Efficacy and safety of risankizumab for moderate-to-severe plaque psoriasis in clinical practice: A 16-week Canadian retrospective multicenter cohort study

To the Editor: Risankizumab is a humanized IgG1 monoclonal antibody that binds to the p19 subunit of interleukin 23 with remarkable safety and efficacy for treatment of moderate-to-severe plaque psoriasis in phase 3 randomized controlled trials (RCTs).[1-3] Data on how findings from RCTs translate to real-world experience are limited.[4] To better understand the safety and efficacy of risankizumab at 16 weeks in clinical practice, a retrospective chart review was conducted at 5 academic centers and 2 community practices in Canada.

Charts of patients with moderate-to-severe plaque psoriasis treated with subcutaneous injections of risankizumab (150 mg at weeks 0 and 4, then every 12 weeks thereafter) were reviewed. Psoriasis Area and Severity Index (PASI) and/or Physician Global Assessment (PGA) scores after 16 weeks of risankizumab treatment were collected. Risankizumab efficacy outcomes were defined as met if one of the following criteria was achieved: a 75% reduction in PASI (PASI75) or a PGA score of 0 (clear) or 1 (almost clear) (PGA 0/1) when PASI was not documented. Safety was assessed by patient-reported adverse events (AEs). Institutional review board approval was obtained for the conduct of this study (Sunnybrook Health Sciences Centre:205-2018; Women's College Hospital:2018-0079-E).

Eighty-three patients (male, 61.4%; mean age, 48.7 ± 15.5 years) were included in the analysis with a baseline PASI of 10.0 ± 5.8, PGA of 3.2 ± 0.8, and body surface area involvement of 11.9 ± 12.7% (Table I). Common previously failed treatments included topical therapy (92.8%), phototherapy (55.4%), methotrexate (41.0%) and apremilast (22.9%); 56.6% were biologic-naive. The most common previously failed biologics were ustekinumab (15.7%) and adalimumab (15.7%). Overall, 71 of 83 patients (85.5%) met the primary efficacy end point of PASI75 or PGA 0/1 at week 16. Of the 47 biologic-naive patients, 43 (91.5%) responded to risankizumab and of the 36 patients that previously failed biologic therapy, 28 (77.8%) responded to risankizumab. Of the 13 patients with prior failure to

Table I. Characteristics of study population at initiation of risankizumab treatment and risankizumab efficacy and safety at 16 weeks of treatment

Characteristics	Value
Basic demographics	
Male, n (%)	51/83 (61.4)
Female, n (%)	32/83 (38.6)
Mean age, y ± SD	48.7 ± 15.5
Comorbidities, n (%)	
Hypertension	17/83 (20.5)
Dyslipidemia	17/83 (20.5)
Diabetes	11/83 (13.3)
Psoriatic arthritis	9/83 (10.8)
Hypothyroidism	5/83 (6.0)
Asthma	4/83 (4.8)
Osteoarthritis	3/83 (3.6)
GERD	3/83 (3.6)
Depression	3/83 (3.6)
Allergic rhinitis	2/83 (2.4)
Atopic dermatitis	2/83 (2.4)
Rosacea	2/83 (2.4)
Epilepsy	2/83 (2.4)
Anxiety	2/83 (2.4)
Crohn's disease	2/83 (2.4)
COPD	2/83 (2.4)
Fibromyalgia	1/83 (1.2)
Urticaria	1/83 (1.2)
Plantar fasciitis	1/83 (1.2)
Vitiligo	1/83 (1.2)
Enthesitis	1/83 (1.2)
Cerebral palsy	1/83 (1.2)
Cardiomyopathy	1/83 (1.2)
Borderline personality disorder	1/83 (1.2)
ADHD	1/83 (1.2)
Schizophrenia	1/83 (1.2)
Psoriasis characteristics	
Severity	
Mean PASI (Score ± SD)	10.0 ± 5.8
Mean PGA (Score ± SD)	3.2 ± 0.8
Mean BSA (% ± SD)	11.9 ± 12.7
History of previously failed treatments, n (%)	
Topicals	77/83 (92.8)
Phototherapy	46/83 (55.4)
Methotrexate	34/83 (41.0)
Apremilast	19/83 (22.9)
Acitretin	11/83 (13.3)
Prednisone	5/83 (6.0)
Cyclosporine	5/83 (6.0)
Systemic triamcinolone acetonide	2/83 (2.4)
Number of previously failed topical therapy, mean ± SD	2.7 ± 1.5
Number of previously failed systemic therapy, mean ± SD	0.9 ± 0.9

