

Dissecting Cellulitis of the Scalp Treated With Rifampicin and Isotretinoin: Case Reports

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Dissecting cellulitis of the scalp, or perifolliculitis capitis abscedens et suffodiens, is an uncommon chronic suppurative disease of the scalp manifested by follicular and perifollicular inflammatory nodules that suppurate and undermine, forming intercommunicating sinuses, and leading to scarring alopecia. Treatment generally fails to obtain a permanently successful result; thus, many therapeutic options have been proposed. We report 4 cases of dissecting cellulitis of the scalp successfully treated with oral rifampicin and oral isotretinoin. To our knowledge, this is the first report of oral rifampicin used concomitantly with oral isotretinoin in this disease entity. We also present a brief review of the literature on the topic.

Cutis. 2008;82:195-198.

Perifolliculitis capitis abscedens et suffodiens, also known as dissecting cellulitis of the scalp, is an uncommon chronic suppurative disorder. The follicular occlusion triad consists of dissecting cellulitis of the scalp along with acne conglobata and hidradenitis suppurativa. The occipital and vertex regions of the scalp in black men are the most commonly affected sites. The clinical manifestation includes multiple painful inflammatory nodules and fluctuant abscesses intercommunicating via sinus tracts, leading to scarring alopecia. Microscopically, an extensive neutrophilic perifolliculitis, follicular

destruction, and keratinous debris are observed. The etiology still remains unclear. Although cultures may reveal no bacteria, *Staphylococcus aureus* is occasionally isolated.^{1,2} However, follicular hyperkeratosis is thought to play a primary role in the pathogenesis of dissecting cellulitis of the scalp.³

Case Reports

Patient 1—A 24-year-old man presented with a 2-year history of painful, disseminated, tender nodules covering the temporal area of the scalp. Many lesions were inflammatory with purulent discharge. Alopecia was noted over nodules. The patient reported clinical worsening after mental and physical stress. He was treated with oral antibiotics, such as clindamycin hydrochloride and erythromycin, with poor response. Findings from hematologic and biochemical investigation were normal. Cultures of draining purulent lesions were negative for fungi and positive for *S aureus*. The patient was given oral rifampicin 300 mg twice daily for 4 months. When the disorder stopped progressing, rifampicin was discontinued and replaced by oral isotretinoin 0.5 mg/kg daily for 4 months.

Patient 2—A 31-year-old man presented with a 5-year history of occipital follicular abscesses and cysts as well as patchy alopecia. The cysts occurred after repeated infections of the scalp during the past 5 years. Prior treatment with topical clindamycin and oral erythromycin was disappointing. Complete blood cell count and results of a biochemistry profile were normal. Culture of the scalp abscesses was negative for fungi, while culture for bacteria indicated *S aureus*. The patient was treated with oral rifampicin 300 mg twice daily until clinical improvement was noted within 4 months. Subsequently, the patient was given oral isotretinoin 0.5 mg/kg daily for the next 3 months. At that time, no lesions were observed and

Accepted for publication January 25, 2008.

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The authors report no conflict of interest.

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Perifollicular pustules on the occipital region of the scalp in a 29-year-old man (A). Complete resolution of dissecting cellulitis of the scalp was achieved following treatment with oral rifampicin and oral isotretinoin, with areas of patchy alopecia (B).

isotretinoin was ceased. At a follow-up visit after a year, no active lesions were observed.

Patient 3—A 29-year-old man with a 12-month history of disseminated tender nodules and perifollicular pustules in the occipital and vertex regions of the scalp was admitted to our clinic (Figure, A). Prior treatments included oral antifungal agents for 2 months and topical clindamycin with poor response. The clinical examination revealed a large number of nodules (1.0–1.5 cm in diameter) and perifollicular pustules in the occipital and vertex areas of the scalp. Alopecia and irregular scarring also were present. Repeated cultures were negative

for fungi and bacteria. After treatment with oral rifampicin 300 mg twice daily for 4 months, there was a noticeable decrease of edema and drainage of the scalp nodules. Perifollicular pustules also were in complete remission. Oral isotretinoin 0.5 mg/kg daily for 3 months led to further improvement. At the end of therapy, only patchy alopecia was present (Figure, B). The patient exhibited no recurrence despite cessation of therapy after a 10-month follow-up period.

