Experience of baricitinib in a real world population with efficacy and side effects: a South London regional analysis

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Baricitinib is the most common Janus Kinase inhibitor (JAKi) used in the treatment of rheumatological conditions. Whilst randomised controlled trials have demonstrated the efficacy and safety profile of baricitinib, real-world data on the experience of JAKi use in clinical practice is lacking. The aim of this analysis was to evaluate baricitinib use in a real-world patient population in South London.

We looked at two rheumatology departments in South London (St George’s Hospital; a tertiary teaching centre and Kingston Hospital; a district general hospital). All patients prescribed baricitinib between January 2017 to June 2022 were included in the analysis. A retrospective assessment of electronic patient notes was performed to evaluate disease activity (as determined by DAS-28 scores at baseline, 3-6 months and presently); adverse effects including side effects, rates of and reasons for discontinuation; and prescribing practice, including previous use of other biological disease modifying anti-rheumatic drugs (bDMARDs). Baseline data including age, gender, co-morbidities and rheumatological diagnoses were also included.

233 patients were included in this evaluation, with seropositive rheumatoid arthritis being the most common diagnosis (58%) and with a significant female population (87%). Baricitinib improved average DAS-28 scores from 5.75 (range 3.57-8.3) at baseline to 3.23 (range 0.28-7.49) at 3-6 months post-baricitinib, with the most recent DAS-28 score of 2.90 (range 0.56-6.77)

Rates of adverse effects were low as shown in Table 1. Baricitinib was discontinued in 60/233 patients, with average duration to discontinuation of 9.5 months. The most common reasons for discontinuation were: ineffective disease control (28/60), recurrent bacterial infection (5/60), deranged liver function (3/60) and venous thromboembolism (2/60). Eight patients died whilst taking baricitinib. Where documented, the causes of death were Covid-19 (4/8) and malignancy (1/8).

110 out of 233 patients had received other bDMARDs before starting baricitinib. Documented reasons for baricitinib choice over tumour necrosis factor inhibitors (TNFi) included: previous lack of response to TNFi (89/233), contra-indication to TNFi (11/233) and preference of oral route (10/233).

Our real-world study of JAKi use shows that baricitinib is efficacious in the treatment of rheumatological conditions. Moreover, baricitinib is well tolerated, with low rates of adverse effects and subsequent discontinuation.

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| Table 1 |
| Adverse effects | Number of patients (n=233) |
| Infection (bacterial) | 17 |
| Infection (shingles) | 6 |
| Infection (other viral) | 4 |
| Infection (fungal) | 3 |
| Hypercholesterolemia | 12 |
| Diarrhoea/gastrointestinal | 11 |
| Deranged LFTs | 7 |
| Headaches | 2 |
| DVT | 1 |
| Neutropenia | 2 |
| Oedema | 1 |
| Paraesthesia  | 1 |
| Parotid swelling | 1 |
| Uveitis | 1 |
| Apical thrombus | 1 |