26th RCD 2024
MEDICAL & COSMETIC DERMATOLOGY : GLOBAL PANOROMA
2-5 October 2024 Kuala Lumpur Convention Center

286

Safety and Side Effects of Biologic Treatment for Psoriasis: 11 years data from the Malaysian Psoriasis Registry

GP Chan[1], S Robinson[2], MM Tang[3]
[1] *Hospital Selayang, Selangor, Malaysia*
[2] *Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*
[3] *Hospital Umum Sarawak, Sarawak, Malaysia*

Kami Sedia Membantu · KEMENTERIAN KESIHATAN MALAYSIA

INTRODUCTION

The rapidly evolving treatment landscape of psoriasis (PsO) has rendered more efficacious and safer biologic agents.[1] This study aims to describe the demographics, clinical characteristics, treatment, and side effects of biologic treatment in PsO.

MATERIALS AND METHODS

This is a cross-sectional study of patients with PsO on biologic therapy registered to the Malaysian Psoriasis Registry (MPR) between 2011 and 2021 from 38 sites nationwide. Patients of all ages were included.

RESULTS

- Of 27069 psoriasis patients, 367 (1.4%) received biologic therapy.
- The male-to-female ratio is 1.23. The demographic data is shown in Table 1.
- There were 21 patients (5.6%) previously treated for tuberculosis (TB) and another 18 (4.8%) had latent TB.
- Five patients (1.3%) had history of cancers [breast, 1 (0.3%); skin, 1 (0.3%); thyroid, 1 (0.3%); laryngeal, 1 (0.3%) and germ cell, 1 (0.3%)].
- There were 42 (11.3%) with liver disorders, which included non-alcoholic fatty liver disease [27 (64.3%)], hepatitis B/C [5 (11.9%)] and drug induced liver injury [5 (11.9%)].
- Six patients (1.6%) had ischaemic heart disease.
- There were no skin or non-skin related malignancies, cardiac or neurological events following the initiation of biologic therapies.
- One hundred and forty-eight (40.3%) patients had more than 10% body surface area (BSA) involvement.
- Almost half of the patients, [95 (47.7%)] had Dermatology Life Severity Index (DLQI) scores of above 10.
- Most patients, [337 (91.8%)] had 5 or less visits throughout the study period.

Table 1. Demographic characteristics, treatment history and indications for biologic therapy in psoriasis

Characteristics			n=367 (%)
Age, mean (years)			43.98±14.20 (17-84)
Gender		Male	202 (55.0)
		Female	164 (44.7)
Type of psoriasis		Plaque psoriasis	292 (79.6)
		Erythrodermic psoriasis	23 (6.3)
		Generalised pustular psoriasis	7 (1.9)
		Guttate psoriasis	1 (0.3)
Joint involvement		Total	**109 (29.7)**
		Monoarthropathy	44 (12.0)
		Distal arthropathy	34 (9.3)
		Symmetrical polyarthropathy	39 (10.6)
		Sacral spondylitis	18 (4.9)
		Arthritis mutilans	6 (1.7)
Nail involvement			**254 (69.2)**
Treatment history		Methotrexate	276 (75.2)
		Acitretin	146 (39.8)
		Phototherapy	142 (38.7)
		Cyclosporin	131 (35.7)
		Biologic therapy	64 (17.4)
Indications for biologics	Failed phototherapy and/or standard systemic therapy		270 (73.6)
	Adverse event towards standard systemic therapy		55 (15.0)
	Contraindicated for standard systemic therapy		17 (4.6)
	Joint involvement/severe disease		11 (3.0)
	Logistic issue with phototherapy		3 (0.8)
Biologic agents initiated	IL-17a inhibitors#	Secukinumab	148 (40.3)
		Ixekizumab	4 (1.1)
	IL-12/23 inhibitors#	Ustekunumab	141 (38.4)
		Guselkumab	11 (3.0)
		Risankizumab	8 (2.2)
	TNF-α inhibitor+	Adalimumab	43 (11.7)
		Infliximab	2 (0.5)
		Etanercept	1 (0.3)
	Anti-CD-11 antibody	Efalizumab	2 (0.5)
Concomitant Systemic therapy			**109 (29.7)**
		Methotrexate	79 (21.5)
		Acitretin	18 (4.9)
		Cyclosporin	4 (1.1)
		Systemic corticosteroids	3 (0.8)
		Phototherapy	1 (0.3)

