Cutaneous Sarcoidosis Presenting as a Cutaneous Horn

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PRACTICE **POINTS**

- Biopsy of a cutaneous horn should be deep enough to capture the neoplastic or inflammatory process at the base of the lesion.
- Cutaneous sarcoidosis can present with variable morphologies including the epidermal changes of a cutaneous horn.

To the Editor:

A 53-year-old woman presented to our dermatology clinic with a painful growth on the right ear of 2 months' duration. A complete review of systems was negative except for an isolated episode of shortness of breath prior to presentation that resolved without intervention. During this episode, her primary care physician made a diagnosis of chronic obstructive pulmonary disease based on a chest radiograph. The patient reported minimal tobacco use, specifically that she had smoked a few cigarettes daily for several years but had quit 6 months prior to the current presentation.

Physical examination at our clinic revealed a tender, hyperkeratotic, cone-shaped papule with mild erythema on the right antitragus that was consistent with a cutaneous horn (Figure 1). Although she denied any other skin lesions, further evaluation revealed a cluster of firm flesh-colored papules surrounding the left medial canthus as well as a pink scaly plaque on the posterior neck.

Histopathology of the cutaneous horn demonstrated a mound of hyperkeratosis with noncaseating granulomas within the superficial dermis (Figure 2). A biopsy of the plaque on the neck demonstrated similar granulomas. Fungal and mycobacterial stains were negative, supporting a diagnosis of cutaneous sarcoidosis. At a follow-up visit 18 days later, laboratory workup for sarcoidosis revealed a normal calcium level (9.6 mg/dL [reference range, 8.7–10.4 mg/dL]) and elevated angiotensin converting enzyme level (139 U/L [reference range, 8–53 U/L]).

Cutaneous horn is a clinical term used to describe hyperkeratotic horn-shaped growths of highly variable shapes and sizes. Although the pathogenesis and incidence of cutaneous horns remain unknown, these lesions most often are the result of a neoplastic rather than an inflammatory process. The differential diagnosis typically includes entities characterized by marked hyperkeratosis, including hypertrophic actinic keratosis, squamous cell carcinoma (SCC), seborrheic keratosis, and verruca

FIGURE 1. A cutaneous horn on a mildly erythematous base located on the right antitragus. The horn was wider than it was tall, as the base of the horn extended posteriorly into the conchal bowl.

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The authors report no conflict of interest.

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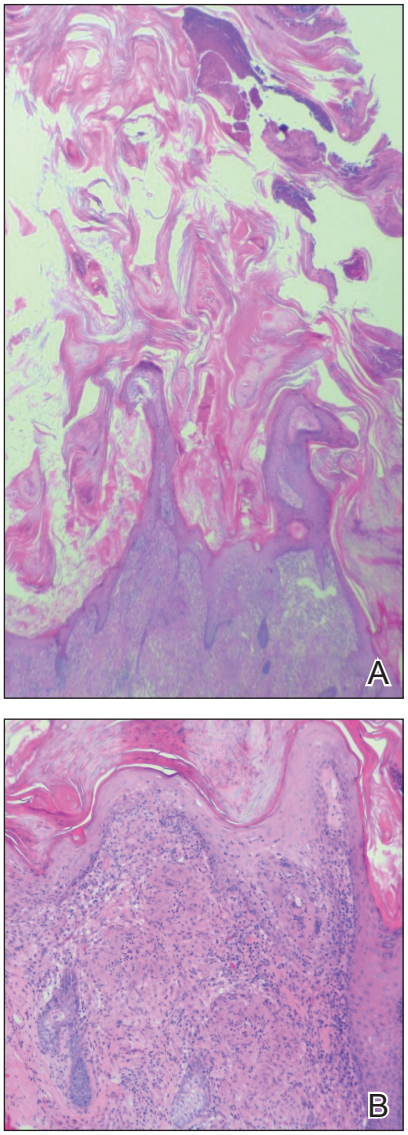

FIGURE 2. A, A shave biopsy showed a large mound of hyperkeratosis with underlying granulomatous dermatitis (H&E, original magnification ×20). B, Noncaseating granulomas were noted within the superficial dermis (H&E, original magnification ×100).

vulgaris. The base of the horn must be biopsied to determine the underlying etiology, paying careful attention to avoid a superficial biopsy, as it may be nondiagnostic.

Studies analyzing the underlying diagnoses and clinical features of cutaneous horns are limited. In a large retrospective study of 643 cutaneous horns, 61% were benign, 23% were premalignant, and 16% were malignant. In this study, 4 features were associated with premalignant or malignant pathology: (1) older age (mid-60s to 70s); (2) male sex; (3) location on the nose, pinnae, dorsal hands, scalp, forearms, or face; and (4) a wide base (4.4 mm or larger) and a lower height-to-base ratio than benign lesions.[1] Two additional studies of more than 200 horns each showed higher rates of premalignant horns (42% and 38%, respectively) with malignancy found in 7% and 20% of horns, respectively.[2,3] One prospective study sought to identify clinical and dermatoscopic features of SCCs underlying cutaneous horns, concluding that SCC diagnosis was more likely if a horn had (1) a height less than the diameter of its base, (2) a lack of terrace morphology (a dermatoscopic feature defined as horizontal parallel layers of keratin), (3) erythema at the base, and (4) the presence of pain.[4]

Our patient had a cutaneous horn on the pinna that was painful, wider than it was tall, and erythematous at the base, suggesting a malignant process; however, a complete cutaneous physical examination revealed other skin lesions that were concerning for sarcoidosis and raised suspicion that the horn also was a manifestation of the same inflammatory process.

Although unusual, cutaneous sarcoidosis presenting as a cutaneous horn is not unexpected. In a histopathologic study of 62 cases of cutaneous sarcoidosis, 79% (49/62) showed epidermal changes and 13% (8/62) demonstrated hyperkeratosis. Other epidermal changes included parakeratosis (16% [10/62]), acanthosis (10% [6/62]), and epidermal atrophy (57% [35/62]).[5] The spectrum of epidermal pathology in cutaneous sarcoidosis is evident in its well-documented verrucous, psoriasiform, and ichthyosiform presentations. For completeness, cutaneous horn is added to the list of clinical morphologies for this "great imitator" of cutaneous diseases.

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