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Title:
Refractory discoid lupus erythematosus responds to rituximab

Date:
2021-05-01

Citation:
Mumford, B. P., Assarian, Z., Oon, S. & Chong, A. H. (2021). Refractory discoid lupus erythematosus responds to rituximab. Australasian Journal of Dermatology, 62 (2), pp.e341-e343. https://doi.org/10.1111/ajd.13514.

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Running Title	DLE responds to rituximab
Keywords	Rituximab Lupus Erythematosus, Discoid Lupus Erythematosus, Cutaneous Lupus Erythematosus, Systemic
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Conflict of interest	None
Acknowledgements	None
Funding	None

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Article type : Case Letter

Refractory discoid lupus erythematosus responds to rituximab

We present the case of a 56-year-old Caucasian man with longstanding, refractory discoid lupus erythematosus (DLE) with significant response to B-cell depletion therapy with rituximab.

He was referred in 2012 with a chronic history of biopsy-proven DLE manifesting as erythematous scaly plaques and resultant scarring affecting the face, scalp, and neck. He was managed jointly with rheumatology but never displayed features of systemic lupus erythematosus (SLE). His antinuclear antibody titre was 1:160 with a speckled pattern; testing for renal disease, extractable nuclear antigen, double-stranded DNA and antiphospholipid antibodies was negative, and complement levels and inflammatory markers were normal. He had no other significant medical comorbidities but was an active cigarette smoker.

Treatments trialled for his DLE included topical and intralesional corticosteroids, topical tacrolimus, hydroxychloroquine, methotrexate, cyclosporin, mycophenolate, azathioprine, acitretin, thalidomide, prednisolone, dapsone, and Grenz ray therapy, all of which were minimally effective. In June 2019 two infusions of rituximab 1g were administered two weeks apart, and at a follow up appointment four months later an excellent response was observed (Figure 1 & Figure 2). Following an overseas holiday with significant sun exposure there was no exacerbation of his disease. At the time of his rituximab infusions, dapsone 50mg daily was his only systemic therapy and this continues to date.

Cutaneous lupus erythematosus (CLE) is a clinically heterogeneous entity with four recognised subtypes: acute cutaneous lupus erythematosus (ACLE), subacute cutaneous lupus erythematosus (SCLE), chronic cutaneous lupus erythematosus (CCLE) and lupus tumidus. DLE is the most common variant of CCLE. Sun exposure is a well-recognised cause of exacerbations[1]. Most patients with DLE do not develop systemic abnormalities but overlap with SLE occurs in a minority (16.7%)[2].

In a proportion of patients DLE is refractory to multiple treatments and off-label rituximab is sometimes used in these cases[3]. Rituximab is a monoclonal antibody directed against CD20 causing B cell depletion and is used off-label for

refractory SLE, with efficacy shown in registry data despite inconclusive results of large-scale randomised controlled trials[4]. There is conflicting evidence for the efficacy of rituximab in CLE which is largely derived from case reports and observational studies. Extrapolation of the findings of these studies to patients with isolated DLE is difficult, as they predominantly recruited SLE patients that exhibited cutaneous manifestations[3,5]. In addition, direct comparison between studies is difficult due to variable co-administration of other immunosuppressive agents, including cyclophosphamide[3,5].

Studies generally agree that rituximab appears most effective in the ACLE subtype but results in DLE are less consistent[1,5]. It has been suggested that differences in the immunopathogenic mechanisms of DLE and other subtypes may explain the variable response to rituximab[1,3,5]. ACLE and SCLE are more strongly associated with SLE and their greater responsiveness to B cell depletion is suggestive of a common immunopathogenesis[1,3]. Inflammation in DLE may be due to alternate, B cell-independent pathways which could explain the lack of response to rituximab[1]. However, our patient had an excellent response to rituximab despite DLE subtype, with no exacerbation of disease despite significant sun exposure. This case adds to the evidence that B cell depletion therapy may be an effective treatment in patients with refractory DLE and highlights the need for further investigation.

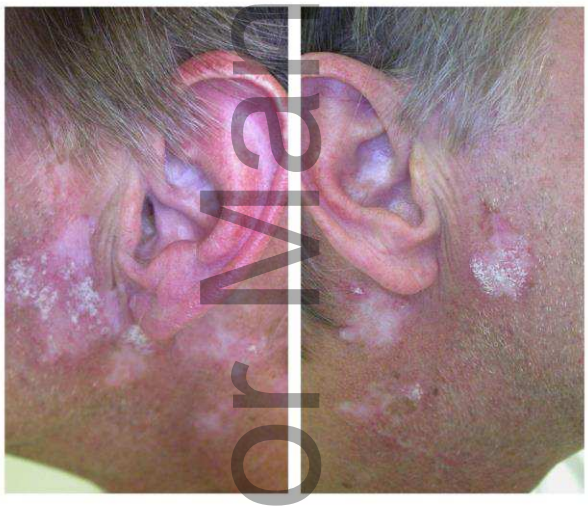

Figure 1: Discoid lupus erythematosus prior to treatment with rituximab.

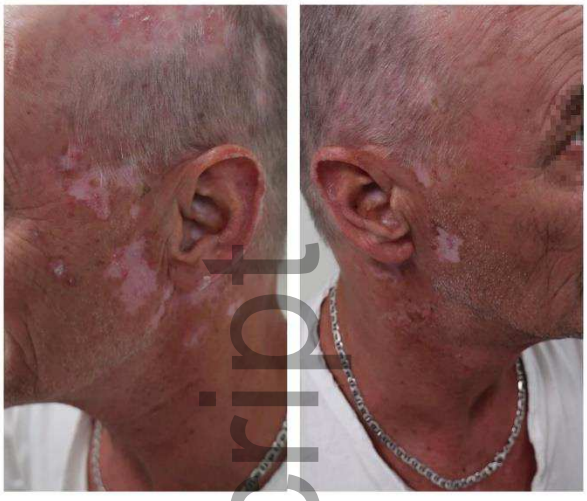

Figure 2:Discoid lupus erythematosus four months after treatment with rituximab. Note significant skin tan.

