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Cost-Effectiveness Analysis of 1.5% Ruxolitinib Cream for the Treatment of Patients With Atopic Dermatitis in Canada

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Objective

- To assess the cost-effectiveness of 1.5% ruxolitinib cream for the treatment of AD in patients aged ≥12 years whose disease is not adequately controlled with conventional topical prescription therapies (topical corticosteroids, topical calcineurin inhibitors) or when those therapies are not advisable, from the Canadian healthcare payer perspective.
  - The reference case analysis aims to determine if 1.5% ruxolitinib cream is cost-effective compared with vehicle for patients with mild to moderate AD (the intent-to-treat [ITT] population of TRuE-AD studies).
  - A scenario analysis aims to determine if 1.5% ruxolitinib cream is cost-effective compared with active treatments, dupilumab, and upadacitinib, for patients with systemic-eligible moderate AD.

Conclusions

- **1.5% ruxolitinib cream is a highly cost-effective option for the treatment of patients aged ≥12 years with mild-to-moderate AD, including patients with systemic-eligible moderate AD.**
  - **In the reference case (mild-to-moderate AD), 1.5% ruxolitinib cream was the dominant treatment option compared with vehicle.**
    - **Cost savings associated with 1.5% ruxolitinib cream were driven primarily by limiting progression to more expensive systemic therapies such as dupilumab, thereby reducing overall drug acquisition costs.**
  - **In the scenario analysis (systemic-eligible moderate AD), 1.5% ruxolitinib cream was the dominant treatment option compared with dupilumab and upadacitinib and was highly cost-effective compared with vehicle.**
    - **As there were no cost offsets associated with a subsequent line of therapy, the incremental costs of 1.5% ruxolitinib cream were higher compared with vehicle; however, it was more effective, with a gain of 1.70 incremental QALYs.**
    - **1.5% ruxolitinib cream was also highly cost-effective compared with abrocitinib in the analysis based on EASI response criteria.**

Disclosures

R.H. is an employee of Incyte Corporation, USA. M.L. is an employee of Incyte Biosciences Canada. L.P., A.H-M., and H.C. have no competing financial interests to declare.

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References

1. Weidinger S, Novak N. *Lancet*. 2016;387(10023):1109-1122. **2.** Eczema Society of Canada. Atopic dermatitis quality of life report. Available from: https://altogethereczema.org/images/files/ESC_QUALITY_OF_LIFE_REPORT_2017.pdf **3.** Eczema Society of Canda. The atopic dermatitis patient journey. Available from: https://eczemahelp.ca/wp-content/uploads/2023/06/ESC-Atopic-Dermatitis-Patient-Journey-Report-2020.pdf **4.** Dhadwal G, et al. *J Cutan Med Surg*. 2018;22(1_suppl):21S-29S. **5.** Government of Canda. Canadian labelling for all JAK inhibitors to include risks of serious heart-related problems, fatal blood clots and cancer. Available from: https://recalls-rappels.canada.ca/en/alert-recall/canadian-labelling-all-jak-inhibitors-include-risks-serious-heart-related-problems **6.** IQVIA. Delta PA Ontario Costs. January 2023. **7.** CADTH. Reimbursement Recommendation: Upadacitinib (Rinvoq). Available from: https://www.cda-amc.ca/sites/ default/files/DRR/2022/SR0685REC-Rinvoq%20AD-KH_BF-KH-meta.pdf **8.** Government of Canada. Job Bank: Registered Nurse (R.N.) in Canada. Available from: https://www.jobbank.gc.ca/marketreport/wages-occupation/993/CA **9.** Ontario Ministry of Health. Schedule of benefits for physician services. Available from: https://www.ontario.ca/files/2024-08/moh-schedule-benefit-2024-08-30.pdf **10.** Ontario Ministry of Health. Schedule of benefits for laboratory services. Available from: https://www.ontario.ca/ files/2024-01/moh-ohip-schedule-of-benefits-laboratory-services-2024-01-24.pdf **11.** Papp L, et al. SKIN *The Journal of Cutaneous Medicine*. 2021;5(1)s8. **12.** Gooderham, et al. A systematic literature review and network meta-analysis of 1.5% ruxolitinib cream vs other pharmacologic agents in the treatment of atopic dermatitis. Presented at: ISPOR 2024; May 5-8, 2024; Atlanta, GA.

