HAIR DISORDERS

TREATMENT OF ALOPECIA UNIVERSALIS WITH TOPICAL JANUS KINASE (JAK) INHIBITORS – A DOUBLE BLIND, PLACEBO AND ACTIVE CONTROLLED PILOT STUDY.

L Bokhari [(1)] *- R Sinclair* [(1)]

Sinclair Dermatology, Sinclair Dermatology, Melbourne, Australia [(1)]

Introduction: Oral Janus kinase (JAK) inhibitors are currently being investigated in phase II and phase III clinical trials for several inflammatory skin diseases including alopecia areata (AA). Topical JAK inhibitors have been investigated in atopic dermatitis, psoriasis, and AA. While a number of case series using topical JAK inhibitors in AA have been published, to date there have been no placebo-controlled, double blind studies examining hair regrowth with topical JAK inhibitors in patients with AA universalis.

Objective: To determine the efficacy of topical JAK inhibitors in the treatment of AA.

Methods: We conducted a phase I, 28 week prospective, placebo-controlled, double-blind study in patients with alopecia universalis investigating hair regrowth with two topical JAK inhibitors, 2% tofacitinib and 1% ruxolitinib. Topical clobetasol dipropionate 0.005% was the active comparator while vehicle was used as the placebo control. Sixteen patients were recruited for the study.

Results: Six patients demonstrated partial hair regrowth in areas treated with 2% tofacitinib ointment applied twice daily. Five patients demonstrated partial hair regrowth in the areas treated with 1% ruxolitinib ointment. Ten patients demonstrated partial hair regrowth in the areas treated with clobetasol dipropionate 0.05% ointment. No regrowth was observed in the placebo treated area. Interestingly, generalized hair regrowth was observed in two patients. One patient had 100% regrowth over his entire scalp and eyebrows by week 24 but relapsed after 12 weeks. A second patient also experienced generalized scalp regrowth and significant eyebrow growth and continued to maintain growth 14 weeks later.

Conclusion: Our findings suggest that topical JAK inhibitors could be developed as a potential new treatment for AA and alternative to clobetasol dipropionate 0.05% ointment.