

The Utilization Of Biological Therapy In Psoriasis - Real-World Experience In Malaysia



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Background

The advent of new biological agents in recent years has increased psoriasis patients' treatment options. Our objective was to evaluate the prescribing and switching patterns of biologic agents used for psoriasis in Malaysia.

Methods

- Data was obtained from the Malaysian Psoriasis Registry (MPR) from January 2011 to September 2022.
- Patients with biologics use were recruited. Those with at least 2 visits were selected for sub-group analysis to evaluate switching patterns.
- "Continuous therapy" was defined as those who continued with the same biologic in the subsequent follow-up, whereas those who switched to another type of biologic, were defined as "switching therapy".

Results

- Of 25,468 patients, 556 (2.2%) received at least one biological agent within the study period.
- The mean age of patients was 42.6 years (range: 8-81) with the male: female ratio of 1:0.8.
- The number of biologic agent prescriptions has increased by about 19 folds from 9 to 176 in 10 years.
- Secukinumab was the most common (37.8%), followed by Ustekinumab (27.9%). (Figure 1 & 2)
- Etanercept had the longest mean usage duration at 46.2 months, whereas risankizumab had the shortest at 3.4 months.
- Follow-up data were available for 339 patients, 80 patients (14.4%) had their biologic agents switched.
- The most frequent switch pattern was from anti-IL12/23 to anti-IL17 (25%), followed by TNF α i to anti-IL17 and anti-12/23 (16.3% and 13.8%). (Table 1)
- Anti-IL17 was the preferred agent on switching (46.3%).
- Primary and secondary lack of efficacy were the most common reasons for switching (45.8% and 25% respectively).
- Concomitant systemic therapy was reported in 21.6% cases. Of these, 76.6% had received methotrexate.
- Concurrent use of systemic methotrexate was most seen among 17.8% of patients with adalimumab and 15.2% secukinumab.

Discussions

- The introduction of newer biologic agents over the years has influenced the usage patterns. Over the past 10 years, the usage of IL17 inhibitors has increased tremendously and in recent years there is a slow up-trending use of anti-IL23 agents. IL17 inhibitors were introduced earlier than IL23 inhibitors. FDA approvals for secukinumab were obtained in 2015, ixekizumab in 2016, guselkumab in 2017, and risankizumab in 2019.¹
- Potential reactivation of pulmonary tuberculosis with TNF α inhibitors made it a less favorable choice.²
- Ustekinumab has safety data of over 20 years but remains less efficacious compared to newer biologic agents.¹ IL17 inhibitors have shown greater efficacy in treating difficult-to-treat areas such as the scalp, nail and palmoplantar regions. Although there is a high risk of superficial fungal infections with IL17 inhibitors, the incidence is low (<1%). For secukinumab, the incidence of new-onset inflammatory bowel disease is less than 1 in a 1000 patients. Secukinumab has the longest track record for safety in real-world usage.^{2,3}
- Real world data from a multicentre prospective cohort showed that ixekizumab and guselkumab were more efficacious compared to adalimumab, ustekinumab, and secukinumab whereas etanercept was the least effective. The percentage of patients attaining PASI 90 scores were less in real-world practice in comparison to randomized controlled trials.⁴
- Takeshita et al reported that 10.2% of psoriasis patients received biologic therapy in the USA, which was much higher than our population (2.2%).⁵
 - They had a higher percentage of concomitant systemic therapy/phototherapy (38.2%) usage.⁵
 - From the U.S. medical records database, concomitant use of methotrexate was seen in 48.7% of patients on infliximab and 25.6% of patients on adalimumab.⁶
- In contrast to our study, infliximab had the longest median usage period and ixekizumab had the shortest in the USA (3.3 months).⁶
- Our switching rate (14.4%) was slightly higher than a study done in Sweden, which ranged from 9.7-11.0%.⁷
- However, the rate of switching was higher in France (34%) with adalimumab and ustekinumab being the most prescribed first and second line agents.⁸ A study in Japan reported a switching rate of 18.5%.⁹
- In future, we should focus more on real world data to determine drug efficacy and long-term side effects.

