

Treatment Patterns of Patients with Rheumatoid Arthritis in Japanese Claims Database

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COI Disclosure: The authors have no conflicts of interest directly relevant to the content of this article.

Introduction

Rheumatoid arthritis (RA) is a chronic inflammatory disorder primarily affecting joints. According to the RA treatment guidelines, Methotrexate (MTX) is the first-line treatment, however, combination therapy with biologic DMARDs or Janus kinase inhibitors (bDMARDs/JAKi) is recommended when MTX alone is insufficient. This study investigates the actual use of anti-rheumatic drugs in patients with RA.

Methods

Database: Cross-Fact (Japanese claims database by INTAGE Real World Inc.)

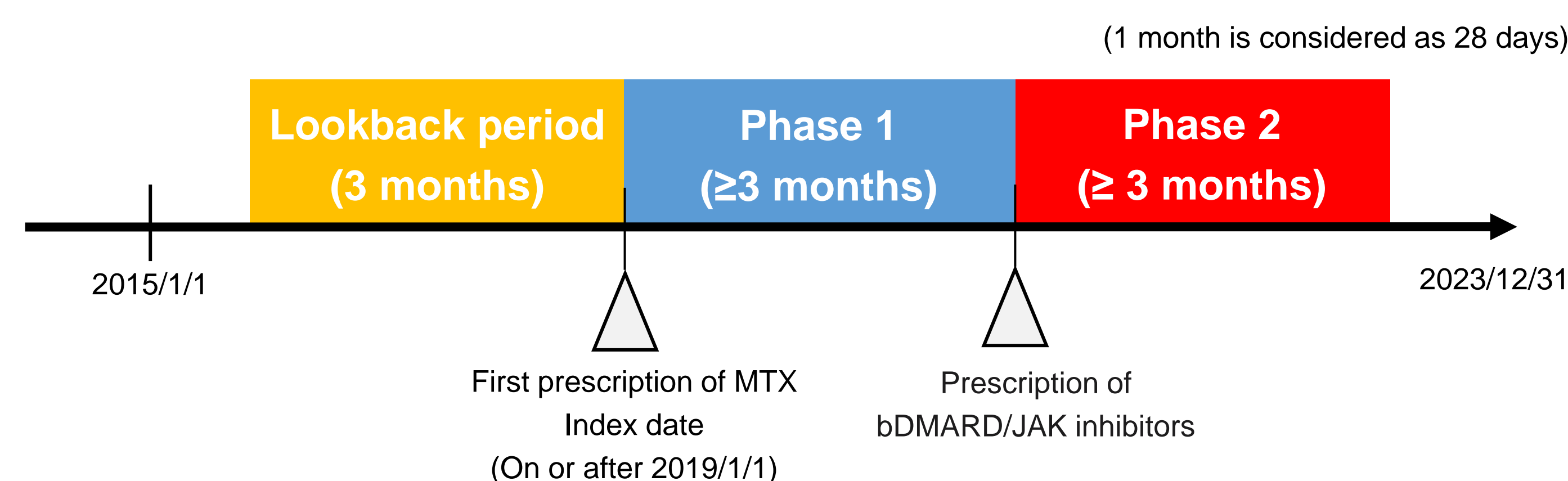
Disease and drug classification: ICD-10 codes and ATC classification.

Inclusion criteria:

Patients diagnosed with (ICD-10 codes M05 or M06) and prescribed their first anti-RA medication on or after January 2019.

Exclusion criteria:

Patients with malignancies, immunosuppressive or systemic steroid use, age under 18, certain autoimmune diseases, and a less than 3-month lookback period.



- Lookback period: The period of 167 days before the Index date
- Phase 1: Period of MTX continuous for more than 3 months from the Index date
- Phase 2: Combination with MTX or switched to bDMARDs/JAKi

Results · Discussion

1) Patient Composition

Initial Prescription	Number of patients, n(%)
Overall	7570 (100.0)
csDMARDs other than MTX	3515 (46.4)
bDMARDs/JAKi	587 (7.8)
MTX	3468 (45.8)
↳ Continuation for more than 3 months (Phase 1)	2940 (84.8)
↳ Combination or switched to bDMARDs/JAKi (Phase 2)	432 (14.7)

- The guidelines from Japan College of Rheumatology (JCR) recommend that the use of MTX be considered first as a treatment for RA (phase 1). If the therapeutic goal is not achieved with MTX, the use of bDMARDs or JAKi should be considered (phase 2).
- Although guidelines recommend the use of MTX as the initial treatment, statistical results indicate that more than half of the initial prescriptions are for drugs other than MTX.

