Rheumatoid arthritis - non biologic treatment and small molecules

OP0122

COMPARATIVE EFFECTIVENESS OF JAKI VERSUS bDMARDs; A NATIONWIDE STUDY IN RA

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Background: The Janus kinase inhibitors (JAKi) have been increasingly used for the treatment of rheumatoid arthritis (RA) in Sweden, with baricitinib representing ~80% of prescriptions. Evidence regarding the comparative effectiveness of JAKis versus biologics (bDMARDs), and in particular non- tumour-necrosis-factor inhibitor (TNFi) bDMARDs, in real-life is limited.

Objectives: To compare RA patients treated with bDMARDs and JAKi in Sweden, in terms of: (1) patient characteristics at treatment start; (2) proportions of patients remaining on therapy, and response rates, at 12 months.

Methods: RA patients starting treatment in 2017 and 2018 with either a TNFi, rituximab, abatacept, interleukin 6 inhibitors (IL6i) or a JAKi as different lines of treatment were identified in the Swedish Rheumatology Quality Register. One patient could contribute with more than one treatment episode.

Treatment response at 12 months was measured as EULAR good response, HAQ improvement >0.2 units, DAS28 and CDAI remission, and as 0 tender and swollen joint counts (28JC). Patients were classified as non-responders if they stopped treatment before evaluation due to safety or inefficacy. Responses for patients who stopped treatment due to pregnancy or death and patients on treatment but with missing response were imputed using multiple imputation.

Proportions of responders and differences in proportions between treatment groups, adjusted using inverse probability of treatment weighting, were estimated using linear regression with robust standard errors.

Results: JAKi were often used after bDMARDs, and less frequently prescribed in combination with methotrexate. Measured comorbidities were less frequent among JAKi initiators than among non-TNFi biologic initiators, but RA activity was similar (Table).

Table 1. Patient characteristics at treatment initiation

Characteristic	Abatacept	IL6i	Rituximab	TNFi	JAKi
Treatment Starts	694	534	692	3497	905
Age	63 (53-71)	59 (48-70)	65 (54-73)	59 (47-68)	60 (51-70)
Female	543 (78)	441 (83)	519 (75)	2739 (78)	759 (84)
RA duration (years)	13 (5-21)	10 (5-18)	12 (6-22)	9 (3-17)	13 (7-22)
Rheum. factor	535 (79)	385 (73)	588 (87)	2405 (70)	686 (77)
DAS28	4.8 (3.9-5.6)	4.9 (4.0-5.7)	4.7 (3.8-5.5)	4.4 (3.4-5.3)	4.7 (3.9-5.7)
HAQ	1.3 (0.8-1.6)	1.3 (0.8-1.8)	1.3 (0.8-1.8)	1.0 (0.5-1.4)	1.3 (0.8-1.8)
Tender joints	5 (2-9)	6 (3-10)	5 (2-9)	4 (2-8)	6 (2-10)
Swollen joints	4 (2-6)	4 (2-7)	4 (2-7)	3 (1-6)	4 (2-7)
ts/bDMARD line	3 (2-4)	3 (2-4)	2 (1-4)	1 (1-2)	4 (2-6)
At least one prev. TNFi	539 (78)	442 (83)	457 (66)	1448 (41)	770 (85)
At least one prev. non-TNFi	271 (39)	220 (41)	243 (35)	441 (13)	584 (65)
Methotrexate co-treatment	264 (50)	172 (40)	286 (53)	1708 (62)	296 (40)
Glucocorticoids co-treatment	247 (47)	186 (43)	275 (51)	1126 (41)	389 (53)
Cancer*	90 (2.8)	64 (2.3)	363 (7.7)	410 (1.8)	20 (2.2)
Cardio-vascular dis.*	245 (75)	123 (4.4)	322 (6.8)	749 (3.4)	41 (4.4)
Chronic respiratory dis.*	303 (9.3)	140 (5.0)	473 (10.0)	721 (3.2)	50 (5.4)
Diabetes*	324 (9.9)	216 (7.7)	456 (9.7)	1479 (6.7)	69 (7.5)

* any diagnosis within 5 years before start Adjusted differences in proportion with each response outcome

In a crude comparison, 65% (61%-68%) of JAKi, 62% (59%-66%) of abatacept, 58% (53%-62%) of IL6i, 80% (77%-83%) of rituximab and 68% (67%-70%) of TNFi initiators remained on treatment at 12 months after start. Also, JAKi showed lower overall responder proportions than TNFi, rituximab and IL6i.

After adjustment for demographic and socio-economic factors, RA disease activity, previous use of ts/bDMARDs, co-medication with glucocorticoids and methotrexate and comorbidities at baseline, no significant differences in responder proportions between JAKi and bDMARDs remained (Figure). Furthermore, the adjusted proportions of patients on treatment were higher for JAKi and rituximab than for the other bDMARDs. **Conclusion:** This preliminary analysis of patients treated in clinical practice found no statistically significant difference in effectiveness between JAKi and bDMARDs.

Disclosure of Interests: Andrei Barbulescu: None declared, Johan Askling Grant/research support from: Abbvie, Astra-Zeneca, BMS, Eli Lilly, MSD, Pfizer, Roche, Samsung Bioepis, Sanofi, and UCB. These entities have entered into agreements with Karolinska Institutet with JA as principal investigator, mainly in the context of safety monitoring of biologics via the ARTIS national safety monitoring system, Katerina Chatzidionysiou Speakers bureau: Eli Lilly, Abbvie and Pfizer, Consultant of: Eli Lilly, Abbvie and Pfizer, Helena Forsblad-d'Elia: None declared, Alf Kastbom Employee of: Sanofi, Ulf Lindström: None declared, Carl Turesson Speakers bureau: Abbvie, Bristol-Myers Squibb, Medac, Pfizer, Roche, Consultant of: Roche, Grant/research support from: Bristol-Myers Squibb, Thomas Frisell: None declared

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OP0123

SAFETY PROFILE OF JAK-INHIBITORS VERSUS TNF-INHIBITORS IN REAL-WORLD CLINICAL PRACTICE: DATA FROM A MULTICENTER REGISTER

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Background: JAK-inhibitors (JAKi) are small molecules emerging as a promising treatment for immune mediated diseases. Data from clinical trials are very promising. But long-term observational studies, with patients with diverse clinical backgrounds are required to confirm safety profile.

Objectives: To compare the safety profile of JAKi versus TNF antagonists (anti-TNF) in a multicenter real world dataset.

Methods: Data of patients enrolled in BIOBADASER 3.0 up to November 2020 with the start of anti-TNF or JAKi were analysed. Adverse events (AE) were classified according to Meddra dictionary (v19.0). For each group, demographic, clinical variables and incidence rate ratios of AE per 1000 patients-year (PYs) and 95% confidence interval were estimated.

Results: A total of 3,729 patients on anti-TNF (5,306) or JAKi (493) were analyzed. Patients on JAKi were older and with a mean disease duration of 10 years. JAKi were prescribed as first line treatment only in 24% of patients. The main reason of stopping treatment was ineffectiveness (53-59%) followed by adverse events (25-34%) in both groups. Survival during first year was similar between groups.

Conclusion: This preliminary analysis of patients treated in clinical practice found no statistically significant difference in effectiveness between JAKi and bDMARDs.

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