Cost-effectiveness analysis of adalimumab and its clinical alternatives in immunemediated inflammatory diseases in Spain

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Background

Immune-mediated inflammatory diseases (IMIDs) present a high burden of illness, as they are chronic conditions with associated comorbidities and high indirect costs. In Spain, IMIDs prevalence is around 6% and Rheumatoid Arthritis (RA) (1%), is one of the most common among them. The introduction of biological treatments, like adalimumab (ADA), has contributed to improve RA’s clinical outcomes. High cost of these biologics used to be a hurdle for their prescription until the appearance of biosimilars. Cost-effectiveness analysis can help in decision-making for this pathology.

Aim and Objective

Our objective was to assess the cost-effectiveness of ADA and its clinical alternatives in RA.

Methodology

All the effectiveness information measured by using ACR (American College of Rheumatology) was gathered through a PICO-S-T strategy including infliximab, etanercept, certolizumab, tocilizumab, golimumab, tofacitinib, and upadacitinib. Two reviewers evaluated the inclusion of the studies and assessed their quality using PRISMA-NMA Checklist.

Results

2 meta-analyses met the inclusion criteria and fulfilled on average 84% of the 32 points on the PRISMA-NMA Checklist items.

Tarp et al. 2017, showed no statistically significant difference in NNT between infliximab, ADA, etanercept, certolizumab, tocilizumab, and golimumab for ACR-50. Song et al. 2019, showed no significant difference in NNT between ADA, tofacitinib, and upadacitinib for ACR-20.

Efficiency score was Cost per Number Needed to Treat (NNT) versus Placebo (PLC). A cost-effectiveness model was built based on meta-analyses (direct or indirect) conducted between 2015-2021, designed from a hospital perspective (only direct costs) and with a 1-year horizon. Cost data (€2021) was obtained from Spanish datasets and literature review. With all this information, a cost-effectiveness analysis between ADA and the suitable alternatives was performed. A probabilistic sensitivity analysis (PSA) was performed.

Conclusions

According to our model, ADA was the most cost-effective option for RA treatment in Spain.