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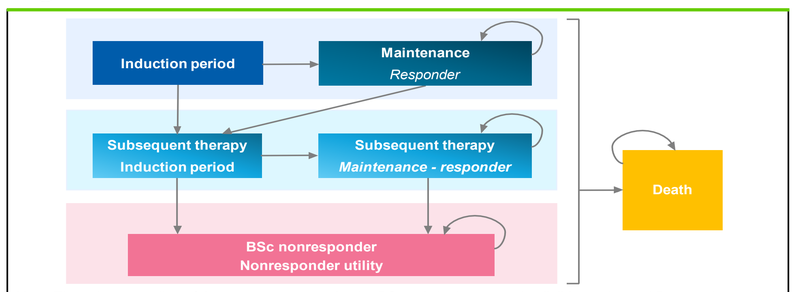
Introduction

- Atopic dermatitis (AD) is a burdensome disease that significantly impacts a patient's health-related quality of life (HRQoL).[1]
- Topical therapies, such as topical corticosteroids and topical calcineurin inhibitors, are standard-of-care for most patients with mild or moderate AD; however, these therapies may fail to improve the skin and are often limited by local adverse events (AEs).[2,3]
- Systemic treatment with biologics (dupilumab) or oral Janus kinase (JAK) inhibitors (upadacitinib, abrocitinib) may be therapeutic options depending on disease severity; however, there are access restrictions, and these therapeutics are costly.[4,5]
- Ruxolitinib cream, a selective inhibitor of JAK1 and JAK2, is a safe and efficacious nonsteroidal topical cream with a new, yet proven mechanism of action.

Methods

- A semi-Markov model was developed with 4-week cycles and a lifetime horizon (**Figure 1**).
  - Up to 2 lines of treatment were allowed with induction and maintenance phases and a final line of best supportive care (BSc).
  - Response was assessed at the end of the induction period based on an Investigator's Global Assessment (IGA) score of 0/1 with a ≥ 2-grade improvement from baseline.
    - Responders entered the maintenance state until discontinuation due to lack of efficacy or AEs.
    - Nonresponders transitioned to a subsequent therapy (dupilumab in the reference case) or directly to BSc (as assumed in the scenario analysis).
    - Patients in the BSc health state were assumed to receive emollient only at zero cost.
  - An additional scenario based on Eczema Area and Severity Index (EASI) response criteria was conducted and included abrocitinib; however, detailed results are not presented here.
- Costs of therapy, treatment administration, disease management, and AE costs were included and obtained from the IQVIA drug database[6] and public sources.[7-10]
- Health state utilities were informed by EQ-5D values derived from the TRuE-AD studies, with disutilities applied for AEs and AD flares.
- Efficacy for the reference case was informed by direct evidence from the TRuE-AD1 and TRuE-AD2 studies.[11]
- A network meta-analysis[12] informed the efficacy of comparators and subsequent treatments among patients with systemic-eligible moderate AD (defined as IGA 3, EASI ≥16, body surface area ≥10%).
- Costs and effects were discounted at 1.5% per year.
- The reference case and scenario analyses were conducted probabilistically with 2,000 iterations.

Figure 1: Model Structure



Note: The subsequent line of therapy was assumed to be BSc only in the systemic-eligible moderate AD scenario analyses
BSc, best supportive care

Results

Reference Case - 1.5% Ruxolitinib Cream vs. Vehicle (TRuE-AD ITT Population)