Patient 4—A 34-year-old man presented to the outpatient clinic with a 2-year history of tender, suppurative, firm nodules at the occipital area of the

Selected Literature Reporting Resolution of Dissecting Cellulitis of the Scalp Using Different Treatment Modalities

Oral isotretinoin^{2,6,7,14-19}

Oral clindamycin hydrochloride and topical isotretinoin⁴

Oral trimethoprim and topical clindamycin⁹

Oral oxytetracycline hydrochloride²⁰

Oral zinc sulfate^{21,22}

Topical isotretinoin²³

Scalp excision with skin graft^{1,24}

Laser treatment²⁵⁻²⁸

Radiation therapy^{29,30}

Systemic corticosteroids³¹

scalp. Patchy alopecia was present in the occipital region accompanied by pain and itching. Before admission to the hospital, the patient was treated with topical antibiotics, but no clinical improvement was noticed. Results of hematologic and biochemical profiles were normal. Cultures were negative for fungi and positive for *S aureus*. The patient received oral rifampicin 300 mg twice daily for 4 months followed by 0.5 mg/kg daily of oral isotretinoin until complete remission occurred within 4 months.

All Patients—After the isotretinoin treatment, results of hematologic profiles and liver function tests remained normal in all patients; cholesterol and serum triglyceride levels were within reference range. Biopsy was performed in all 4 patients. Histology taken from the edge of an active lesion of the scalp revealed characteristic features of acute and chronic folliculitis with polymorphonuclear infiltrate consistent with dissecting cellulitis.

Comment

Dissecting cellulitis of the scalp is thought to be caused by the combination of follicular occlusion, secondary infection, and deep inflammation. It has been correlated with the presence of *S aureus*,^{1,2} anaerobic bacteria,⁴ *Pseudomonas aeruginosa*,⁵ and trauma.⁶ Along with acne conglobata and hidradenitis suppurativa, all forming the follicular occlusion triad,^{7,8} dissecting

cellulitis has been associated with musculoskeletal disorders,⁷⁻¹⁰ keratitis-ichthyosis-deafness syndrome,¹¹ and pyoderma vegetans.¹² Aggressive squamous cell carcinoma also has been reported to arise in dissecting cellulitis of the scalp.¹³

Since the appearance of dissecting cellulitis of the scalp in the literature in the early 1950s, many therapeutic agents have been used for its treatment. Numerous case reports, describing either successful¹⁴⁻³¹ or unsuccessful^{7,9} management of the condition, have been published. One of the most commonly used drugs is oral isotretinoin at a dosage of 0.5 to 1 mg/kg daily for a period of several months and is considered one of the most effective treatments for dissecting cellulitis. Other treatments include topical and systemic administration of drugs as well as surgical methods. The various treatments being applied are concisely depicted in the Table. Regardless of the modality used, the disease often tends to exacerbate, usually needing alteration of treatment.

Rifampicin is a derivative of *Streptomyces mediterranei* and is bactericidal for both intracellular and extracellular microorganisms. It inactivates DNA-dependent RNA polymerase.³² It is particularly effective against staphylococci and its lipophilic property enables it to eradicate the bacteria, even within the phagocytes.³³ It has been successfully administered in folliculitis decalvans and tufted hair folliculitis^{34,35} as well as hidradenitis suppurativa.³⁶ To our knowledge, this is the first report of oral rifampicin used concomitantly with oral isotretinoin in dissecting cellulitis of the scalp. In all 4 patients, the progression of the disease ceased within 4 months of rifampicin administration, and oral isotretinoin contributed to resolution of the lesions and maintenance of the good result. However, further clinical studies are necessary to evaluate the efficacy of rifampicin and isotretinoin in dissecting cellulitis of the scalp.

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