**TITLE: Successful treatment of refractory folliculitis decalvans
with secukinumab**

RUNNING TITLE: Secukinumab in folliculitis decalvans

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MANUSCRIPT:

A 30-year-old lady presented to our clinic with a 14-year history of folliculitis decalvans. She had no significant past medical history. She first developed the condition at the age of 15 years with a small patch of hair loss on the vertex of the scalp which gradually enlarged. She had previously had an anaphylactic reaction to intralesional triamcinolone. Other treatments which had been trialled with minimal improvement included topical corticosteroids, several oral antibiotics including rifampicin, fucidin and doxycycline and a 2-month course of isotretinoin. Examination revealed a large oval patch of hair loss with erythema, scaling and crusting.

Cyclosporin 10mg daily was commenced and over a 12-month period the dose was slowly increased to 100mg twice daily. Concurrent treatments included laser hair removal therapy, minocycline 50mg daily, topical clobetasol dipropionate 0.05% and an antiseptic shampoo. After 9 months, there was no improvement in her condition and she elected to undergo a central scalp reduction procedure, where a 14cm x 3.5cm scarred area of scalp was excised. Three months later, tofacitinib 2.5mg sublingually was added to the treatment regimen. After a further 12 months of combination therapy there was no improvement in her condition and thus tofacitinib was ceased.

Secukinumab is a human monoclonal antibody which selectively binds to interleukin-17A (IL-17A) and inhibits its interaction with the IL-17 receptor¹. It has been approved for use in moderate to severe plaque psoriasis, psoriatic arthritis and ankylosing spondylitis¹.

Secukinumab subcutaneous injections were acquired through compassionate supply from the manufacturer in this case. Screening investigations performed prior to commencement of secukinumab, including viral hepatitis serology and QuantiFERON-TB Gold, were negative.

Figure 1 illustrates the lesion prior to secukinumab therapy. Secukinumab 300mg was administered subcutaneously at weeks 0, 1, 2, 3 and 4 followed by 300mg every 4 weeks thereafter. This is the recommended dosing regimen for plaque psoriasis¹. After 2 months of treatment there was some clinical improvement and cyclosporin was ceased. After 4 months of treatment there was significant improvement in her condition with a reduction in active folliculitis decalvans (Figure 2). Treatment with 4-weekly injections was continued with a sustained response after 7 months. There were no adverse effects.

Folliculitis decalvans is a scarring alopecia which often begins with a patch of hair loss on the vertex scalp with pustules, crusts and tufted hairs². It may affect both males and females. The onset of symptoms before the age of 25 years and the presence of pustules in the alopecic patch are associated with more advanced disease². Conventional treatments include antibiotics, corticosteroids and isotretinoin. Successful treatment of folliculitis decalvans with biologic therapy using the tumour necrosis factor-alpha (TNF- α) inhibitor adalimumab has previously been described in case reports^{3,4}. This case report demonstrates that secukinumab may be a potential treatment option for treatment-refractory folliculitis decalvans, although larger studies are needed to support this theory.

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FIGURE LEGEND:

Figure 1: Scalp lesion prior to secukinumab therapy

Figure 2: Scalp lesion after 4 months of treatment with secukinumab

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