Budget Impact Analysis of Obinutuzumab versus Belimumab for Active Lupus Nephritis from the Brazilian Private Healthcare System Perspective

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OBJECTIVES

Budget impact analysis (BIA) of adding obinutuzumab for treating class III/IV lupus nephritis (with or without class V) within the Brazilian private healthcare system, using belimumab + Standard of Care (SoC) as a comparator.

METHODS

BIA with a five-year time horizon (2027-2031) comparing the current scenario (belimumab only) with an alternative scenario including obinutuzumab for the same population. The eligible population was estimated using national data. Procedure costs and frequencies came from a microcosting study produced for this BIA. Disease progression probabilities were derived from a cost-utility model. The factory price[1] with 18% state taxes was applied to both drugs. For belimumab, calculations considered an average patient weighing 72.4 kg and accounted for vial wastage. Infusion numbers and treatment schedules followed manufacturers' guidelines. The base case assumed a 3-year treatment duration, while a sensitivity analysis assumed a 5-year duration, in accordance with clinical guidelines[2]. A progressive adoption rate for obinutuzumab was assumed: 50% to 70% for prevalent cases and 30% to 50% for incident cases from year 1 to 5.

RESULTS

In the base case, 1,557 patients are eligible for treatment in the first year. The number of patients treated with obinutuzumab reached 3,645 individuals by 2031 (table 1). The cumulative total cost in the obinutuzumab scenario was estimated at USD 352 million, versus USD 363 million in the current scenario, resulting in a five-year cumulative budget reduction of -USD 11 million (table 2 and figure 2). In the 5-year treatment scenario, a greater cumulative budget impact was observed (-USD 19,2 million) (table 2 and figure 2).

DISCUSSION

ITC showed a similar efficacy profile of obinutuzumab + SoC to belimumab + SoC[3]. Obinutuzumab + SoC showed a significant increase in patients achieving the Complete Renal Response (CRR) and successful steroid tapering[4]. Some differences between the treatment should be considered by healthcare managers as: posology differences (obinutuzumab with less frequent dosing), patient adherence and efficacy and safety of each treatment. In this study, obinutuzumab + SoC represents a cost-saving alternative to the Brazilian private market, resulting in savings on the estimated budget impact versus belimumab + SoC.

Table 1. Number of patients eligible to the treatment with obinutuzumab

	2027	2028	2029	2030	2031
Obinutuzumab + SoC	**561**	**1,205**	**1,932**	**2,745**	**3,645**
Belimumab + SoC	996	1,921	2,775	3,555	4,261
Total	1,557	3,126	4,707	6,300	7,906

SoC: Standard of care; * Market share for obinutuzumab + SoC: 36% / 41% / 46% / 51% / 56%

Table 2. Cumulative total cost for current and alternative scenarios over a 3 or 5-year treatment duration

	3 years treatment duration		5 years treatment duration	
Treatment	**Current**	**Alternative**	**Current**	**Alternative**
Obinutuzumab + SoC	$0	$148.715.984	$0	$165.455.887
Belimumab + SoC	$363.695.978	$204.295.457	$430.148.673	$245.667.278
Total	**$363.695.978**	**$353.011.441**	**$430.148.673**	**$411.123.166**

