Efficiency of treatment sequences containing Tofacitinib for Rheumatoid Arthritis in Spain

**BACKGROUND**

- The availability of prior use inhibitors (cAcs), as tocilizumab, has extended the treatment pathways for management of patients with rheumatoid arthritis (RA). It has been reported that tocilizumab is an cost-effective approach for patients with moderate to severe RA who have not adequately responded or are intolerant to or several conventional synthetic disease modifying antirheumatic drugs (csDMARDs) as well as to those in triamcinolone as part of a treatment strategy (MTX) or when treatment with MTX proves inadequate.

- To assess the cost-effectiveness of treatment sequences initiated with tocilizumab as second-line treatment compared to treatment sequences containing standard biological therapies in patients with moderate to severe RA after failure of csDMARDs, who did not achieve an adequate response or who are intolerant to said therapy, from the perspective of the Spanish National Health System.

**METHODS**

- A population microsimulation model was used to compare the lifetime cost and quality adjusted life years (QALY) for treatment sequences with tocilizumab and tofacitinib (5 mg b.i.d) recommended by biological therapies in patients where tocilizumab failed.

- The scenarios were a function of a panel of experts based on clinical practice in Spain. Concurrent treatment with MTX was considered along with all the therapies in the treatment sequence (Figure 1).

- Model parameters included age, weight, initial Health Assessment Questionnaire (HAQ) score and clinical response to short and long term treatment. Serious adverse event (SAE) information derived from literature.

**RESULTS**

- The mean costs (€) of the sequences initiating with tocilizumab provided greater outcomes than the correspondent sequences excluding tocilizumab (Table 2).

- In scenario 1, the sequence initiating with tocilizumab 13.69 QALYs versus 13.22 QALYs for sequence initiating with adalimumab. In scenario 2, the sequence initiating with tocilizumab provided 13.75 QALYs versus 13.52 QALYs for sequence initiating with infliximab.

- Tocilizumab containing sequences provided lower total costs than the alternative sequences (53,783 and 413,032 for the patients previously described). Consequently, tocilizumab containing sequences resulted in dominant treatment options due to lower incremental costs and better health outcomes.

- On the basis of SAE, sequences initiating with tocilizumab resulted in a cost-effective therapeutic option in 64.4% (scenario 1) and 58.5% (scenario 2) of the 1,000 Monte Carlo iterations performed, because incremental cost-effectiveness ratio fell below a 25,950/QALY gained willingness to pay threshold.

**CONCLUSION**

- These results suggest that the inclusion of tocilizumab (5 mg b.i.d) in combination with MTX in a treatment sequence with antirheumatic drugs resulted in a dominant strategy (more effective and less costly) versus alternative sequences in the treatment of moderate to severe RA patients after csDMARD failure, for the Spanish NHS.

**REFERENCES**


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