

Dissecting cellulitis of the scalp: response to isotretinoin

L.SCERRI, H.C.WILLIAMS AND B.R.ALLEN

Department of Dermatology, University Hospital, Queen's Medical Centre NHS Trust, Nottingham NG7 2UH, U.K.

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Summary We report three patients with dissecting cellulitis of the scalp. Prolonged treatment with oral isotretinoin was highly effective in all three patients. Furthermore, long-term post-treatment follow-up in two of the patients has shown a sustained therapeutic benefit.

Dissecting cellulitis of the scalp (DCS), otherwise known as perifolliculitis capitis abscedens et suffodiens, is a rare, chronic suppurative disease that predominantly affects Afro-Caribbean men aged 18–40 years.¹ Although the aetiology of this condition is unknown, its association with acne conglobata and hidradenitis suppurativa, collectively termed the follicular occlusion triad, suggests a common basic pathogenic mechanism of follicular retention.² The therapeutic problem posed by DCS is reflected in the variety of therapies that have been tried with varying degrees of success. Reports of patients with DCS benefiting from isotretinoin are scarce, and reveal a tendency for recurrence when isotretinoin is tailed down or discontinued too early.^{3–5} We report the successful use of isotretinoin in three patients with DCS, leading to a satisfactory sustained remission.

Case reports

Patient 1

A 23-year-old man of Afro-Caribbean origin was referred with a 1-year history of tender, discharging swellings and patchy hair loss of the scalp. Various systemic antibiotics were prescribed by his general practitioner with no apparent benefit. The patient suffered from mild facial acne during his teens. On examination he had multiple crusted, boggy swellings virtually devoid of hair on the vertex and occipital scalp (Fig. 1a). The swellings assumed a cerebriform configuration in some areas, and brownish pus oozed out of follicular openings with gentle pressure. Pseudofolliculitis barbae was also noted. Culture of pus was negative for acid-fast bacilli and fungi. There was a moderate growth of *Staphylococcus epidermidis*. The erythrocyte sedimentation rate (ESR) was

35 mm/h. The full blood count, serum immunoglobulins, complement levels, neutrophil function tests and peripheral lymphocyte immunophenotyping were within normal limits, as were the serum zinc level, syphilis serology and skull X-ray. A lesional biopsy of the scalp revealed an extensive dermal lymphohistiocytic infiltrate, numerous giant cells and follicular plugging, in keeping with a diagnosis of DCS.

Following an unsuccessful 3-month trial of zinc sulphate 200 mg t.d.s., the patient was started on isotretinoin 1 mg/kg per day. After 4 months there was a marked reduction in the scalp swellings, and the dose of isotretinoin was thereafter reduced to 0.75 mg/kg per day. Isotretinoin was discontinued after 11 months, by which time the disease was inactive and a marked regrowth of hair had occurred (Fig. 1b). Ten months following cessation of isotretinoin the condition is still in remission.

Patient 2

A 26-year-old Afro-Caribbean male presented with a 2-year history of tender, discharging nodules on the scalp vertex. He had had facial acne since the age of 14. Vaseline was used frequently as a scalp application. On examination he had large, tender, fluctuant nodules, some in a linear distribution, becoming confluent over the vertex. Several sinuses from which pus and blood could be discharged, were present, along with secondary alopecia within the same area. There were comedones, papules and inflammatory cysts in the beard area, behind the ears, and in the pubic area. There was, however, no evidence of hidradenitis suppurativa. Marked posterior cervical lymphadenopathy was evident. Routine haematological and biochemical investigations were all normal except for a raised gamma-glutamyl transferase of 124 iu/l. Tests for neutrophil function were also normal. Bacteriological culture of

Correspondence: Dr Lawrence Scerri, Department of Dermatology, Royal South Hants Hospital, Brintons Terrace, Southampton SO14 0YG, U.K.