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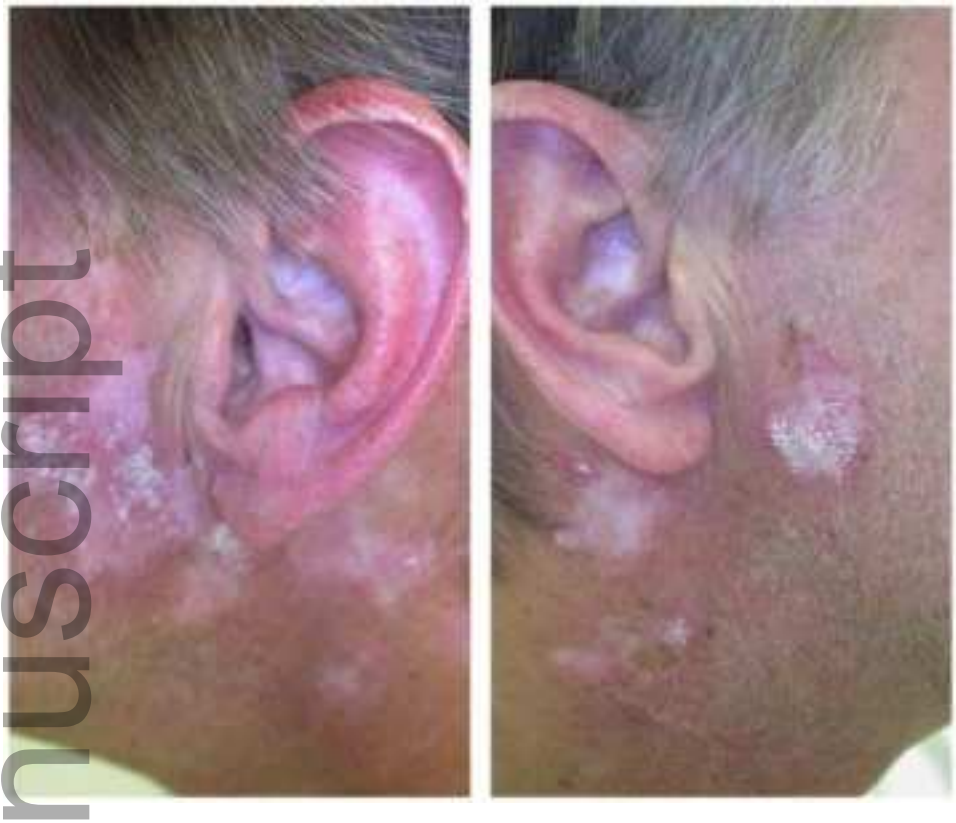

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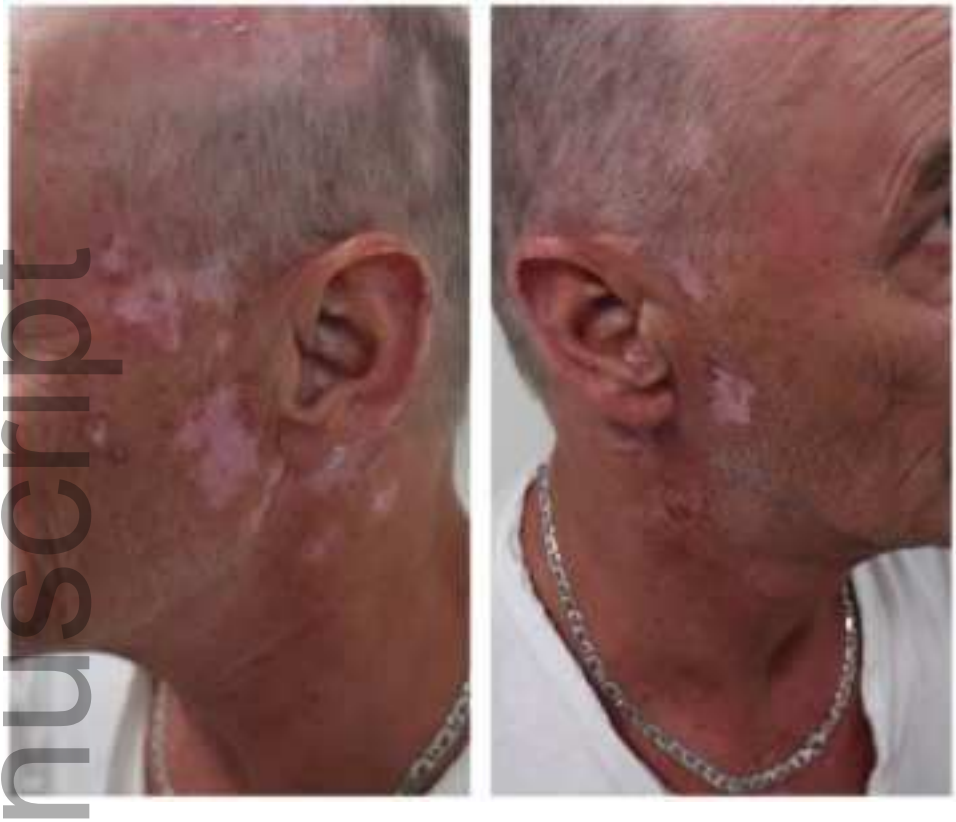

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