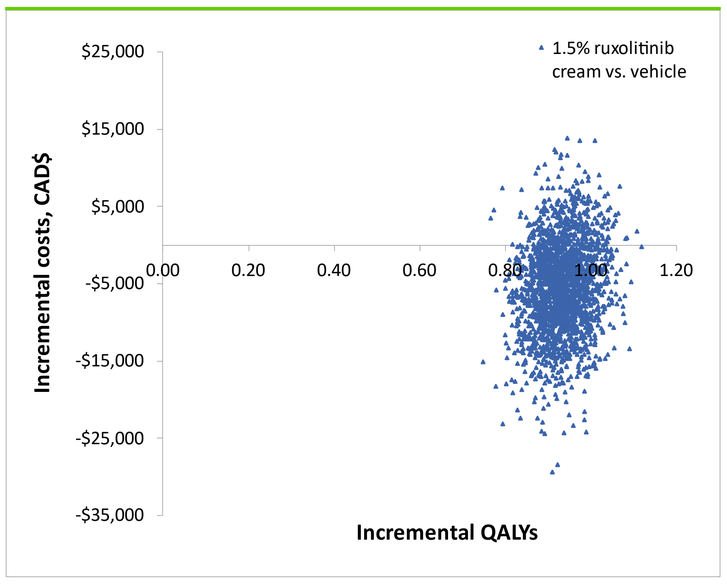
- Compared with vehicle, 1.5% ruxolitinib cream was more effective (+0.93 quality-adjusted life-years [QALYs]) and had lower total costs (–CAD$5,295) (**Table 1**).
- The probabilistic scatter plot indicates that 1.5% ruxolitinib cream was more effective in 100% of all probabilistic iterations and more effective and less costly in 82% of the probabilistic iterations (**Figure 2**).

Table 1: Summary of Reference Case Results (Discounted)

	1.5% ruxolitinib cream	Vehicle	1.5% ruxolitinib cream vs. vehicle
LYs			
Total mean LYs	**28.04**	**28.04**	**0.00**
QALYs			
Model line 1	7.34	0.46	6.88
Model line 2	2.65	3.46	-0.81
BSc nonresponder	12.88	18.04	-5.16
Adverse events*	(0.21)	(0.24)	0.03
Total mean QALYs	**22.65**	**21.72**	**0.93**
Costs, CAD$			
Drug acquisition costs	$96,865	$100,683	-$3,817
Resource costs	$7,227	$8,711	-$1,484
Adverse event costs*	$718	$712	$6
Total mean costs	**$104,811**	**$110,106**	**-$5,295**
ICER (cost/LY)			Equal LYs
ICUR (cost/QALY)			Dominant

*Atopic dermatitis flares were included as disease-specific events
CAD$, Canadian dollars; ICER, incremental cost-effectiveness ratio; ICUR, incremental cost-utility ratio; LY, life-year; QALY, quality-adjusted life-year

Figure 2: Scatter Plot for Probabilistic Analysis



CAD$, Canadian dollars; QALY, quality-adjusted life-year

Scenario Analysis - 1.5% Ruxolitinib Cream vs. Dupilumab vs. Upadacitinib (Systemic-Eligible Moderate AD Population)

- In patients with systemic-eligible moderate AD, 1.5% ruxolitinib cream was the dominant treatment option when compared with dupilumab and upadacitinib and was highly cost-effective compared with vehicle (**Table 2**).

Table 2: Summary of Incremental Scenario Analysis Results (Discounted)

Treatment	Total costs, CAD$	Total QALYs	Incremental costs, CAD$ (vs referent)	Incremental QALYs (vs referent)	ICUR (vs referent)	Incremental costs, CAD$ (sequential)	Incremental QALYs (sequential)	Incremental analysis
Vehicle	$9,325	19.69	$0	0.00	-	-	-	-
1.5% ruxolitinib cream	$68,397	21.39	$59,072	1.70	$34,690	$59,072	1.70	**$34,690**
Upadacitinib	$92,526	20.26	$83,201	0.57	$145,595	$24,130	-1.13	**Dominated by 1.5% ruxolitinib cream**
Dupilumab	$111,058	20.12	$101,733	0.43	$238,115	$18,532	-0.14	**Dominated by 1.5% ruxolitinib cream, upadacitinib**

CAD$, Canadian dollars; ICUR, incremental cost-utility ratio; QALY, quality-adjusted life-year