

# What's Eating You? Ant-Induced Alopecia (*Pheidole*)

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## PRACTICE POINTS

- Ant-induced alopecia should be considered in the differential diagnosis for patients from endemic regions (eg, Iran, Turkey) with new-onset localized hair loss or in patients recently visiting those areas with a concordant history.
- Ant-induced alopecia is thought to result from mechanical and/or chemical breakage, most commonly caused by *Pheidole pallidula* ants, leaving follicles intact and allowing for hair regrowth without treatment through the normal hair cycle.

*Ant-induced alopecia is a rare cause of acute, localized, nonscarring hair loss. It is most commonly caused by Pheidole pallidula ants, which can be found worldwide but are most common in Iran. The resulting alopecia can have many morphologic patterns (eg, patch, linear, nondiscrete) and thus ant-induced alopecia should be considered in the differential diagnosis for patients from endemic areas who present with new-onset localized hair loss. The condition is self-limited; however, patients should be evaluated for other more common causes of alopecia, especially in the absence of a convincing history.*

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## Case Report

An 18-year-old Iranian man presented to the dermatology clinic with hair loss of 1 night's duration. He denied pruritus, pain, discharge, or flaking. The patient had no notable personal, family, or surgical history and

was not currently taking any medications. He denied recent travel. The patient reported that he found hair on his pillow upon waking up in the morning prior to coming to the clinic. On physical examination, 2 ants (Figure 1) were found on the scalp and alopecia with a vertical linear distribution was noted (Figure 2). Hairs of various lengths were found on the scalp within the distribution of the alopecia. No excoriations, crusting, seborrhea, or other areas of hair loss were detected. Wood lamp examination was negative. Based on these findings, which were concordant with similar findings from prior reports,<sup>1-4</sup> a diagnosis of ant-induced alopecia was made. Hair regrowth was noted within 1 week with full appearance of normal-length hair within 2.5 weeks.

## Comment

Ant-induced alopecia is a form of localized hair loss caused by the *Pheidole* genus, the second largest genus of ants in the world.<sup>5</sup> These ants can be found worldwide, but most cases of ant-induced alopecia have been from Iran, with at least 1 reported case from Turkey.<sup>1-4,6</sup> An early case series of ant-induced alopecia was reported in 1999,<sup>6</sup> but the causative species was not described at that time.

The majority of reported cases of ant-induced alopecia are attributed to the barber ant (*Pheidole pallidula*). This type of alopecia is caused by worker ants within the species hierarchy.<sup>1,4,6</sup> The *P pallidula* worker ants are dimorphic and are classified as major and minor workers.<sup>7</sup> Major workers have body lengths ranging up to 6 mm, whereas minor workers have body lengths ranging up to 4 mm. Major workers have larger

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**Figure 1.** Two ants found on the scalp in the region of hair loss.



**Figure 2.** Focal vertical linear patch of hair loss.

heads and mandibles than minor workers and also have up to 2 pairs of denticles on the cranium.<sup>5</sup> The minor workers are foragers and mainly collect food, whereas the major workers defend the nest and store food.<sup>8</sup> These ants have widespread habitats with the ability to live in indoor and outdoor environments.

The presentation of hair loss caused by these ants is acute. Hair loss usually is confined to one specific area. Some patients may report pruritus or may present with erythematous lesions from ant stings or manual scratching.<sup>5</sup> None of these signs or symptoms were seen in our patient. Some investigators have suggested that the barber ant is attracted to the hair of individuals with seborrheic dermatitis,<sup>1</sup> but our patient had no medical history of seborrheic dermatitis. Most likely, ants are attracted to excess sebum on the scalp in select individuals in their search for food and cause localized hair destruction.

Localized hair loss, as depicted in our case, should warrant a thorough evaluation for alopecia areata, trichotillomania, and tinea capitis.<sup>9</sup> Alopecia areata should be considered in individuals with multiple focal patches of hair loss that have a positive hair pull test from peripheral sites of active lesions. Tinea capitis usually has localized sites of hair loss with underlying scaling, crusting, pruritus, erythema, and discharge from lesions, with positive potassium hydroxide preparations or fungal cultures. Trichotillomania typically presents with a spared peripheral fringe of hair. Remaining hairs may be thick and hyperpigmented as a response to repeated pulling, and biopsy often demonstrates fracture or degeneration of the hair shaft. A psychiatric evaluation may be warranted in cases of trichotillomania. Other cases of arthropod-induced hair loss include tick bite alopecia<sup>10,11</sup> and hair loss induced by numerous honeybee stings,<sup>12</sup> and these diagnoses should be suspected in patients with a history of ants on their pillow or in those from endemic areas.

No specific treatment is indicated in cases of ant-induced alopecia because hair usually regrows to its normal length without intervention.

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