Traction Folliculitis: An Underreported Entity

Gary N. Fox, MD; Julie M. Stausmire, MSN, CNS; Darius R. Mehregan, MD

Traction folliculitis is a component of traction alopecia syndrome and has received minimal attention in primary source medical literature. The popularity of hairstyles that produce hair traction and the knowledge that early intervention improves prognosis amplify the importance of recognizing this entity. Traction folliculitis presents as perifollicular erythema and pustules on the scalp in areas where hairstyles produce traction on the hair shaft. In addition to the traction, concurrent hair care practices may play a facilitatory role in the development of traction folliculitis. Treatment involves immediate removal of traction on hair and temporary alteration of the facilitatory hair care practices. In more severe cases, topical or systemic antibacterial therapy and, occasionally, topical corticosteroid therapy may be necessary. Failure to discontinue traction-producing hairstyles can lead to traction alopecia and irreversible hair loss. Cultural considerations often are paramount in hairstyle choices and hair care practices that cause predisposition to traction disorders. Thus, culturally competent counseling requires understanding the significance of the hairstyle and hair care practices to the patient (or caregivers), discussing the recommendations in a culturally sensitive manner, and negotiating mutually acceptable alternative practices.


Hair and scalp diseases induced by traumatic hairstyling techniques, including the use of chemical relaxers and permanent solutions, hot combs, braids, hair extensions, and pomades, tend to be underappreciated. The practice of these techniques and their sequelae are most common in black individuals. We present an illustrative scenario of trauma caused by hairstyling techniques in an infant and review the literature on traction folliculitis. We found no prior reports of traction folliculitis in infants and no prior images of traction folliculitis in the primary source medical literature.

Case Report

An 8-month-old black infant was brought in by his mother for evaluation of “pus bumps” on the scalp of several weeks’ duration. The infant was otherwise healthy with an unremarkable past medical history. On examination, the infant’s vital signs, growth, and development were appropriate for his age; the infant was playful and healthy in appearance; and skin examination was unremarkable, except for the scalp and scalp margins. The infant had a geometric hairstyle with the hair sectioned into squares. The hair in each square was pulled tightly to the center and then secured with a hair band. This hairstyle produced maximum traction around the outer edges of the square with less traction centrally. It produced a latticework of sharply defined parts on the scalp between the squares. Follicle-based papules and pustules were evident within these parts (Figure, A–C) and along the frontotemporal margins (Figure, A). When the hair bands were released, the scalp in the central area within each square, which had experienced less tension, was unaffected (Figure, C). Hair loss was evident in a typical traction alopecia distribution, especially along the frontal scalp margin (Figure, A). The patient did not exhibit notable peripilar hair casts. The hair and scalp appeared greasy from application of pomade.
Treatment of this patient’s traction folliculitis included a discussion with caregivers about the condition and its etiology. Elements of the patient’s care, worked out collaboratively with the patient’s caregivers included elimination of traction on the hair, temporary institution of a topical antibacterial shampoo, and temporary avoidance of pomade. Additionally, cephalexin 50 mg/kg per day in 4 divided doses for 10 days was prescribed. At a visit 17 days later, the scalp had completely cleared.

Comment
Although the pathogenesis of many conditions is multifactorial, we believe our patient exhibited traction-induced folliculitis. The distribution of the folliculitis was localized exclusively to the areas of maximal traction; there was no evidence of bacterial infection elsewhere; and there were no other signs of pomade-induced dermatitis, such as on the face.

Traction folliculitis rarely is reported in the primary source medical literature. A search of the PubMed database (US National Library of Medicine) for “traction folliculitis” in humans yielded only 2 citations dating back to 1961 and 1983, though others can be located by cross-referencing citations. Commonly used general dermatology textbooks neither list traction folliculitis in their indexes nor specifically refer to traction folliculitis when discussing traction alopecia. In fact, both of these texts devote only 2 sentences each to traction alopecia despite the near epidemic frequency of the latter in black women. Moreover, some textbooks devoted entirely to hair and scalp disorders failed to index, discuss, or display images of traction folliculitis, while others indexed the disorder but devoted only a few sentences to it. Although traction folliculitis is mentioned in reviews of hair disorders, especially reviews specific to these disorders in black individuals, most discussions are limited to 1 or 2 sentences or a mention in a table. An Internet search for “traction folliculitis” produced some additional links relevant to the topic, including references containing continuing medical education course descriptions mentioning traction folliculitis, US Food and Drug Administration committee hearings, and information for healthcare professionals.
A search of dermatology photographic resources on the Internet showed a few patients with traction folliculitis not reported in the traditional literature. A review of all sources suggests that traction folliculitis is more common than its minimal representation in the indexed primary source medical literature would suggest.

