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Biologic DMARD class influences progression from psoriasis to PsA: A real-world cohort study

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BACKGROUND

Preventing progression from psoriasis to psoriatic arthritis (PsA) remains a major unmet need. Real-world studies, mainly based on insurance claims, suggest biologic DMARD (bDMARD) choice may influence PsA risk, with interleukin (IL)-23 inhibitors possibly associated with lower risk than tumor necrosis factor inhibitors (TNFi)[1-3]. However, long-term clinically characterized cohort data are limited.

OBJECTIVE

To evaluate potential PsA interception in patients with psoriasis treated with different bDMARD classes.

METHODS

Retrospective real-life cohort study in two joint dermatology–rheumatology centers

Inclusion: adults with dermatologist-confirmed psoriasis receiving bDMARDs for ≥6 months (2008–2025)

Exclusion: prior inflammatory arthritis

Follow-up continued until PsA diagnosis, last visit, or study end (up to 17 years)

Primary outcome: rheumatologist-confirmed incident PsA.

Four complementary analyses:

- A Patients exposed to a single bDMARD class
- B Grouping by the bDMARD used for the longest duration
- C Grouping by first prescribed bDMARD among switchers
- D Calendar-period sensitivity analysis (2017–2025)

RESULTS – OVERALL COHORT

394 patients | **54%** male | **8 years** median time to PsA diagnosis | **86 (22%)** developed PsA

First analysis (single bDMARD class) – n=257

- PsA more frequently with TNFi (45%) vs IL-17i (14%), IL-23i (10%), IL-12/23i (11%)
- After methotrexate adjustment, non-TNFi agents associated with lower odds of PsA:
  - **IL-17i:** OR 0.25 (95% CI 0.11–0.53), p<0.001
  - **IL-23i:** OR 0.16 (95% CI 0.06–0.40), p<0.001
  - **IL-12/23i:** OR 0.18 (95% CI 0.05–0.52), p=0.007
- Lower risk vs TNFi in time-to-event analysis (Figure 1A)

Second analysis (longest bDMARD) – n=394

- PsA more frequently with TNFi (44%) vs IL-17i (17%), IL-23i (9%), IL-12/23i (14%) (p<0.001)
- Adjusted ORs for PsA vs TNFi:
  - **IL-17i:** OR 0.27 (95% CI 0.14–0.51), p<0.001
  - **IL-23i:** OR 0.13 (95% CI 0.06–0.28), p<0.001
  - **IL-12/23i:** OR 0.24 (95% CI 0.10–0.55), p=0.001
- Lower risk vs TNFi in time-to-event analysis (Figure 1B)
- No significant differences among non-TNFi classes

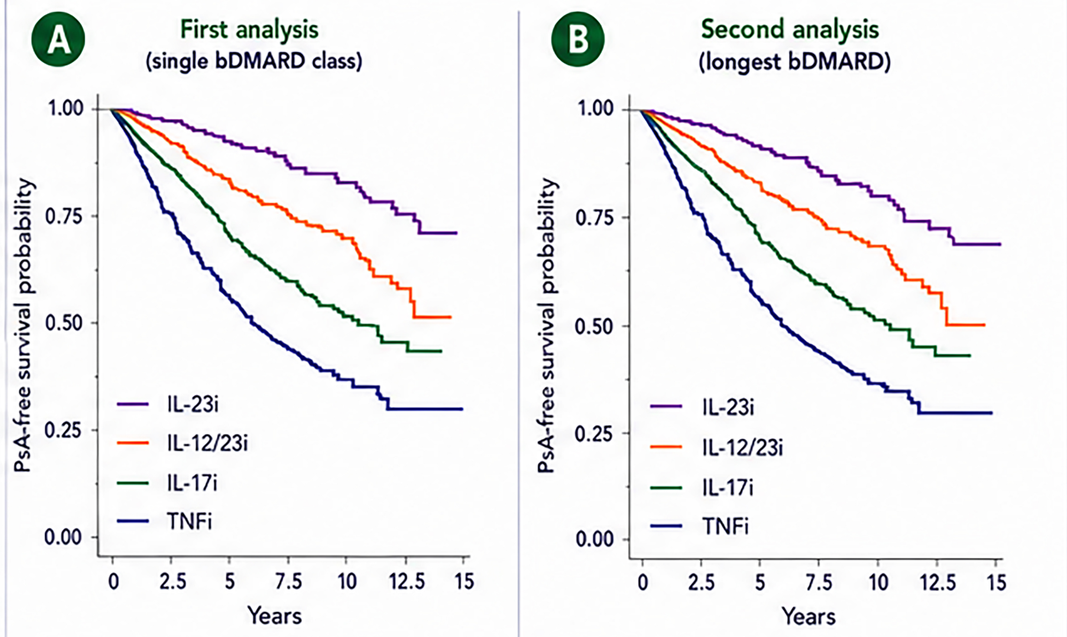
Third analysis (switchers) – n=137

- PsA prevalence and adjusted hazard ratios did not differ between classes.

Fourth analysis (2017–2025) – n=215

- Lower odds and hazard ratios for PsA with IL-17i and IL-23i vs TNFi.
- No differences among non-TNFi classes.

TIME TO PsA: ADJUSTED HAZARD RATIOS vs TNFi



A	HR	95% CI	p
IL-23i	0.17	0.07–0.42	<0.001
IL-12/23i	0.24	0.08–0.70	<0.001
IL-17i	0.30	0.15–0.61	<0.001

B	HR	95% CI	p
IL-23i	0.22	0.11–0.44	<0.001
IL-12/23i	0.27	0.13–0.56	<0.001
IL-17i	0.37	0.22–0.64	<0.001

IL: interleukin; TNFi: tumor necrosis factor inhibitors; OR: odds ratio; HR: hazard ratio; CI: confidence interval

CONCLUSION

In this long-term study of psoriasis patients, **IL-17 or IL-23 inhibitors were linked to lower psoriatic arthritis risk than TNF inhibitors**, suggesting treatment choice may influence joint disease prevention.

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