

# Dissecting Cellulitis in a White Male: A Case Report and Review of the Literature

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## GOAL

To discuss an unusual presentation of dissecting cellulitis

## OBJECTIVES

Upon completion of this activity, dermatologists and general practitioners should be able to:

1. Describe the clinical presentation of dissecting cellulitis.
2. Review the pathogenesis and histopathology of this condition.
3. Identify the range of treatment options for dissecting cellulitis.

CME Test on page 66.

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*Dissecting cellulitis is an uncommon, chronic, progressive suppurative disease of unknown etiology. It is characterized by painful papules and nodules, interconnecting sinus tracts, purulent drainage, and scarring alopecia. This disease predominately affects young black men, but is rarely reported in white males. The refractory nature of this process makes treatment difficult. We report a case of dissecting cellulitis in a white male, which responded to oral isotretinoin.*

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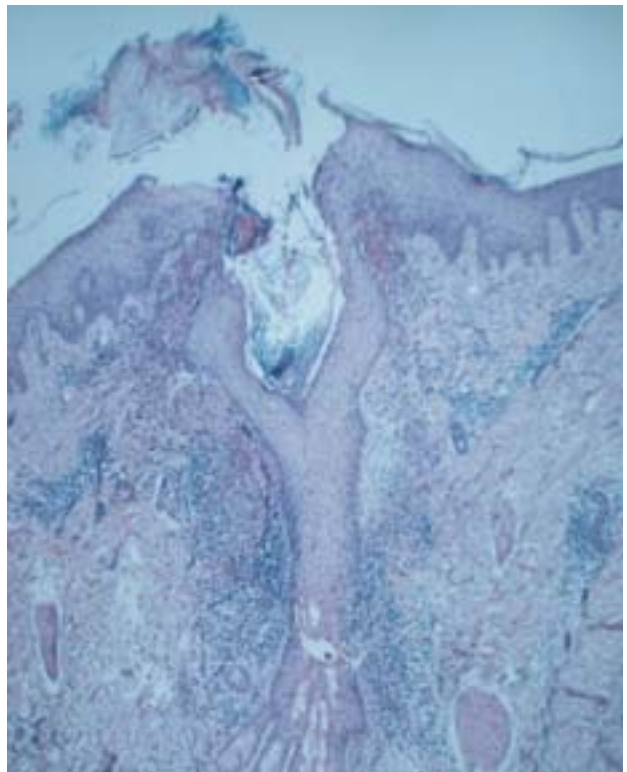
## Case Report

A 23-year-old white male presented to our clinic with a 2-year history of tender fluctuant nodules and abscesses on the scalp associated with patchy alopecia. He was otherwise in good health and had no family history of similar lesions or significant acne. In the previous 18 months, confluent abscesses with draining sinus tracts progressed to cover most of the patient's scalp. Physical examination showed multiple fluctuant abscesses, with purulent drainage and scattered alopecia involving the vertex and occipital scalp (Figure 1). No other skin lesions were noted, and there was no cervical or occipital lymphadenopathy.

Cultures of the abscesses for bacteria, fungi, and acid-fast bacilli were negative. Serum chemistries and a complete blood cell count with differential were



**FIGURE 1.** Multiple fluctuant abscesses with scattered alopecia involving the vertex and occipital scalp.



**FIGURE 2.** Low power photomicrograph showing perifollicular and interstitial lymphocytes and neutrophils (H&E, original magnification  $\times 10$ ).

normal. HIV and antinuclear antibody tests were negative. Two skin biopsies revealed perifollicular and interstitial lymphocytes and neutrophils. Follicular destruction and dermal scarring were pronounced (Figures 2 and 3). Special stains for bacteria and fungi were negative.

The patient was initially treated with amoxicillin, clavulanate, ciprofloxacin, and azithromycin, along with daily topical chlorhexidine washes. Periodically, the more tender fluctuant abscesses were incised and drained. Because oral antibiotics were unsuccessful, the patient began oral isotretinoin at 1 mg/kg per day. After 3 months of treatment, there was a marked reduction in the inflammatory component of his disease, with resolution of the abscesses and sinus tracts. The patient has since been lost for follow-up.

