Poster 3514

Economic Impact of Adverse Event Management in HR+/HER2− Metastatic Breast Cancer: A Comparative Analysis of Datopotamab deruxtecan and standard of care in the Brazilian Private Healthcare System

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Objective

This study aims to evaluate and compare the economic burden of managing grade ≥3 AEs in patients with HR+/HER2− metastatic breast cancer who have progressed on endocrine therapy and received at least one line of systemic therapy.

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Background

TROPION-Breast01[1] (TB01), a phase III clinical trial evaluated the safety and efficacy of datopotamab deruxtecan (Dato-DXd) in comparison to the investigator's choice of standard single-agent chemotherapy (ICC). Dato-DXd demonstrated a manageable safety profile, characterized by a significantly lower incidence of grade ≥3 adverse events (AEs) compared to ICC (21% vs. 45%).[1]

Methods

The therapeutic regimens analyzed in this study were derived from two pivotal clinical trials: TB01, which compared Dato-DXd with ICC (i.e., capecitabine, eribulin, gemcitabine, vinorelbine), and TROPICS-02[2], which assessed sacituzumab govitecan (SG) versus ICC. TB01 and TROPICS-02 had the same ICC. AEs frequencies were extracted from the aforementioned clinical trials. Clinically and economically relevant events were identified by applying a ≥10% frequency threshold for any-grade AEs in each study arm, for which, grades ≥3 AEs were included for the cost analysis. Cost estimation was performed using a micro-costing approach[3], incorporating direct medical expenses specifically associated with the management of grade ≥3 AEs. The total AE-related cost per treatment arm was calculated by multiplying the unit cost of each selected AE by its respective frequency and summing the resulting values.

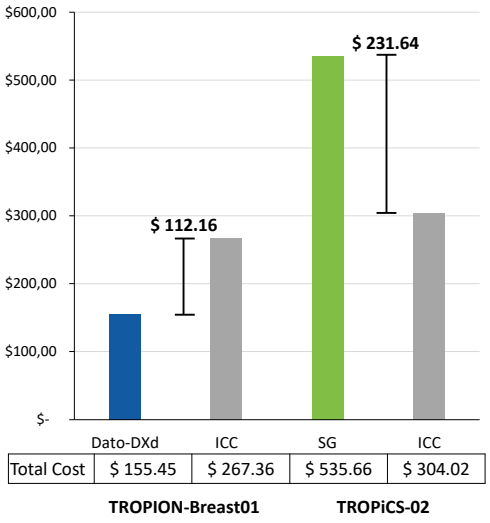
Results

The AEs included for analysis are summarized in Table 1. Treatment with Dato-DXd resulted in an estimated AE related cost of US$ 155.45, reflecting a 41.9% decrease in toxicity-related expenditures relative to its respective ICC arm comparator (US$ 267.36), while SG was associated with a total AE-related cost of US$ 535.66, compared to US$ 304.02 for its respective ICC arm comparator, indicating a 76.2% increase in costs related to adverse event management.

Table 1. AEs frequency (%)

Adverse Events	TROPION-Breast01[1]		TROPiCS-02[2]	
	Dato-DXd (n=360)	ICC (n=351)	SG (n=268)	ICC (n=249)
Neutropenia	1.1	30.8	50.7	38.2
Anaemia	1.1	2.0	6.3	3.2
Leukopenia	0.6	6.8	8.6	5.2
Lymphopenia	-	-	3.7	3.2
Thrombocytopenia	-	-	0.4	3.6
Diarrhea	-	1.1	9.3	1.2
Nausea	1.4	0.6	1.1	2.8
Vomiting	1.1	0.6	0.4	1.6
Abdominal pain	-	-	0.7	-
AST increased	0.6	0.6	-	1.2
ALT increased	-	-	-	2.4
Fadigue	1.7	2.0	5.6	2.8
Asthenia	0.8	1.1	1.9	0.8
Decreased appetite	0.8	0.6	0.4	0.4
Stomatitis	6.4	2.6	-	-
Dry eye	0.6	-	-	-
Keratitis	0.6	-	-	-
PPE	-	2.0	-	-
Neuropathy	-	-	1.1	2.4
Constipation	-	-	-	-
Alopecia	-	-	-	-

Graphic 1. AEs cost results in US$*



*Cost per patient during a 30-day period. 1US Dolar = 5.6 BRL

Conclusion

This analysis identified differences in AE-related costs across treatment modalities, emphasizing the economic relevance of toxicity management in patients with HR+/HER2− metastatic breast cancer who have progressed on endocrine therapy and received at least one line of systemic treatment. Dato-DXd demonstrated lower expenditure associated with adverse event management compared to its respective ICC arm comparator. SG was associated with higher AE-related costs relative to its respective ICC arm comparator. These findings align with previous evidence, including the Ryczek et al. (2024)[4]. This data highlights the importance of incorporating toxicity-related costs into treatment decision-making within the Brazilian Private Healthcare System.

Abbreviations

HR: hormone receptor, HER2: human epidermal growth factor receptor 2, ADC: antibody-drug conjugate; AE: adverse events; Dato-DXd: datopotamab deruxtecan; SG: sacituzumab govitecan; ICC: investigator's choice of standard single-agent chemotherapy; ALT: alanine transaminase; AST: aspartate aminotransferase; PPE: Palmar-plantar erythrodyses

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