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The Relative Efficacy and Safety of Therapies for Alopecia Areata: Protocol for a Network Meta-Analysis Study

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ADMINISTRATIVE INFORMATION

Support - No funding will be received for the conduct of this study.

Review Stage at time of this submission - Piloting of the study selection process.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202510120

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27January 2025 and was last updated on 27 January 2025.

INTRODUCTION

Review question / Objective Alopecia areata (AA) is a form hair loss that results from dysfunctional immunometabolism. The effects of carious agents on AA have been studies in numerous clinical trials. However, many of these agents have not been directly compared in head-to-head trials. The proposed study aims to determine the relative efficacy and safety of janus kinase inhibitors (JAKIs), dupilumab and apremilast for alopecia areata.

Rationale Besides being a cosmetic issue, alopecia area is also concerning because studies have linked a diagnosis of this condition with other maladies (e.g., ankylosing spondylitis, inflammatory bowel disease, etc.). Furthermore, numerous treatment options have surfaced in the literature; so, a NMA study allows for relative comparison in the absence of data from head-to-head trials.

Condition being studied Alopecia areata.

METHODS

Search strategy
PubMed
(alopecia[Title]) AND ((effect* OR effic* OR "impact") AND ((alopecia areata[MeSH Terms]) OR ("alopecia"[Title/Abstract] AND "areata"[Title/Abstract])))
Scopus
(ABS ("alopecia areata") AND ABS ("impact" OR effect* OR effic*).

Participant or population Persons diagnosed with alopecia areata.

Intervention Monotherapy with JAKI, apremilast and dupilumab.

Comparator Vehicle, placebo or other active comparators (JAKIs, apremilast and dupilumab).

Study designs to be included Randomized controlled trials.

Eligibility criteria Studies eligible for our NMAs were randomized controlled trials published in English language that investigated the efficacy of monotherapy with JAKIs, apremilast and dupilumab.

Information sources PubMed, Scopus, and reference mining.

Main outcome(s)
For efficacy:
(1) 'percentage reduction in SALT score at 24 weeks from baseline',
(2) 'number of participants achieving a SALT score of 20 (or less) at 24 weeks from baseline',
(3) 'number of participants achieving a SALT score of 10 (or less) at 24 weeks from baseline', and
(4) 'number of participants achieving at least a 90% relative reduction in SALT at 24 weeks from baseline
For safety:
'discontinuation due to adverse events (AEs) 24 weeks from baseline'.

Quality assessment / Risk of bias analysis Evidence quality will be assessed using Cochrane Collaboration's Risk of Bias (RoB) tool.

Strategy of data synthesis Extracted outcome data will be analyzed using Bayesian network meta-analyses with non-informative priors.

Subgroup analysis The results will determine if or how the conduct of subgroup analyses would ensue.

Sensitivity analysis The results will determine if or how the conduct of sensitivity analyses would ensue.

Language restriction English.

Country(ies) involved Canada.

Keywords Janus Kinase Inhibitor; Alopecia Areata; Network Meta-Analysis; Severity of Alopecia Tool; Adverse Events.

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