

Intradermal Growing Hair: Two Case Reports

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Abstract

Hair growing inside the skin and burrowing in the uppermost dermis, previously termed as “ingrowing hair,” is a rarely reported cutaneous disorder. Up to July 31, 2018, only five cases have been reported, all were male. The authors report two Chinese Han men, 26-year-old and 31-year-old respectively, presenting with progressive extending black lines inside the skin on the right mandibular angle and the neck respectively. The black lines were finally demonstrated as growing beard hairs. The 26-year-old man was cured after the hair was pulled out, whereas the 31-year-old patient had re-occurrence after the initial hair was extracted and was cured finally by destroying the individual beard follicle. The authors would prefer the term of “intradermal growing hair” to “ingrowing hair” when describing the condition of hair growing inside the skin and extending in the uppermost dermis. Pulling out the growing hair, and sometimes destroying the beard follicle, may be of choice for its treatment.

Keywords

beard, growing hair, ingrowing hair, intradermal, neck

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In 2006, Sakai et al. (2006) mentioned four Japanese patients who presented as hairs growing inside the skin and burrowing in the uppermost dermis, and considered the entity as “ingrown hair.” In 2016, Luo et al. (2016) reported a similar case, and renamed it as “ingrowing hair,” that was considered to be better than “ingrown hair” to describe the condition. To the current authors’ knowledge, only five cases including four Japanese (Sakai et al., 2006) and a Chinese (Luo et al., 2016) with such a rare condition have been reported up to July 31, 2018. All these patients were male with involvement of the face or neck alone (Luo et al., 2016; Sakai et al., 2006). The authors herein added another two new cases.

Case Reports

Patient 1

A 26-year-old Chinese Han man presented with a month history of a visible black line associated with mild pain and erythema around on the right mandibular angle. Months before his presentation, he noticed that recurrent painful erythema and papules presented on the jaw, which

were self-remissive. He was accustomed to plucking or extruding the beard hairs, with absence of histories of acne, folliculitis or any other inflammatory lesions on his neck. Physical examination revealed that a black linear lesion of 4 cm in length was inside the skin on the right mandibular angle, associated with edematous erythema around (Figure 1a). A segment of the black line, about 0.3 cm in length near the proximal part, protruded out of the skin. By pulling the outside part with a needle, the distal end of the black line was easily taken out without association of bleeding; however, the proximal part was still in the skin (Figure 1b). Then the black thread was forcibly extracted from the skin with forceps (Figure 1c) that was demonstrated a hair under microscope. After topical

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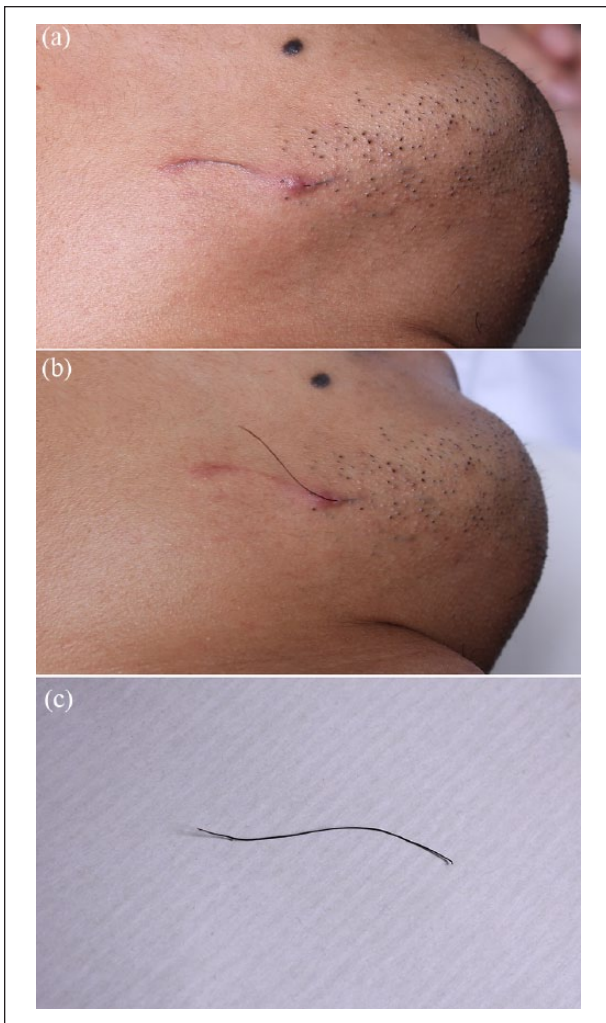


Figure 1. (a) A 4.0-cm-long black linear lesion inside the skin on the right mandibular angle with edematous erythema around and a section about 0.3 cm in length near the proximal part protruded out of the skin. (b) Using a needle, the distal end of the black line is easily pulled out without association of bleeding, with the proximal part in the skin. (c) The black thread is extracted with forceps that is demonstrated a beard hair.

application of mupirocin ointment for 2 weeks, the lesions were cured with mild erythema leaving behind. No recurrence occurred in a year of follow-up.

