**Characterization of a model of alopecia areata in C3H/HeJ mice induced by adoptive transfer of lymph node cells**

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Alopecia Areata (AA) is an autoimmune disease characterized by acute onset of non-scarring hair loss produced by the damage of hair follicle by T cells. The C3H/HeJ strain of mice spontaneously develops alopecia and has been commonly used in animal models of the disease.

In the present study, lymph node cells of spontaneous alopecic C3H/HeJ mice were obtained, expanded, and inoculated to syngenic healthy animals, to increase the number of alopecic mice available. The model was further characterized assessing the expression of different genes compared to human AA patients, observing, in both cases, an increase of disease related markers such as Cd8, Cxcl9, Cxcl10 and Klrk1. In addition, in alopecic animals an increase of CD8+NKG2D+ cells in lymph nodes was detected by flow cytometry, as well as CD8+ cells infiltration in skin by immunohistochemistry.

JAK inhibitors are efficacious in AA patients, therefore, in the pharmacological characterization of the model, the effect of ruxolitinib and baricitinib was compared. Both treatments reduced the alopecia score and CD8+ cells infiltration in the skin, as well as expression of Cd8, Cxcl9, Cxcl10, Cxcl11, Klrk1, Ifng and Il13, being baricitinib more effective.

Overall, our results show that this model replicates several AA features and respond to oral JAKi, making it suitable for evaluating novel drugs for AA.