Table 2. Adverse events of biologic therapy

Characteristics	N=367 (%)
Total patients who developed complications	**26 (7.1)**
Total number of complications	**49**
No. of patients with 1 complication	12 (3.3)
No. of patients with 2 complications	8 (2.2)
No. of patients with more than 2 complications	6 (1.6)
IL-17 inhibitor – secukinumab#	**16 (4.4%)**
Recurrent candidiasis	10
Worsening psoriasis	6
Cellulitis	5
Upper respiratory tract infection	2
Abscess	1
Urinary tract infection	1
Dermatitis	1
Adjustment disorder	1
Major depressive disorder	1
IL-12/23 inhibitor – ustekinumab#	**6 (1.6)**
Worsening psoriasis	8
Molluscum contagiosum	1
Folliculitis	1
Upper respiratory tract infection	1
Cellulitis	1
Transaminitis	1
TNF-α inhibitor – adalimumab+	**4 (1.1)**
Worsening psoriasis	5
Bullous pemphigoid	1
Lichenoid dermatitis	1
IL-23a inhibitor – risankizumab#	**1 (0.3)**
Worsening psoriasis	1
Change/cessation of biologic treatment	**31 (8.4)**
Financial reason	12 (3.3)
Secondary loss of efficacy	8 (2.2)
Primary lack of efficacy	7 (1.9)
Clinical trial participation	4 (1.1)
Psoriasis area and severity index (PASI)	
Pre-biologic treatment	20.48±14.89
Post-biologic treatment	7.48±10.00

*There were no adverse events reported for ixekizumab, guselkumab, infliximab, etanercept and efalizumab.
#IL: Interleukin +TNF: Tumour necrotic factor

DISCUSSION

- The PASI score pre-biologic treatment in our study is comparable to an Australian study[2] with PASI 22.3±7.31.
- Similar to Penso et al[3], most patients in our cohort were on methotrexate (MTX) prior to biologic therapy, MTX has been widely used to treat moderate-to-severe PsO, psoriatic arthropathy (PsA) and nail psoriasis.[4,5]
- The combination of MTX with biologic therapy has better efficacy for the treatment of psoriasis compared to biologic monotherapy. Almost one-fifth of our cohort remained on MTX after the initiation of biologic therapy.[6]
- IL-17 plays an important role in the immune response to fungal infections,[7,8] which justifies recurrent candidiasis as the most common infection with IL-17 inhibitors in our study, A study in Europe[9] also found 2-16 folds increase in risk of candidiasis with IL-17 inhibitors.
- Infection remains the most common adverse effect of biologic therapy in our cohort, similar to Penso et al[3] where 6.9% of patients acquired infections.
- There were no deaths reported in our cohort as opposed to 0.4% reported by Penso et al.[3]
- IL-17 and IL-12/23 inhibitors were the most prescribed biologic therapy in our cohort as opposed to TNF-α inhibitors in other studies.[3,10] This can be attributed to the different study periods (Penso et al[3] : 2008 to 2019, Mazfar et al.[10]: 1997 to 2021). TNF-α inhibitors were the only FDA approved biologics for PsO/PsA before the approval of the first IL 12/23-inhibitor, ustekinumab in 2009.[11,12] Interleukin inhibitors have higher persistence than TNF-α inhibitors for PsO.[13]
- Primary and secondary failure rates in our study was relatively lower compared to 14.3% and 9.9% respectively in a study done in Australia.[2] TNF-α inhibitors had the highest prescription in that study and at the same time also contributed most numbers of biologic switch (68%) due to lack/loss of efficacy. TNF-α inhibitors use is lower in our study which may explain the lower primary and secondary failure rates.
- Interestingly, a literature review published a year ago found 17 cases of drug-induced bullous pemphigoid secondary to TNF-α inhibitors, 1 due to an IL-17 inhibitor and 7 were caused by IL-12/23 or IL-23 inhibitors.[14]

CONCLUSION

Overall, 1.4% of the MPR patients received biologic therapy. Secukinumab was the most common biologic initiated. Adverse events occurred in 7.1% of which infection was the most common.

Declaration of Conflict for All Authors

The authors declare that they have no relevant conflicts of interest.

Acknowledgment

We would like to thank the Director General of Health, Ministry of Health Malaysia for his permission to present this paper.

References

1. Kamata M et al. nt. J. Mol. Sci. 2020; 21(5):1690.
2. Ting S et al. Australasian Journal of Dermatology. 2024; 65(4):350-357.
3. Penso L et al. JAMA Dermatol. 2021; 157(9):1–10.
4. Coates LC et al. The Journal of Rheumatology. 2020; 96(31-35).
5. da Silva CAP et al. Cochrane Database Syst Rev. 2019; 2019(4):CD010498.
6. Xie Y et al. Dermatol Ther. 2021;34(3):e14926.
7. Conti HR et al. J Immunol. 2015; 195 (3):780–788.
8. Feng Y et al. Int J Clin Pract. 2022; 2022:2442603.
9. Davidson L et al. Lancet Reg Health Eur. 2022; 13: 100266.
10. Mazhar F et al. Journal of Dermatological Treatment. 2023;34(1):2215354.
11. Melsheimer R et al. Biologics. 2019;13:139–178.
12. Chehad AS et al. Journal of Exploratory Research in Pharmacology. 2023;8(4):323-341.
13. Vegas LP et al. JAMA Dermatol. 2022;158(5):513-522.
14. Zhang J et al. Front. Immunol. 2022;13:1050373.