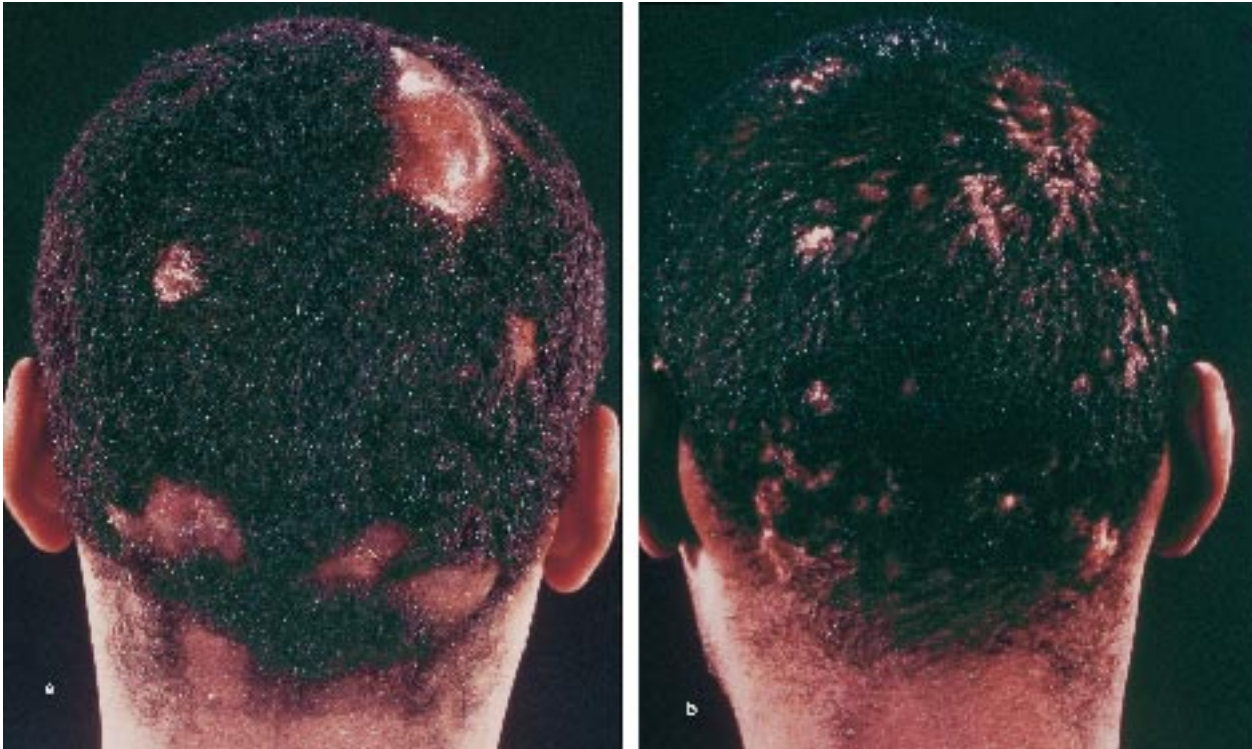


Figure 1. (a) Patient 1 before treatment with isotretinoin; (b) patient 1 at the end of 11 months of treatment with isotretinoin.

pus, and mycology of scalp hair, gave negative results. A scalp biopsy showed plugged pilosebaceous units and an intense chronic inflammatory infiltrate with foreign-body type giant cells around hair follicles, consistent with a diagnosis of DCS.

Discontinuation of Vaseline, a 6-month course of erythromycin 500 mg b.d. and a 4-month course of zinc sulphate 200 mg t.d.s. had no effect on the scalp disease. The patient was started on isotretinoin 1 mg/kg per day. Within 3 months, there was a marked resolution of the scalp swellings, but treatment was continued for a total of 9 months. The lymphadenopathy also settled. Within 1 year, new hair had started to grow within the areas of alopecia. Two and a half years later, the patient remained free from scalp disease and had had complete regrowth of hair.

