First line treatment with conventional synthetic Disease Modifying Anti-rheumatic Drugs in Rheumatoid Arthritis: a multinational population-based cohort from 14 real world healthcare databases and 9 countries - reality versus guidelines

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Background

- Treatment guidelines recommend early initiation of conventional synthetic disease-modifying anti-rheumatic drugs (csDMARDs) following diagnosis of rheumatoid arthritis (RA), and specifically the use of methotrexate (MTX) as preferred first-line therapy.
- Scarce evidence exists internationally on adherence to this guidance.
- We characterized first-line csDMARD treatment patterns during the first year following an RA diagnosis in fourteen real world databases mapped to the Observational Medical Outcomes Partnership Common Data Model (OMOP CDM).

Data Sources

- Fourteen real world databases were mapped to the OMOP CDM from nine different countries: Australia (AU), Belgium (BE), Estonia (EE), France (FR), Japan (JP), The Netherlands (NL), Spain (ES), United Kingdom (UK) and United States (US).
- Integrated Primary Care Information (IPCI – EMR, NL).
- Japan Medical Data Center (JMDCC – Claims, JP).
- Estonian Health Information System (Estonia – EMR, EE).
- Information System for Research in Primary Care (SIDIAP – EMR, ES).

Methods

- Patients 18 or older were indexed on the earlier of their first RA diagnosis or the initiation of a DMARD with an RA diagnosis within 30 days. Patients with a previous record of DMARD use or non-RA inflammatory arthritides were excluded.
- All DMARDs (CS, biologic, or targeted) were included for analyses, but only conventional synthetics were available in all databases.
- Analyses were performed using the open-sourced OHDSI Atlas software tool.

Results

- We identified 323,449 newly diagnosed RA patients with a first line csDMARD in the first year from index.
- Large variation between databases was observed (Figure 1).
- First line therapies across databases:
  - MTX: 33.3% to 74.5%
  - Hydroxychloroquine (HQC): 10.1% to 30.2%
  - Sulfasalazine (SSZ): 0.9% to 28.7%
  - Leflunomide (LEF): 1.8% to 15.2%
  - MTX + HQC: 2.1% to 6.7%

Conclusions

- Despite guideline recommendations for MTX to be first line therapy, data show large variations between databases and countries.
- HQC is used as first line monotherapy in a significant number of patients although not recommended.

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The European Health Data & Evidence Network has received funding from the Innovative Medicines Initiative 2 Joint (JU) under grant agreement No 806988. The JU receives support from the European Union’s Horizon 2020 research and innovation programme and EFPIA. Underwriting.