We believe that our 8-month-old patient is the youngest reported patient with traction folliculitis. Slepyan\(^6\) reported 24 patients with traction syndromes (not all patients had folliculitis) but did not specify their ages; none appeared to be infants. Rollins\(^5\) reported 3 girls, aged 9, 10, and 16 years, with traction folliculitis. The patients reported in Internet sources were aged 2 years (1 patient)\(^19\) and 4 years (2 patients).\(^{20,21}\) Therefore, the youngest prior patient we were able to locate was 2 years old.\(^19\) We also did not locate case reports or photographs of traction folliculitis in black patients in the primary source medical literature, though a review article of cosmetics did include one photograph of traction folliculitis in a black patient.\(^15\)

The origin of the current concepts regarding traction folliculitis can be traced to Slepyan.\(^6\) In 1958, he reported “alopecia of the scalp occurring in young girls wearing the pony tail.” He noted that “the earliest manifestation is a mild erythema about the follicles receiving the greatest amount of traction. Occasionally some scaling is noted and not infrequently the patient was seen because of ‘localized dandruff’ with itching. In some, minute folliculo-pustules were evident in these erythematous areas.” Slepyan\(^6\) suggested the term traction alopecia because girls with bangs did not have marginal hair loss from traction along the frontal hairline but rather loss at the site of traction posterior to the bangs. He noted that traction as a cause of marginal alopecia had been reported in 1941,\(^22\) and, in 1937,\(^23\) “tightly drawn braids as a causative factor of traumatic folliculitis” and “staphylococcal folliculitis following trauma” to the scalp had been reported.\(^6\)

In 1961, Rollins\(^5\) added an association with hair casts, reporting 3 girls who had papules, pustules, and hair casts on examination. Hair casts encircle the hair shaft, are yellowish-white, and are freely mobile, though they have been mistaken for the immobile firmly fastened nits of pediculosis capitis (pseudonits).\(^5,16,24\) Microscopic examination also can help differentiate nits and hair casts.\(^25,27\)

The concept of traction folliculitis and alopecia outlined by Slepyan\(^6\)—continuous traction on the hair followed by erythema, perifollicular pustules, and alopecia—has not changed substantially. Continuous traction causes a mechanical loosening of hair from the follicles, resulting in irritation of the follicles, which causes folliculitis and may create visible perifollicular erythema (perifolliculitis).\(^16,28,29\) Mild erythema on the scalp in individuals of color may escape detection;\(^1\) therefore, papulopustular folliculitis may be the first observed manifestation.\(^1,4\) If the traction continues, chronic inflammation ensues, which may lead to follicular atrophy with thinner shorter hair; then reversible traction alopecia; followed by follicular destruction, scarring, and permanent alopecia.\(^1,16,29\) Other clinical manifestations of traction folliculitis may include a seborrhealike hyperkeratosis and posterior cervical lymphadenopathy from the inflammation.\(^28\)

Sustained traction, probably through injury of the hair follicle, seems to predispose patients to secondary staphylococcal infection of the scalp, leading to the development of purulent pustule formation as a component of traction-induced disease.\(^1,6,16,28,29\) It has been suggested that these patients also are at increased risk for fungal scalp infection.\(^19\)

Specific hairstyles that can lead to traction syndromes include braids, ponytails,\(^5,6\) hair twists worn by Sikh boys,\(^31\) chignons,\(^29\) and hair weaving and hair extensions.\(^15\) These hairstyles often have cultural significance.\(^7\) Cornrows, tight braids woven against the scalp popular in black individuals, can be traced back thousands of years to Nigeria.\(^32\) Braided hairstyles also may be used because they require low maintenance; they may be left in place for up to 3 months.\(^1,15\)

**Evaluation and Differential Diagnosis**—The differential diagnosis of alopecia is extensive.\(^16\) The history and clinical pattern of traction alopecia usually are sufficiently characteristic that ancillary testing is not required for diagnosis.\(^29\)

The major differential diagnostic considerations for traction folliculitis include other major follicle-centered infections and inflammatory disorders.\(^33\) These disorders, such as tinea capitis, pseudofolliculitis, and folliculitis keloidalis nuchae, usually are clinically distinguishable from traction folliculitis. Superficial perifolliculitis, also known as follicular or Bockhart impetigo, may occur in the scalp and in children.\(^25,33\) If associated with hair traction and occurring in a hair traction pattern, we suggest that reference to the traction pattern provides more diagnostic specificity because superficial perifolliculitis can occur anywhere there are hair follicles.
Management of Traction Folliculitis—Recognition of hairstyles associated with traction syndromes affords physicians the opportunity for early intervention when most cases of traction-induced hair loss can be reversed within a few months. Treatment of traction-induced syndromes requires immediate discontinuation of hairstyles that exert tension on the hair. Assessing the cultural significance of the patient’s hairstyle and the patient’s willingness to use alternative hairstyles is vital because patients may continue these styles if they feel advice reflects cultural bias. Alternatives that may be acceptable include the use of hair accessories that loosely hold hair, loose braids that are frequently replaced in varying patterns, and braiding the hair only when dry. Combing and grooming hair usually is easier when it is wet, but, as the hair dries, it shortens, increasing stress on the follicle.

Because the hair of black individuals is generally drier and more brittle than other hair types, less frequent shampooing is likely as well as the use of pomades. Therefore, the rationale for temporary institution of a regimen of shampooing and avoiding pomade until resolution of the traction folliculitis should be explained. Acknowledging the difficulties that the changes in hair care practices can cause may encourage compliance.

Although relief of tension and alteration of hair care practices may result in resolution of traction folliculitis, systemic or topical antistaphylococcal antibiotics may be needed. Use of topical corticosteroids may be another reasonable therapeutic option for severe inflammation.

Acknowledgment—The authors are grateful to the St. Vincent Mercy Medical Center library staff for their expertise and first-class assistance.

REFERENCES