3) Prescribing Patterns for anti-RA medication in phase 2

	Number of patients, n(%)
Switched to bDMARDs/JAKi	108 (25.0)
MTX dose unchanged with bDMARDs/JAKi	278 (64.4)
MTX dose reduced with bDMARDs/JAKi	46 (10.6)

- The JCR guidelines recommend combining MTX with bDMARDs or JAKi when MTX is ineffective. In the current analysis, 25% of phase 2 patients received bDMARDs/JAKi alone.
- At the time of transition to phase 2, 75% of patients were using MTX in combination with bDMARDs/JAKi. 10.6% of patients were using reduced MTX doses, possibly due to MTX side effects.

2) Patient Background

	Overall [95%CI]	First MTX [95%CI]	First bDMARDs/JAKi [95%CI]	Phase2 bDMARDs/JAKi [95%CI]	
Total number of patients (n)	7,570	3,468	587	432	
Sex, n(%)	Female	5594 (73.9) [72.9 - 74.9]	2563 (73.9) [72.4 - 75.4]	407 (69.3) [65.4 - 73.0]	341 (78.9) [74.8 - 82.7]
	Male	1976 (26.1) [25.1 - 27.1]	905 (26.1) [24.6 - 27.6]	180 (30.7) [27.0 - 34.6]	91 (21.1) [17.3 - 25.2]
AGE, years	Mean (SD.)	50.53 (11.15)	50.63 (10.81)	47.97 (12.27)	47.54 (11.27)
	Median	52.00	52.00	49.00	49.00
	Min-Max	18.00 - 75.00	18.00 - 75.00	18.00 - 74.00	18.00 - 74.00
AGE groups, n(%)	18-44 years	1934 (25.5) [24.6 - 26.5]	863 (24.9) [23.5 - 26.4]	200 (34.1) [30.2 - 38.1]	143 (33.1) [28.7 - 37.8]
	45-64 years	5063 (66.9) [65.8 - 67.9]	2373 (68.4) [66.8 - 70.0]	345 (58.8) [54.7 - 62.8]	270 (62.5) [57.7 - 67.1]
	>=65 years	573 (7.6) [7.0 - 8.2]	232 (6.7) [5.9 - 7.6]	42 (7.2) [5.2 - 9.5]	19 (4.4) [2.7 - 6.8]
Baseline individual clinical comorbidities, n(%)	Cardiovascular disease	2037 (26.9) [25.9 - 27.9]	832 (24.0) [22.6 - 25.4]	172 (29.3) [25.6 - 33.2]	88 (20.4) [16.7 - 24.5]
	Gastrointestinal disease	5534 (73.1) [72.1 - 74.1]	2454 (70.8) [69.2 - 72.3]	465 (79.2) [75.7 - 82.4]	315 (72.9) [68.5 - 77.1]
	Diabetes mellitus	1139 (15.0) [14.2 - 15.9]	511 (14.7) [13.6 - 16.0]	130 (22.1) [18.8 - 25.7]	46 (10.6) [7.9 - 13.9]
	Liver disease	926 (12.2) [11.5 - 13.0]	393 (11.3) [10.3 - 12.4]	98 (16.7) [13.8 - 20.0]	50 (11.6) [8.7 - 15.0]
	Kidney damage	135 (1.8) [1.5 - 2.1]	49 (1.4) [1.0 - 1.9]	15 (2.6) [1.4 - 4.2]	8 (1.9) [0.8 - 3.6]
Medical Institution, n(%)	Clinic : 19 beds or less	4145 (54.8) [53.6 - 55.9]	1886 (54.4) [52.7 - 56.1]	188 (32.0) [28.3 - 36.0]	201 (46.5) [41.7 - 51.4]
	Hospital : 20 beds or more	3425 (45.2) [44.1 - 46.4]	1582 (45.6) [43.9 - 47.3]	399 (68.0) [64.0 - 71.7]	231 (53.5) [48.6 - 58.3]

- In the First bDMARDs/JAKi and Phase2 bDMARDs/JAKi categories, patients aged 18-44 years are more prominently represented, with a greater proportion being diagnosed in hospital settings rather than in clinic settings.
- The First bDMARDs/JAKi group had a significantly higher prevalence of clinical comorbidities than the other patient cohorts. It is not clear why the initial prescription was bDMARDs/JAKi rather than MTX, but comorbidities may have influenced treatment decisions.

Limitations

- Clinical test values are not available in the database, preventing the evaluation of treatment efficacy. As a result, the analysis is limited to treatment status.
- The database lacks data on treatment duration, making it difficult to calculate the completion or discontinuation period, as the dosing regimens vary for each drug.
- Due to the characteristics of the database, there is limited data available on individuals aged 65 and over.

Conclusion

The treatment reality was somewhat different from the guideline's drug treatment algorithm.

Younger patients and those treated in hospitals are more frequently prescribed bDMARDs or JAKi, suggesting a tendency for early aggressive treatment in this group.