



OCRELIZUMAB FOR THE TREATMENT OF RELAPSING AND PRIMARY PROGRESSIVE MULTIPLE SCLEROSIS IN NATIONAL HEALTH SYSTEM: A COST EFFECTIVENESS ANALYSIS

*C. Lamesta, *R. Petti, **P. Volpi

*Sifo Società Italiana di Farmacia Ospedaliera e dei Servizi Farmaceutici
**Scuola di Specializzazione in Farmacia Ospedaliera Università degli Studi di Parma

Abstract Number: 1ISG-016 - ATC code: L04-IMMUNOSUPPRESSANTS



Introduction and objectives: Ocrelizumab has demonstrated significant clinical benefit for the treatment of relapsing multiple sclerosis (MS) and primary progressive multiple sclerosis (PPMS), a disease characterized by disability. The aim of the study is to evaluate the clinical and economic impact of ocrelizumab compared to current clinical practice, including other disease-modifying therapies (DMTs).

Materials and Methods: In the literature, the short- and long-term cost-effectiveness implications of DMTs for MS have been estimated through Markov modelling (MM) using the EDSS score (0-9) to define health states and model disease progression and the progression of relapses over time. The cost and effectiveness of ocrelizumab were estimated using MMs for three populations: nave RMS, previously treated RMS, and PPMS. Efficacy was expressed in quality-adjusted life years (QALYs). A systematic review and meta-analysis are used to obtain Efficacy data. For RMS, interferon beta1a, dimethyl fumarate, glatiramer, teriflunomide, fingolimod and natalizumab were selected as comparators. For PPMS, supportive care was considered the best.

Drug	QALYs	Total Costs
Ocrelizumab	3.22	320.81 €
Natalizumab	2.92	353.21 €
Dimetilfumarate	2.29	313.76 €
Teriflunomide	2.16	303.37 €
Fingolimod	2.15	350,26 €
Interferone B-1a	2.11	302.26 €
Glatiramer acetato	1.27	329.11 €

Results: The estimated time (years) before progression to SPMS of ocrelizumab was calculated for patients treated with RMS from 2020 to 2022 compared to the other drugs under analysis. The results expressed in QALYs show that ocrelizumab has gains of 0.3 compared to natalizumab, 0.93 compared to dimethyl fumarate, 1.06 compared to teriflunomide, 1.07 compared to fingolimod, 1.11 compared to interferon beta1a and 1.97 compared to glatiramer. Calculating the incremental cost-effectiveness ratio (ICER) of Ocrelizumab compared to interferon-Beta-1a, the lowest cost drug among its competitors, we obtain a cost of 16,720 euros per QALY. For patients with PPMS, the ICER of ocrelizumab compared to best supportive care was estimated at 78,858/QALY.

Conclusions: Ocrelizumab provides important health benefits, and it has been shown to be more cost-effective in RMS or to have costs per QALY likely to be lower than commonly accepted cost-effectiveness thresholds. In PPMS, ocrelizumab fills a clinical gap in clinical practice, but its costs per QALY are likely to have a more significant impact on public spending.