Continued

Table I. Cont'd

Characteristics	Value
Number of previously failed biologic therapies per patient, n (%)	
0	47/83 (56.6)
1	15/83 (18.1)
2	13/83 (15.7)
3	2/83 (2.4)
4	3/83 (3.6)
5	2/83 (2.4)
6	1/83 (1.2)
Mean ± SD	0.9 ± 1.4
Primary efficacy end point (≥PASI75 or PGA 0/1) at 16 weeks, n (%)	
All	71/83 (85.5)
Biologic-naïve	43/47 (91.5)
Previously filed 1 or more biologic treatments	28/36 (77.8)
Previously failed ustekinumab	11/13 (84.6)
Previously failed adalimumab	12/13 (92.3)
Previously failed ixekizumab	9/11 (81.8)
Previously failed guselkumab	7/10 (70.0)
Previously failed secukinumab	5/10 (50.0)
Previously failed etanercept	5/6 (83.3)
Previously failed certolizumab	2/4 (50.0)
Previously failed brodalumab	0/4 (0.0)
Previously failed efalizumab	1/1 (100.0)
Previously failed tildrakizumab	1/1 (100.0)
Adverse events, n (%)	
Fatigue	3/83 (3.6)
Headache	3/83 (3.6)
Nausea	2/83 (2.4)

ADHD, Attention deficit hyperactivity disorder; *BSA*, body surface area; *COPD*, chronic obstructive pulmonary disease; *GERD*, gastroesophageal reflux disease; *PASI*, psoriasis area and severity index; *PGA*, physician's global assessment.

ustekinumab, 11 (84.6%) responded to risankizumab. Similarly, of the 13 patients with prior failure to adalimumab, 12 (92.3%) responded to risankizumab. During the 16 weeks of treatment, risankizumab was well-tolerated without any severe AEs reported. The most frequently noted AEs were fatigue (3.6%, 3/83), headache (3.6%, 3/83), and nausea (2.4%, 2/83).

Previous real world evidence with other biologics suggests that efficacy may differ when compared to phase 3 clinical trials, likely due to the exclusion of medically challenging patients such as those who had failed prior biologics in clinical trials.[5] In this regard, 56.6% of the patients in our cohort were biologic-naive, similar to the 59% to 66% reported in phase 3 clinical trials.[1] Consequently, our data show that in clinical practice, a similar proportion of patients (85.5%) responded to risankizumab compared to its phase 3 clinical trials which reported 83.7% to 87.8% of patients achieving PGA 0/1 after 16 weeks of treatment.[1] Our study, however, is limited by heterogenous data, modest sample size, follow-up time, and lack of a control group.

In summary, the safety and efficacy of risankizumab for the treatment of plaque psoriasis in clinical practice was comparable to that reported in RCTs. Larger studies are needed to confirm our results.

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Conflicts of interest

Dr. Jensen Yeung has been a speaker, consultant, and investigator for AbbVie, Allergan, Amgen, Astellas, Boehringer Ingelheim, Celgene, Centocor, Coherus, Dermira, Eli Lilly, Forward, Galderma, GSK, Janssen, Leo, Medimmune, Merck, Novartis, Pfizer, Regeneron, Roche, Sanofi Genzyme, Takeda, UCB, Valeant, and Xenon. Dr. Ronald Vender has participated in clinical trials, and has received honoraria for acting as a consultant and/or as a

speaker at events sponsored by AbbVie, Amgen, Boehringer Ingelheim, Celgene, Galderma, GSK, Janssen, LEO Pharma, Eli Lilly, MSD, Novartis, UCB, and Pfizer. Dr. Vimal H. Prajapati has been an advisor, consultant, investigator and/or speaker for AbbVie, Actelion, Amgen, Aralez, Arcutis, Asana, Aspen, Bausch Health, Boehringer Ingelheim, Bristol-Myers Squibb, Celgene, Cipher, Concert, Dermira, Eli Lilly, Galderma, GlaxoSmithKline, Homeocan, Incyte, Janssen, LEO Pharma, L'Oreal, Medexus, Novartis, Pediapharm, Pfizer, Regeneron, Sanofi Genzyme, Sun Pharma, Tribute, UCB, and Valeant.

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