

## CLINICAL VIGNETTE

# Verrucous Plaque on the Leg

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### Case Report

A 52-year-old man presented to dermatology with a 6-month history of a growth on his leg. He reported trauma to the leg about a year prior to presentation. The abraded area did not heal and slowly enlarged. He denied pain or other localized symptoms as well as constitutional symptoms. He had diabetes mellitus II on metformin and no history of infections including tuberculosis, no halogen ingestion, and no known malignancy or immunosuppressive medications. Physical exam revealed a malodorous pink verrucous plaque studded with pustules without drainage on his left lower leg (Figure 1A). A punch biopsy and tissue cultures were obtained.



Figure 1A. Blastomycosis-like pyoderma

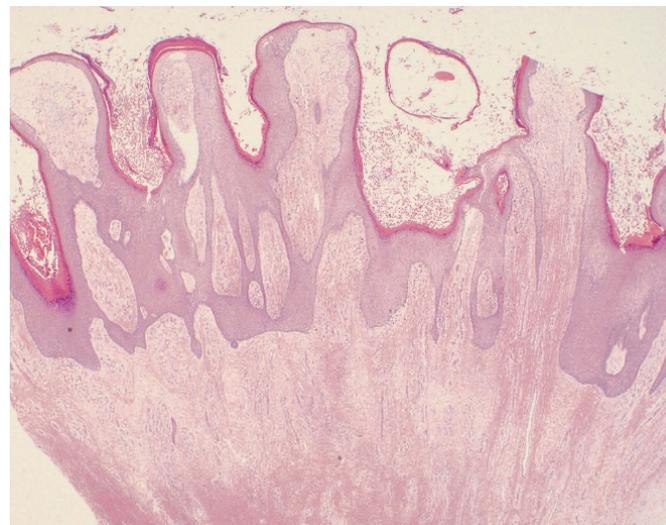


Figure 1B. Punch biopsy with pseudoepitheliomatous and verrucous hyperplasia with overlying crust containing neutrophils and gram positive cocci in clusters (H&E)

Histologic examination of the punch biopsy showed marked epidermal pseudoepitheliomatous and verrucous hyperplasia with mixed inflammatory infiltrate and an overlying crust (Figure 1B). Tissue culture was positive for multiple bacteria including *staph aureus*, *beta streptococcus*, *morganella morganii*, and *cornyneform bacteria*, and negative for fungus and mycobacteria. Bromide and iodide levels were normal. His basic labs including complete blood count and comprehensive metabolic panel were unremarkable. Other infectious workup including an acute hepatitis panel, quantiferon gold and HIV were also negative and he was diagnosed with blastomycosis-like pyoderma.

### Discussion

Blastomycosis-like pyoderma is a rare skin condition believed to be an exaggerated reaction to a bacterial infection. Though it has been reported in healthy individuals, it most commonly presents in immunocompromised patients, including those with leukemia, primary immunodeficiency, AIDS, diabetes, alcoholism, or malnutrition, as well as those on immunosuppressive therapy.<sup>1,2</sup> In a recent single institution series of 39 patients, there was a male predominance of cases (74%), with average age of 71.<sup>3</sup>

Clinically, the typical lesion is a solitary verrucous plaque that can mimic a deep fungal or atypical mycobacterial infection, halogenoderma, or squamous cell carcinoma.<sup>3</sup> Criteria for diagnosis were proposed in 1979 and include: 1) a large verrucous plaque with multiple pustules and elevated border, 2) pseudoepitheliomatous hyperplasia with abscesses in tissue-biopsy, 3) growth of at least one pathogenic bacteria (*staph aureus*, beta-hemolytic strep, or *pseudomonas aeruginosa*), 4) negative culture for deep fungi, atypical mycobacteria, and *Mycobacterium tuberculosis*, 5) negative fungal serology, and 6) normal bromide levels in the blood.<sup>4</sup> More recent cases have made the diagnosis using only the first 4 criteria.<sup>5-7</sup>

Initial treatment is typically directed towards sensitivities of the pathogenic bacteria, with wide variation of antibiotic class and duration among published cases. If no improvement is seen with a trial of appropriate antibiotic coverage, other reported treatments include acitretin, SSKI, topical antibiotics, and physical modalities including curettage, cryotherapy and CO2 laser.<sup>6,8</sup> Lesions may heal with scarring.<sup>7,9,10</sup>

Fungal serologies were not performed as our patient was otherwise well, though he met the other five criteria for diagnosis. Bacterial cultures showed susceptibility to sulfamethoxazole/trimethoprim. He was started on 2 double-strength tabs twice daily with decrease in plaque thickness and resolution of pustules at 6-week follow up (Figure 2).



Figure 2. 6-week follow up, with decrease in thickness and resolution of pustules.



Figure 3. After 8 months of treatment.

## REFERENCES

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