SoC: Standard of care

Figure 1. Year by year budget impact comparing 3 or 5-years treatment duration

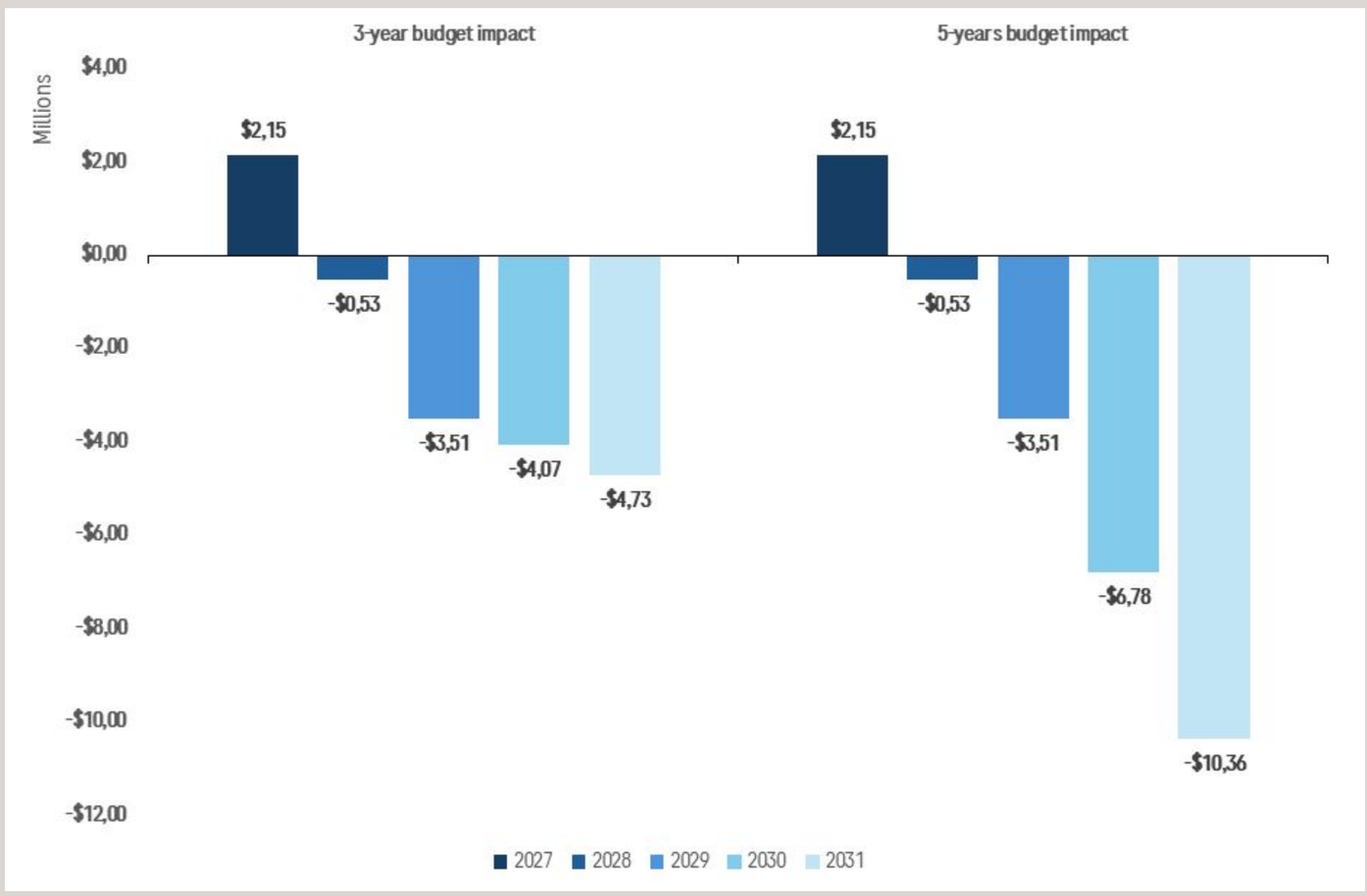
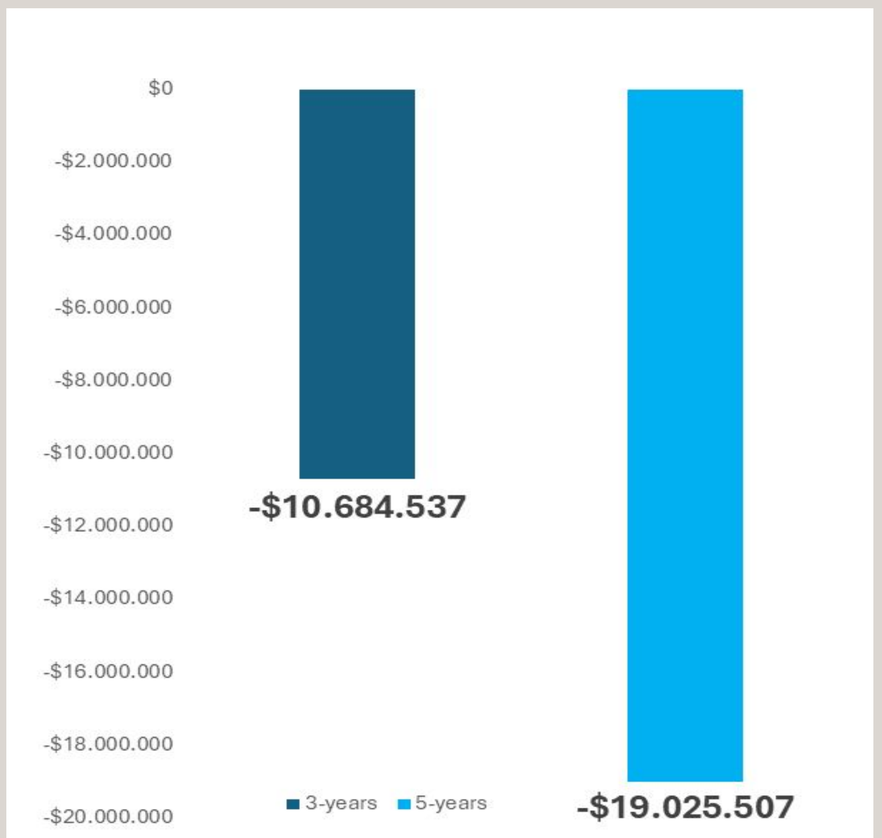


Figure 2. Cumulative estimated budget impact



CONCLUSIONS

Obinutuzumab represents an effective and cost saving therapeutic alternative, driven primarily by the posological profile and lower frequency of administrations compared to belimumab, as well as by prolonged B-cell depletion. By adopting this treatment, private payers can implement a sustainable strategy that enables cost savings while providing a well-established safety profile and robust clinical efficacy in achieving complete and partial renal response.

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