Patient 2

A 31-year-old Chinese Han man, with a preference of extruding rather than shaving his beard hairs, complained of recurrent asymptomatic black lines on the right side of his neck near the jaw. Three months before his presentation, he found a black line growing beneath the neck skin with a section near the follicle outside. The distal end of the black thread was pulled out with ease by a needle

while the proximal part kept in the skin. The full thread was finally taken out with force, that was demonstrated a beard of 8 cm in length. Hereafter, relapses occurred for two times although he stopped extruding the hairs, and the threads, for which the whole units were inside the skin, were demonstrated beard hairs after being pulled out. The lesion was finally cured after the patient destroyed the follicle by mechanical extrusion. No recurrence occurred in 3 years of follow-up.

Discussion

Based on the presentations, the diagnosis of “ingrown hair” for the present two patients can be made. To the current authors’ knowledge, all the reported cases (Luo et al., 2016; Sakai et al., 2006) including the present were from Asia, and the causative agents were beard hairs, suggesting that larger diameter with circular geometry, harder and straighter hairs of Asian play important roles for the hairs growing and extending beneath the skin (Franbourg, Hallegot, Balteneck, Toutain, & Leroy, 2003; Luo, Liu, Huang, He, & Zhang, 2009; Luo, Zhao, & Liu, 2010; Luo et al., 2016). As both “ingrown hair” (Panchaprateep, Tanus & Tosti, 2015; Sakai et al., 2006) and “ingrowing hair” (Luo et al., 2016) are the terms that have been used to describe the disease of hairs growing inside the skin, and both can easily cause confusion, the present authors suggest that “intra-dermal growing hair (IGH)” may be a more appropriate term to describe the present entity. As the authors’ team met three cases within 3 years, the authors considered that IGH may have been largely underestimated, misdiagnosed, or neglected as a diagnosis in China before. As the structure of pubic hairs is similar to that of the beard, the authors speculated that, with the increasing recognition of the disease, it is not impossible that IGH occurring in the pubic or inguinal areas may be reported in future, although it has not happened yet.

The pathogenesis for IGH remains unknown. However, it has been suggested that the action of plucking or extruding the beards might have played important roles for its pathogenesis by causing localized inflammation and/or changing the growing direction of hairs, resulting in the possibility of the hair growing and extending beneath the skin (Luo et al., 2016). As no bleeding presented after the distal end was pulled out, the authors speculated that the hairs might be growing in the superficial layer of the epidermis, even just in the stratum corneum. However, histopathology for the entity was still absent at present. Patient 2 had repeated recurrence, and the previous case (Luo et al., 2016) relapsed even after stopping the habit of plucking or extruding the beards for a year (the current corresponding authors’ unpublished data), suggesting that some other unknown mechanisms may also play important roles for IGH, that may be the reason why Patient 2 needed to destroy the

follicle to ultimately cure the disorder. As few people like to pluck or extrude the scalp hairs while it is more common to do so for the beards, which may be one of the reasons why IGH always involves the beard areas including chin and neck. The authors also considered that the outside shaft of the hair in Patient 1 was the result that the ingrowing and extending hair was excluded from the skin as a foreign body (Luo et al., 2016).

The differential diagnoses mainly include classical “ingrown hair” (Panchaprateep et al., 2015), interdigital pilonidal sinus, cutaneous pili migrans, creeping eruption caused by parasitic diseases. The classical “ingrown hair” is a condition where hair curls back or grows sideways into the skin instead of rising up from it, characterized by reddish, papulopustular lesion (Luo et al., 2016; Panchaprateep et al., 2015), although Sakai et al. (2006) used it to describe the condition of hairs growing inside the skin and burrowing in the uppermost dermis. It commonly affects the beard, neck, and submental regions for the men; and the chin and inguinal areas for the women, with predilections for people of African American community or people with curly hair (Luo et al., 2016; Panchaprateep et al., 2015). The treatments include removal of the involved hair, laser treatment or electrolysis. Interdigital pilonidal sinus is caused by the naked hair shaft or fragment penetrating the follicle and entering the dermis without extending lesion, with barber predominance (Nguyen, Patel, Viol & Friedman, 2015). Its treatment is surgical removal of the hair and the inflammatory tissue. Cutaneous pili migrans is characterized by a moving black line at the advancing end of the lesion (Luo et al., 2010, 2016). Its triggered factors include hair shaft or fragment, with or without hair follicle (Luo et al., 2010, 2016). When the hair in IGH is excluded from the follicle, cutaneous pili migrans may occur (Luo et al., 2009, 2010, 2016). Pulling out the hair can lead a rapid recover for the lesion. The creeping eruption caused by parasitic disease is mobile and tracks sinuously, commonly associated with severe itching with finding of a parasite at the advancing end of the lesion (Caumes & Danis 2004; Caumes 2006). Based on the clinical features, the differential diagnoses are not difficult. Dermoscopy may be helpful in the diagnosis of such disorders, because it can offer morphologic structures of hairs that are not visible by the naked eye (Panchaprateep et al., 2015).

Based on the authors’ experience, pulling out the afflicted hair and correcting the habits such as extruding and plucking the hair are considered to be the optimal options for the treatment of IGH. However, relapses may occur sometimes. For a refractory condition as Patient 2 did, excising or destroying the involved follicle, that can completely prevent hair growth, may be suggested. In patient with inflammatory lesion, topical antibiotics may be beneficial.

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Consent for publication

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