

Cost By Outcomes Analysis of Blinatumomab and Inotuzumab Ozogamicin for Relapsed/Refractory B-cell Precursor Acute Lymphoblastic Leukemia From a Brazilian Private Healthcare Perspective

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INTRODUCTION

- Acute lymphoblastic leukemia (ALL) is a rare and fatal hematologic malignancy characterized by the overproduction of immature lymphocytes (lymphoblasts) that replace healthy lymphocytes, leading to neutropenia, anemia, and thrombocytopenia.¹
- Adults with relapsed or refractory (R/R) B-cell precursor (BCP) ALL have a poor prognosis and historically have had few treatment options, with most receiving standard of care salvage chemotherapy.^{2,3}
- Blinatumomab, a BiTE® molecule (bispecific T-cell engager), and inotuzumab ozogamicin (inotuzumab), a humanized anti-CD22 monoclonal antibody conjugated to calicheamicin, were recently approved by the ANVISA for the treatment of R/R BCP-ALL.⁴
- The aim of this study was to estimate the treatment cost and cost per patient outcome of these novel therapies for the treatment of R/R B-cell precursor ALL patients from a Brazilian private healthcare perspective.

METHODS

- Treatment costs associated with blinatumomab and inotuzumab were compared. For each therapy, the median number of treatment cycles from each pivotal phase III clinical trial was used as treatment duration.
- Treatment costs were estimated for the modeled treatment duration considering therapy-specific dosing schedules and mean body surface area (BSA).
- The mean BSA was calculated considering official data from IBGE of weight and height for Brazilian adult men (1.85 m²); women (1.66 m²) and general adult population (1.75 m²).
- Drug prices were based on the December 2019 Brazilian drug list prices with 18% state tax (PF 18%).⁴ No viral sharing was assumed.
- As a head-to-head trial of inotuzumab versus blinatumomab is unavailable, the indirect comparison study from Song J, et al was considered for the cost per outcome analysis.
- The cost per outcome estimate (median overall survival [OS] and complete response) was calculated as follows:

$$\text{Cost per outcome} = \text{Mean treatment cost} / \text{outcome}$$

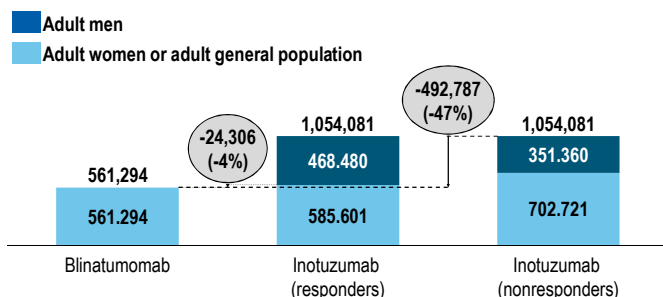
RESULTS

Treatment Cost

Inotuzumab

- The treatment cost ranged from 585,601 to 1,054,081 BRL depending on the mean BSA and treatment response.
- The treatment cost for adult Brazilian men (1,054,081 BRL) was irrespective of treatment response because of their higher mean BSA (1.85 m²).
- However, for adult Brazilian women and the general Brazilian population (considering both men and women), the treatment cost ranged from 585,601 BRL to 702,721 BRL depending on the treatment response.

Figure 1. Treatment Cost for Blinatumomab and Inotuzumab by Body Surface Area and Treatment Response



Blinatumomab

- The treatment cost was lower than that of inotuzumab irrespective of the patient's treatment response or BSA.

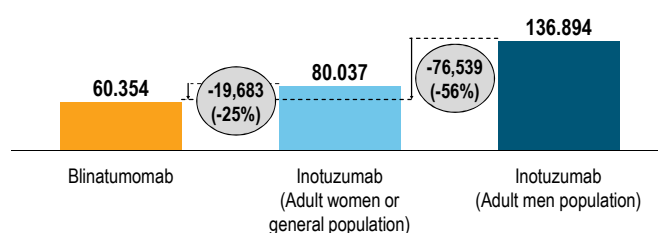
RESULTS (Continued)

- The treatment cost was up to 47% (-492,787 BRL) lower than that of inotuzumab.
- The treatment cost did not vary for blinatumomab (fixed dose for patients ≥45 kg) as the mean weight for women (62.3 kg), men (72.4 kg), or general Brazilian adult population (67.2 kg) is >45 kg.

Cost per Median Overall Survival

- Blinatumomab presented up to 56% lower cost per median OS.
- The cost per median OS was lower for blinatumomab than that of inotuzumab irrespective of the BSA.

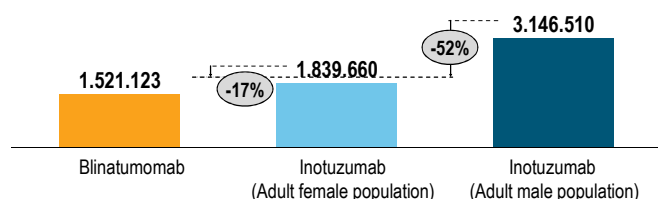
Figure 2. Cost per Median OS for Blinatumomab and Inotuzumab by Body Surface Area



Cost per Achieved Complete Response

- Blinatumomab offered up to 52% lower cost per achieved complete response.
- The cost per achieved complete response was lower for blinatumomab than that of inotuzumab irrespective of the BSA.

Figure 3. Cost per Achieved Complete Response for Blinatumomab and Inotuzumab by Body Surface Area



LIMITATIONS

- Costs related to management of adverse events were not included and could increase the costs presented in the analysis for both therapies.
- Real world clinical data for ALL that takes into consideration Brazilian medical practices and clinical outcomes were not available at the time of this analysis.

CONCLUSIONS

- The results suggest that blinatumomab is potentially associated with considerable lower treatment cost depending on BSA and treatment response.
- Blinatumomab presented lower cost per patient outcome, irrespective of the BSA, for median overall survival and complete response.

DISCLOSURES

- Straus Tanaka, Izabella Lunk, Alejandro Arancibia and Guilherme Aratangy are employee of Amgen.
- This study was funded by Amgen Inc. Medical writing supported was funded by Amgen Inc.

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