Figure 1 : Types of biologic agents used in the past 10 years

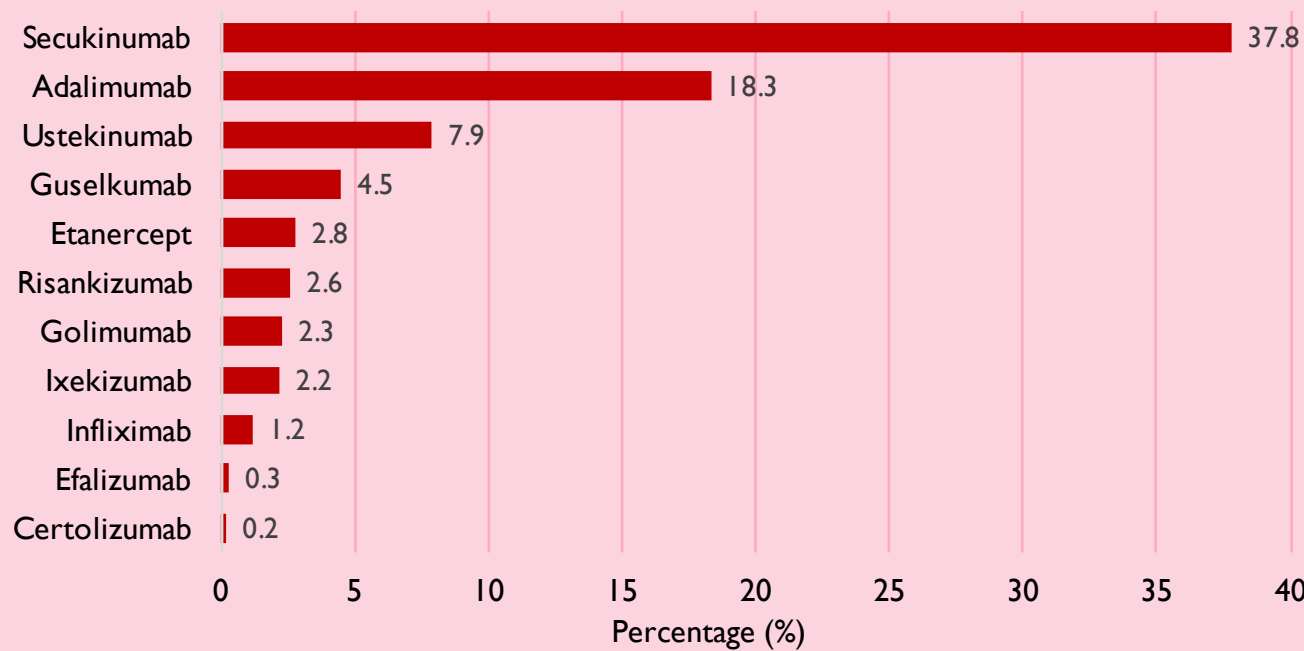


Figure 2: Trend of biologic agents prescribed for the past 10 years

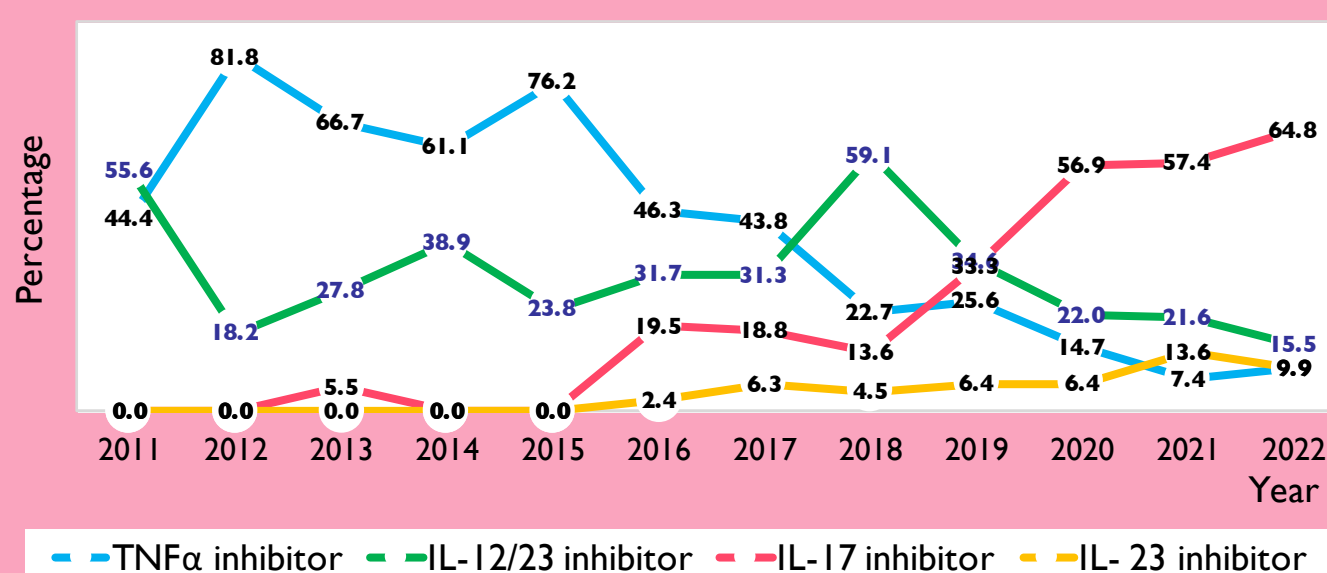


Table 1: Switching patterns of biologic agents

Primary agent \ Second agent	TNF α inhibitor	IL-12/23 inhibitor	IL-17 inhibitor	IL-23 inhibitor
TNF α inhibitor	6 (among the same class)	11	13	3
IL-12/23 inhibitor	6	-	20	7
IL-17 inhibitor	1	1	4 (secukinumab – ixekizumab)	7
IL-23 inhibitor	0	0	0	1 (risankizumab-guselkumab)

*3 patients changed from infliximab to adalimumab; 1 efalizumab to adalimumab; 1 certolizumab pegol to adalimumab; 1 adalimumab to etanercept

Conclusion

Up to 2% of the psoriasis patients received biological treatment. Anti-IL17 was the preferred first- and second-line biologic agent used in Malaysia. Primary lack of efficacy was the most common reason for switching. A quarter of them switched from anti-IL12/23 to anti-IL17.

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