

JAMA Dermatology Clinicopathological Challenge

Papules in the Axillae of a Woman

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Figure 1. Clinical examination findings. Multiple red-brown papules within the axilla bilaterally.

A woman in her early 40s presented with a 6-month history of rash in the bilateral axillae. The areas involved were not itchy or tender but bothered her cosmetically. The patient reported using an aluminum-containing antiperspirant spray for years before the onset of the eruption but had since discontinued use of deodorants or antiperspirants without improvement in her lesions. Her medical history was significant only for epilepsy, and her daily medications included lamotrigine and cholecalciferol.

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Physical examination revealed multiple red-brown to purplish follicular papules and nodules in bilateral axillae with focal areas of scarring (Figure 1). No facial lesions were noted.

She did not improve with multiple medications, including topical antifungals, topical corticosteroids, oral ketoconazole, topical dapsone, doxycycline (40 mg/d), minocycline (100 mg twice daily), a combination of amoxicillin and clavulanate, and intralesional triamcinolone acetonide. A 4-mm punch biopsy was performed on the right axilla for evaluation.

WHAT IS YOUR DIAGNOSIS?

- A. Sarcoidosis
- B. Axillary acne agminata
- C. Miliary tuberculosis
- D. Talc granuloma
- E. Hidradenitis suppurativa

Diagnosis**B. Axillary acne agminata****Microscopic Findings and Clinical Course**

Histopathologic examination revealed granulomatous dermatitis. Numerous granulomas were seen extending from the superficial to the deep dermis (Figure 2A). The granulomas were composed of palisaded histiocytes and multinucleated giant cells surrounding the central areas of caseating necrosis (Figure 2B). The epidermis revealed mild spongiosis. No polarizable foreign-body material or crystals were identified. Periodic acid-Schiff, acid-fast bacilli, and Gram stains did not highlight significant organisms. The results of tissue culture for bacteria, acid-fast bacilli, and fungal cultures were negative for causative organisms. The patient was treated with low-dose oral prednisone therapy (10 mg/d for 2 weeks, decreasing to 5 mg/d for 3 months) with minimal improvement.¹

Discussion

Acne agminata is a rare, chronic, inflammatory dermatosis characterized by red-brown papules, most commonly affecting the central part of the face and periorbital areas, where it has been considered synonymous with lupus miliaris disseminatus faciei or granulomatous rosacea. Cases of acne agminata limited to the axillae have been reported.²⁻⁵

On histologic analysis, lesions are small, round granulomas with central caseation necrosis. Histologic changes may mimic miliary tuberculosis; however, multiple studies have failed to find *Mycobacterium tuberculosis* or other mycobacterial disease by culture or polymerase chain reaction in lesions of acne agminata.

When acne agminata presents confined to axillae without more characteristic facial involvement, it can create a diagnostic challenge. Other granulomatous eruptions of the axillae, including granulomas induced by aluminum-zirconium complexes, must be excluded.² Histopathologic analysis can be of great help because antiperspirant axillary granulomata should not reveal the type of caseating necrosis seen with acne agminata.

The true origin and pathogenesis of this condition remain poorly understood. Most authors now consider acne agminata to be an extreme variant of granulomatous rosacea or *Demodex* folliculitis. In contrast to rosacea, acne agminata usually occurs at a younger age without background erythema or telangiectasias.² Some authors⁶ have suggested that acne agminata occurs as a granulomatous reaction to hair follicle destruction, perhaps explaining its axillary predominance in some cases.

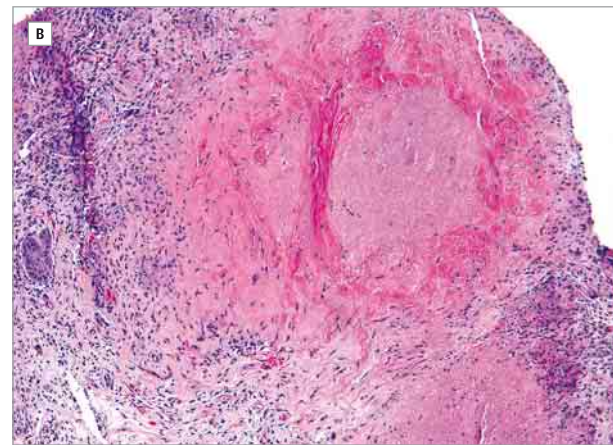
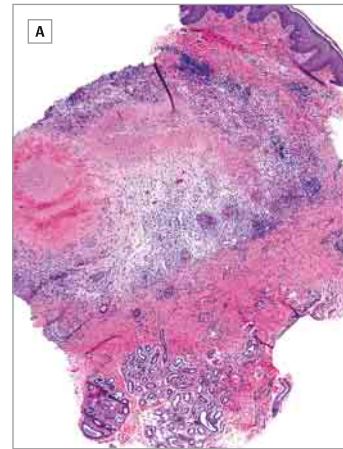


Figure 2. Histopathologic analysis. A, Dermis with dense granulomatous inflammation characterized by nodular aggregates of histiocytes and multinucleated giant cells (hematoxylin-eosin, original magnification $\times 100$). B, Granulomas with central areas of caseating necrosis (hematoxylin-eosin, original magnification $\times 200$).

Lesions tend to spontaneously resolve in 1 to 3 years but may result in permanent scarring. Although multiple medical treatments, including tetracycline antibiotics, isotretinoin, dapsone, and topical and oral corticosteroids, can be effective in treating acne agminata,^{1,3,5} reports of successful treatments for axillary acne agminata are few. No controlled studies exist, and treatment in many cases proves unsuccessful. In addition, because the condition tends to resolve on its own, the effect of individual therapies on disease course can be difficult to evaluate.

ARTICLE INFORMATION

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