

# **Title: Tildrakizumab in the treatment of PASH syndrome: A potential novel therapeutic target**

**Short running title: PASH syndrome and tildrakizumab**

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## **Conflict of interest**

The dermatology department at Royal Melbourne Hospital had received compassionate supplies for tildrakizumab from Sun Pharma.

Author George Varigos had received an unrestricted research grant from Sun Pharma outside the submitted work

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# **Tildrakizumab in the treatment of PASH syndrome: A potential novel therapeutic strategy**

## Case Letter

2019

# **Tildrakizumab in the treatment of PASH syndrome: A potential novel therapeutic strategy**

### **Case presentation:**

PASH syndrome is a rare auto-inflammatory condition characterised by the presence of pyoderma gangrenosum (PG), acne and hidradenitis suppurativa (HS)(1). Management of this condition involves lifestyle approaches such as weight loss and smoking cessation, and, a combination of oral antibiotics, systemic therapies, biologics such as adalimumab and surgical procedures(2). Tildrakizumab is a monoclonal antibody which blocks interleukin-23, a cytokine critical in chronic auto-inflammation of the skin(3). Its use in the treatment of this condition has not been documented. We present a case of managing PASH syndrome with tildrakizumab in Australia.

A 50-year-old-man with PASH syndrome was admitted to the Royal Melbourne Hospital with a flare of his HS. He reported increasing pain over his axillae and scrotal erythematous nodules, and, developed enlarging abscesses with discharge over the scrotum. He was first diagnosed with PASH syndrome at the age of 43, with acne affecting his back and Hurley stage 3 HS of the scrotum, gluteus, thighs and axillae. His baseline abscess and nodule (AN) count was 68. His PG involved the lower legs but has remained quiescent on long-term oral prednisolone 15mg daily. Previous attempts to wean his prednisolone have resulted in a flare of his PG and HS. His prior treatment included methotrexate, infliximab, anakinra, isotretinoin and more recently, vancomycin, clindamycin and 6 weeks of ertapenem. The antibiotics partially reduced his AN count to 30.

At the time of his hospital admission, the patient had an AN count of 45. His Dermatology Life Quality Index (DLQI) score was 26, and a visual analogue scale (VAS) pain score of 10 was reported. He was treated initially with multiple scrotal wound washouts, debridement and negative pressure dressings before having a split thickness skin graft to the scrotum. Post-surgery, his antibiotics were ceased and he was commenced on two doses of tildrakizumab 100mg injections, four weeks apart, and subsequently on four-weekly 200mg injections.

Two-months after commencing tildrakizumab, the patient demonstrated a significant reduction in his AN count from 45 to 6, although, his VAS and DLQI scores were still high at 9 and 13 respectively. Further clinical improvement was observed at month 5 (see figures 1 and 2), with an AN count of 5 and VAS score of 7, but a DLQI score of 19. He was able to slowly wean his prednisolone at month 2 over 3 months with no relapse of his PG. During this time, he reported no adverse events and did not have any haematologic, hepatic or renal laboratory abnormalities. There were no other concomitant procedures or treatment prescribed and the patient did not report any other lifestyle or behavioural changes.

Although, the improvement in the patient's HS could partially be contributed by the surgical procedures he underwent prior to starting tildrakizumab, this case represents a promising therapeutic strategy for controlling PG and treating HS in PASH syndrome. It would be important, however, to gather more clinical data in the future, evaluating its response in a larger cohort of patients, to further determine its safety and efficacy.

**References:**

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## Figures

Figure 1. Clinical photograph of the patient's right axilla prior to starting tildrakizumab

Figure 2. Clinical photograph of the patient's right axilla 5 months after starting tildrakizumab

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