Patient 3

A 24-year-old Afro-Caribbean man gave an 8-year history of recurrent painful swellings on the scalp and beard areas. The lesions gave an offensive discharge and were accompanied by extensive hair loss. He also complained of occasional boils in the axillae, groins and buttock area. Treatment with prolonged courses of erythromycin, minocycline and flucloxacillin had no

effect on the scalp disease. The patient constantly wore a hat in public because of embarrassment. Examination revealed numerous small boggy swellings, some of which discharged haemorrhagic pus, involving most of the scalp. There was also widespread crusting and patchy secondary alopecia of the scalp. A similar but milder process was observed throughout the beard area (Fig. 2). In the axillae and groins there was evidence of inactive hidradenitis suppurativa. Haematological abnormalities included haemoglobin 12.7 g/dl, white cell count $12.7 \times 10^9/l$ (predominantly neutrophils) and ESR 60 mm/h. The serum ferritin, vitamin B₁₂ and folate, as well as the serum zinc and routine biochemistry, were all normal. Bacteriological and mycological cultures of pus, hair and scalp tissue grew no pathogens. These negative microbiological results supported the clinical diagnosis of DCS.

The patient was commenced on isotretinoin 1 mg/kg per day. A slight deterioration due to *Staphylococcus aureus* infection of the scalp, 3 weeks later, was controlled with a 2-week course of flucloxacillin. Thereafter, his scalp and beard area showed a progressive reduction of abscess formation while the swellings flattened within 3 months and, at 5 months, there was evidence of hair regrowth and repigmentation of the white scarred areas on the scalp. Isotretinoin was continued for a total of 9



Figure 2. The pretreatment appearance of patient 3.

months. Two and a half years later approximately 70% of his hair has regrown and he no longer feels the need to wear a hat in public.

Discussion

The refractory nature of DCS is well recognized.¹ The various treatments used for DCS include systemic antibiotics,⁶ periodic drainage of fluctuant swellings,⁷ systemic steroids,⁸ zinc sulphate,⁹ X-ray epilation,¹⁰ excision with grafting,¹¹ and carbon dioxide laser.¹² Recommendation of these treatments is hampered either by a poor general response, isolated reports of successful treatment with insufficient validation, or a dismal cosmetic outcome. Zinc supplementation was tried unsuccessfully in patients 1 and 2, whilst all three cases received prolonged courses of systemic antibiotics without benefit.

The association of DCS with acne vulgaris, acne conglobata and hidradenitis suppurativa is well recognized.¹³ The presumed common pathogenic basis of follicular occlusion has led to the use of isotretinoin in DCS. Schewach-Millet *et al.*³ described a man with DCS, treated with isotretinoin 1 mg/kg per day, which was reduced to 0.5 mg/kg per day at 4 months due to a marked clinical improvement. However, further reduction in dose resulted in a relapse. Control was regained

when isotretinoin 0.5–0.75 mg/kg per day was recommenced, such that the total duration of treatment lasted 11 months. Details of long-term follow-up were not given. Taylor⁴ reported a man with DCS that resolved after a 3-month course of isotretinoin 0.5 mg/kg per day, but relapsed 3 months after stopping treatment. A further successful 3-month course of isotretinoin 1 mg/kg per day was again followed by a relapse 3 months later. Bjellerup and Wallengren⁵ described two brothers with DCS treated with isotretinoin. One received 6.5 months of isotretinoin 1 mg/kg per day with good effect, but the disease recurred 5 months later requiring a further 6 weeks of treatment. He was still in remission 6 months later. The other brother was treated with isotretinoin 1 mg/kg per day for a total of 6 months, and was still in remission 7 months later.

In our three cases, the short-term response of DCS to isotretinoin was excellent, as in previous reports. The therapeutic benefit was sustained throughout the course of treatment in all three cases, and we attribute this to use of isotretinoin in a dose of 0.75–1 mg/kg per day. Despite an early favourable response, the course of treatment was continued for a total of 11 months in patient 1, and for 9 months in patients 2 and 3. Furthermore, patients 2 and 3 showed a sustained remission for up to 2.5 years after finishing treatment.

We feel that isotretinoin should be considered as a first-line treatment of DCS. In order to minimize the risk of recurrence, we recommend that isotretinoin is administered, at least initially, at a dose of 1 mg/kg per day, and is maintained at a dose of not less than 0.75 mg/kg per day once clinical control is achieved. Furthermore, we advise that treatment is continued for at least 4 months after the disease appears to be clinically inactive.

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