

Dermatoscopy for Diagnosis of Creeping Hair: A Case Report and Mini-review of the Literature

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Creeping eruption is a cutaneous sign defined as a linear or serpiginous cutaneous track that is slightly elevated, erythematous and mobile (1). The eruption is commonly associated with hookworm, but a hair shaft moving in the shallow epidermis gives rise to a similar eruption (1). However, the latter cause is rare and only nine cases have been reported in the English-language literature (2–10). Dermatoscopy was used for diagnosis in only one of these cases. We report here a case of creeping hair that was diagnosed by dermatoscopy, and we review the literature in this area.

CASE REPORT

The patient was a 62-year-old Japanese man who was referred to our department for suspected creeping disease with a 20-day history of a slow-moving linear eruption on the dorsum of the left foot. He had no particularly relevant medical history. One month prior to his first visit to our department, the patient had visited Awaji Island in Japan, where he had bathed in hot springs and eaten raw seafood. A physical examination showed a linear eruption with slightly raised erythema a few millimetres wide and approximately 10 cm long, extending in a U-shaped pattern from the base of the big toe to close to the origin of the eruption (Fig. 1a). A broken stratum corneum was present at the base of the big toe. At the advancing end of the lesion, a fine, very superficial, but evident black line was detected through the surface of the skin (Fig. 1b). The black line was clearly visible in careful inspection by dermatoscopy, and was easily movable within the 1-mm wide and whitish linear

eruption under the pressure of the lens. The eruption, including the black line, was surrounded by an erythematous area a few millimetres wide (Fig. 1c). The black line was strongly suspected to be a hair; therefore, the eruption was thought to be due to creeping hair, rather than to a hookworm. A small incision was made at one end of the black line and a linear black structure 2.5 cm in length was easily extracted from its epidermal bed with a pair of small forceps. Histopathological findings revealed a hair with a naked hair shaft and no hair follicle, leading to a diagnosis of creeping hair. After removal of the hair, the eruption diminished and only a slight pigmented line remained 2 weeks later.

DISCUSSION

Including this case, the 10 reported cases of creeping hair (2–10) have involved 6 male and 4 female patients. The disease has a tendency to occur in young and middle-aged patients (a mean age of 28 years, with an age range of 15 months to 62 years). Five of the patients were Asian. People of Asian descent have coarse straight hair compared with Caucasians and Africans, which may easily stick into the superficial layer of the skin. The average period from onset of the eruption to the first visit was short (9 days), except in one case (6). The lesion occurred on the foot in 7 of the 10 cases, suggesting that an external friction stimulus may be an inducing factor in this disease. The mean length of the eruption was 10 cm and the direction of movement was regular, since it depended on the body surface movement; in contrast, creeping eruption associated with a

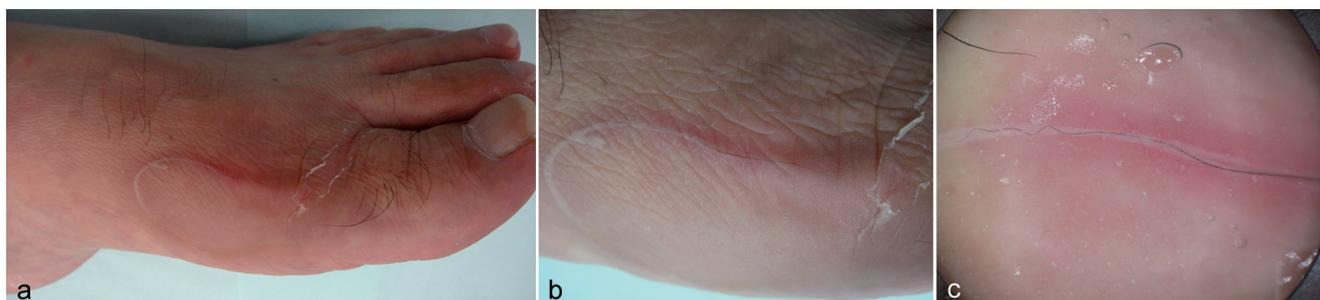


Fig. 1. (a) A linear eruption with slightly raised erythema. The eruption was a few millimetres wide and approximately 10 cm long, and extended in a U-shaped pattern from the base of the big toe to close to the origin of the eruption. (b) A broken stratum corneum was present at the base of the big toe. At the advancing end of the lesion, an evident, fine, but very superficial black line was observed through the surface of the skin. (c) The black line was easily movable within a whitish linear eruption of 1-mm width under the pressure of the lens. The whitish eruption including the black line, shown to be a hair, was surrounded by an erythematous area a few millimetres wide.

hookworm can move in any direction (9). In 9 of the 10 cases, a dark or black line, suggesting a hair, was seen through the surface of the skin. The mean length of the hair was 2.9 cm. In 6 cases the causative hair was a head hair, which may relate to the difference in abundance, coarseness, or straightness between head hair and other kinds of hair, such as pubic hair or hair on the trunk and extremities. In six evaluable cases, the predisposing factor was related to a stimulus.

In our case, we believe that the hair fragment got caught between the patient's shoe and foot during his trip and was embedded in the superficial layer of the stratum corneum (Fig. 1b). The hair follicle was not involved histopathologically, suggesting that the causative hair had not grown inside the skin, but had come from outside through penetration of the skin. Hair extraction led to healing of the eruption, as also occurred in previous cases (2–8, 10). In our case, diagnosis of creeping hair was made by careful inspection and dermatoscopic examination, thereby avoiding an unnecessary excisional biopsy. Neri et al. (7) also used dermatoscopy to identify the presence of an easily movable dark line. Therefore, we suggest that a movable dark line in a whitish passage is a characteristic finding of creeping hair in dermatoscopy. Such a finding may be helpful in diagnosis of creeping hair.

The authors declare no conflicts of interest.

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