Malignant Dermal Eccrine Cylindroma

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Key words: Sweat gland neoplasm; Malignant cylindroma

Malignant degeneration of dermal eccrine cylindromas is extremely rare. Only six cases are on record (1-6). Here an additional case is described.

CASE REPORT

A 96-year-old woman had 2 months previous to admission noticed a nodule on one of her thighs. The lesion then grew rapidly. Otherwise she felt well and there was nothing remarkable in her history. Examination revealed a walnut-sized bulging tumour covered by ulcerated skin. The excised tumour appeared to be solid and rather well circumscribed. The cut surface was reddish grey with brownish haemorrhagic and necrotic areas (Fig. 1). Microscopically some parts of the tumour showed a characteristic appearance with numerous irregularly shaped islands composed of uniform small basophilic cells and surrounded by hyalin sheaths (Fig. 2). Occasionally two types of cells could be distinguished: one with small dark nuclei in a palisade arrangement at the periphery of the islands and another with larger, pale nuclei in the centre. The surrounding hyalin was weakly PAS-positive. In other parts of the tumour this architecture underwent a disorganization accompanied by loss of hyalin and increasing cellular atypia. Thus, there was a gradual transition to areas with anastomosing cords and large masses composed of markedly pleomorphic cells with numerous mitoses (Fig. 3). In these areas lymphatics were invaded by the tumour (Fig. 4).

COMMENT

The histologic picture of well differentiated parts of this tumour is consistent with a dermal eccrine cylindroma. Malignant degeneration is evident from