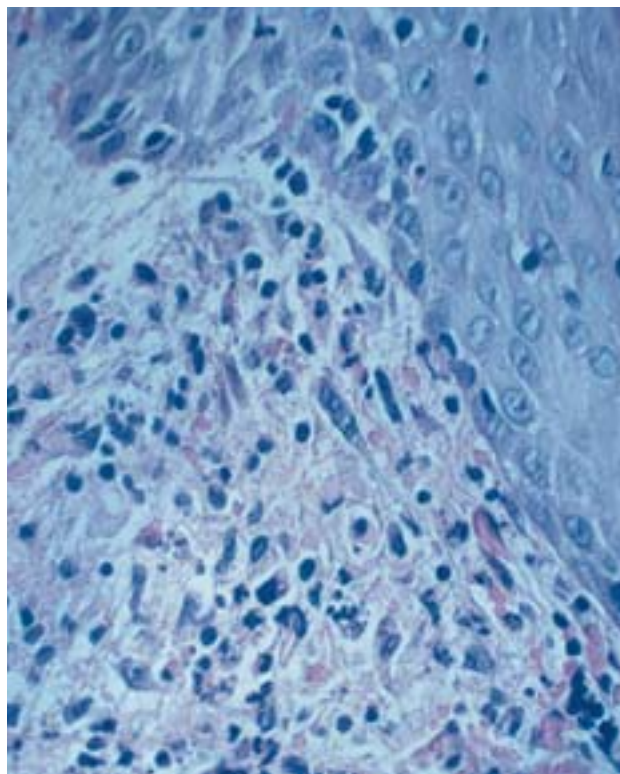
### Comment

Dissecting cellulitis (also known as *perifolliculitis capitis abscedens et suffodiens*, *dissecting folliculitis of the scalp*, *dissecting perifolliculitis of the scalp*, and *Hoffman's disease*) is an uncommon, chronic, inflammatory disease of the scalp characterized by painful fluctuant nodules and abscesses, interconnecting deep sinus tracts, and scarring alopecia. The etiology of this disease remains unknown. The first

case was reported by Spitzer<sup>1</sup> in 1903 and subsequently by Nobl<sup>2</sup> in 1905. Hoffman<sup>3</sup> coined the term *perifolliculitis capitis abscedens et suffodiens* when he presented a case to the Berlin Dermatologic Society in 1907. Wise and Parkhurst<sup>4</sup> described the first US case in 1921.

This chronic inflammatory process affects the vertex and occipital scalp of adult black men,<sup>5</sup> although rare cases in white men have been reported.<sup>6</sup> A review of the American literature reveals less than 70 reported cases. In 7 of these cases, the patients were white,<sup>7</sup> and in 13, the patient's ethnicity was not revealed. The disease presented similarly in white patients, followed the same course, and was refractory to treatment just as in black patients. To our knowledge, there are only 2 reported cases of dissecting cellulitis occurring in females.<sup>8</sup>

The disease follows a chronic relapsing course and is generally considered benign; however, Curry et al<sup>9</sup> reported one case in which a metastasizing squamous cell carcinoma developed in a long-standing lesion. Kierland<sup>10</sup> initially described the features of the follicular occlusion triad in 1951, and Pillsbury and colleagues<sup>11</sup> pathologically linked these entities (*dissecting cellulitis*, *acne conglobata*, and *hidradenitis suppurativa*) in 1956. These diseases share the common pathogenesis of follicular hyperkeratosis with re-



**FIGURE 3.** Inflammatory cells surrounding the follicular epithelium.

tention of follicular products and occasional secondary bacterial infection.<sup>12</sup> An infectious etiology has been suspected, but tissue cultures are usually unrevealing.<sup>6</sup> An immunologic reaction to *Propionibacterium acnes* may play a significant role in the pathogenesis of these diseases.<sup>12</sup>

The histopathology of dissecting cellulitis has been well described,<sup>12</sup> although the features are not diagnostic and depend on the stage of the disease. In the acute suppurative phase, there is an acneiform dilation of the follicular infundibulum with intrafollicular and perifollicular accumulation of neutrophils and subsequent follicular perforation. Later, keratogenous debris incites a granulomatous response with dermal fibrosis surrounding sinus tracts.

The refractory nature of this disease is well recognized.<sup>13</sup> Treatment options include numerous nonsurgical and surgical modalities. Nonsurgical options include broad-spectrum systemic antibiotics, such as tetracycline or erythromycin,<sup>6</sup> which are effective in some cases; antibacterial soaps<sup>14</sup>; topical antibiotics; and topical and intralesional corticosteroids (with varying success rates).<sup>6</sup> Shaffer et al<sup>15</sup> reported good results using intralesional corticosteroids and oral isotretinoin. Other nonsurgical options include alternate-day systemic corticosteroids<sup>16</sup>; oral zinc sul-

fate, which may lead to complete clearing of lesions<sup>17</sup>; and x-ray epilation.<sup>18</sup> Surgical interventions include incision and drainage of painful nodules,<sup>8</sup> complete scalp extirpation with skin grafting,<sup>14</sup> marsupialization with cyst wall curettage,<sup>19</sup> and carbon dioxide laser ablation.<sup>20</sup>

Isotretinoin continues to be the systemic drug of choice.<sup>7,21-23</sup> This drug has an anti-inflammatory effect<sup>24</sup> on the pilosebaceous unit, alters the pattern of follicle keratinization,<sup>25</sup> and suppresses sebaceous gland activity.<sup>26</sup> Despite having no direct antibacterial effect, isotretinoin has been shown to significantly reduce the number of *P acnes* in patients with dissecting cellulitis.<sup>26</sup> Sceri et al<sup>22</sup> consider isotretinoin a first-line treatment, using an initial dose of 1 mg/kg per day and a maintenance dose of at least 0.75 mg/kg per day after clinical control is achieved. They recommend treatment for at least 4 months after the disease appears clinically inactive.

### Conclusion

In summary, we report a case of dissecting cellulitis in a white male, which responded to oral isotretinoin. To our knowledge, this brings the total number of reported cases of dissecting cellulitis in Caucasians in the United States to 8. Further studies and a longer follow-up are necessary to determine the efficacy of isotretinoin in the treatment of this disease, but anecdotal reports are encouraging.

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