COST-EFFECTIVENESS OF INFlixIMAB BIOSIMILAR FOR THE MANAGEMENT OF CROHN’S DISEASE

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**Background:** Infliximab is an anti-TNF therapy with proven efficacy for the induction and maintenance of remission in patients with Crohn’s disease (CD). An infliximab biosimilar, CT-P13 (marketed as Inflectra), has recently been introduced that could potentially result in large cost-savings for this patient population. However, the molecular complexity and sensitivity to changes in manufacturing of biologic agents makes it difficult to verify the similarity of biosimilars to their respective innovator biologics. Due to these challenges, it is important to assess the effect of biosimilars on patient outcomes while considering the cost-savings associated with these therapies.

**Aims:** The aim of this study was to provide an economic analysis comparing the cost-effectiveness of infliximab (Remicade) to its biosimilar (Inflectra) for the management of CD.

**Methods:** A Markov model was constructed to simulate the progression of patients with CD after initiating either infliximab or its biosimilar, Inflectra. Based on this model, we calculated the cost and effectiveness of each treatment strategy over a 5-year time horizon. Transition probabilities were obtained from a literature search, and loss of response rates were obtained from published centre data and observational studies. The cost of health states were accessed using the CIHI patient cost estimator, and the cost of infliximab (Remicade and Inflectra) was obtained from the Alberta Health and Wellness Drug Benefit List. Utility values were obtained from a literature search, and the Standard Gamble approach was used. Deterministic and probabilistic sensitivity analysis was executed to characterize uncertainty.

**Results:** Over a 5-year period, infliximab therapy costs $167,388 and yielded 3.91 quality-adjusted life years (QALYs). Infliximab’s biosimilar costs patients $111,981 and yielded 3.61 QALYs over 5 years. At a willingness-to-pay threshold of $50,000 per QALY, infliximab’s biosimilar had a 91% chance of being cost-effective, whereas infliximab therapy had a 9% chance of being cost-effective.

**Conclusions:** Infliximab’s biosimilar Inflectra (CT-P13) resulted in large cost reductions despite similar effectiveness to its innovator biologic for patients with CD. Based on these results, the introduction and mainstream usage of Inflectra may help reduce the economic burden associated with CD.

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