CO21

Real-World Evidence on Clinical Outcomes and Safety of Trastuzumab Biosimilar in Colombian Breast Cancer Patients

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BACKGROUND

- As patents for certain biological agents near expiration, the creation of biosimilars has emerged as a crucial focus for pharmaceutical companies and global health authorities, aiming to ensure widespread access to high-quality, alternative treatments[1].
- Biosimilars are biologic medications designed to closely resemble an approved reference product, with only minor variations in non-active components. They are equally effective, safe, pure, and potent as the originator product, without clinically significant differences[2].
- Combining trastuzumab with chemotherapy has significantly enhanced outcomes in HER2-positive cancers, including metastatic breast cancer, by improving response rates, progression-free survival, and overall survival[3,4]. It has also notably increased survival in early-stage HER2-positive breast cancer and metastatic HER2-positive gastric cancer[5].

OBJECTIVE

- To assess the effectiveness and safety profile, including adverse events (AEs), of trastuzumab biosimilar treatment in Colombian breast cancer patients between 2019 and 2022, based on real-world evidence.

METHODS

- This retrospective cohort study analyzed patients treated with trastuzumab-qyyp for HER2-positive metastatic breast cancer (mBC) or early breast cancer (eBC) at a Colombian clinic between October 2015 and December 2022 (EUPAS49290).
- The initial follow-up date was October 2019, after approval of sanitary registration. The patient's index date was defined as the date of the first infusion of trastuzumab-qyyp.
- The follow-up time ended when the patient discontinued the treatment, died, was lost to follow-up or until the end of the collection of information until December 2022.
- The inclusion criteria were treatment with trastuzumab-qyyp according to the approved indications for breast cancer and received from the first cycle and completed a minimum of 2 treatment cycles.
- Data was extracted from electronic health records included demographics, clinical characteristics, progression, death, and AE.
- Outcomes were assessed using Kaplan-Meier analysis for progression-free survival and Cox regression.
- PFS was defined as the time between the date the patient received the first infusion until the date of disease progression or death from any cause.
- Descriptive statistics were generated for all variables. These will include estimates of the mean, standard deviation, 95% confidence intervals of the mean, median, interquartile ranges and frequency distributions for continuous scale variables and frequency distributions for categorical scale variables.

RESULTS

- Fifty patients were included in the study (16 patients in mBC and 34 eBC). Median follow-up was 13.5 months (SD 11.1) with mean age of 58.8 years (SD 11.7).
- 58.8% of eBC patients were stage IIB or early at diagnosis of breast cancer. Most patients (80%) maintained ECOG ≤1.
- Among 16 mBC patients, 62.5% reported 1 site of metastasis. Bone (n=7;43.8%), lung (n=7;43.8%) and lymph nodes (n=2; 12.5%) were the most common location of metastasis. Additionally, 81.3% of patients were novo metastasis.

RESULTS (cont)

- Trastuzumab-qyyp was mainly used in early breast cancer as adjuvant or neoadjuvant after surgery, and neoadjuvant chemotherapy followed by adjuvant trastuzumab treatment while in metastatic cancer in combination with paclitaxel or docetaxel (Table 2).
- Treatment discontinuation occurred in 28 patients (56%). Twenty-two patients were eBC patients being treatment completion (n=12, 55.5%), patient decision (n=5, 22.7%) and AE (n=3, 13.6%) the most frequently reported. The other six patients were mBC, where 3 discontinued by cardiac toxicity.
- Clinical benefit (complete response, partial response, or stable disease) was achieved in 60% of mBC and 79.4% of eBC patients (Figure 3).
- The mPFS was not reached in mBC being necessary more time of follow-up. At 12 months, 74.3% of patients were alive (Figure 4). In eBC, The mPFS reached 35 months (95% CI 33 – NA) (Figure 5).
- Patients experienced a mean of 9.9 adverse events (SD 7.5), predominantly diarrhea (14.4%), nausea (8.5%), and fatigue (5.2%). Ten serious AEs were documented in 8 patients, including grade 4 (n=5), and grade 3 (n=5) events, with no significant correlation between adverse event occurrence and trastuzumab. Twenty-four patients were found 41 adverse event grade 3.
- Twenty-three adverse events were associated to cardiac disorders were founded in which 6 were grade 3, and 1 was grade 4. None death by AE was reported.

Table 1. Demographic and clinical characteristics of patients included in the study

Characteristics	Early breast cancer (n=34)	Metastatic breast cancer (n=16)	Total
Age mean (sd)	58.4 (12.5)	59.8 (9.9)	58.8 (11.7)
Stage at diagnosis			
IA	2 (5.9)		2 (4)
IB	2 (5.9)		2 (4)
IIA	5 (14.7)		5 (10)
IIB	11 (32.4)	4 (25)	15 (30)
IIIA	3 (8.8)		3 (6)
IIIB	8 (23.5)		8 (16)
IIIC	3 (8.8)		3 (6)
IV		12 (75)	12 (24)
ECOG at first cycle			
0	12 (35.3)	2 (12.5)	14 (28)
1	16 (47.1)	10 (62.5)	26 (52)
2	1 (2.9)	1 (6.3)	2 (4)
3	1 (2.9)		1 (2)
Non information	4 (11.8)	3 (18.8)	7 (14)

Table 2. Use of trastuzumab-qyyp in the group of study participants

	Early breast cancer (n=34)	Metastatic breast cancer (n=16)
Combination with paclitaxel or docetaxel		14 (87.5)
Combination with aromatase inhibitors		2 (12.5)
After surgery, chemotherapy (neoadjuvant or adjuvant)	13 (38.2)	
After adjuvant chemotherapy with doxorubicin and cyclophosphamide in combination with paclitaxel or docetaxel	6 (17.6)	
Adjuvant chemotherapy combination with docetaxel and carboplatin	6 (17.6)	
Neoadjuvant chemotherapy followed by adjuvant trastuzumab treatment.	7 (20.6)	
No data	2 (5.8)	

RESULTS (cont)

Figure 1. Clinical response to trastuzumab-qyyb in metastatic breast cancer (A) and early breast cancer (B)

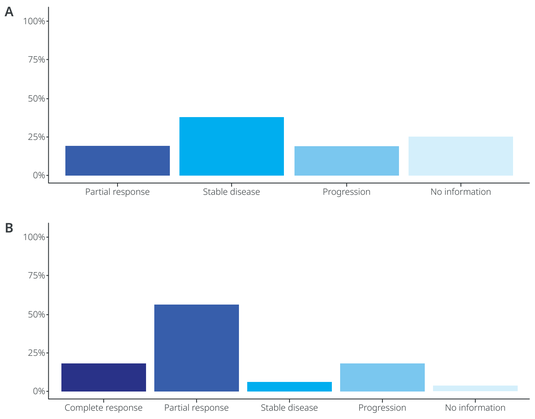


Figure 2. Progression free survival in metastatic breast cancer patients

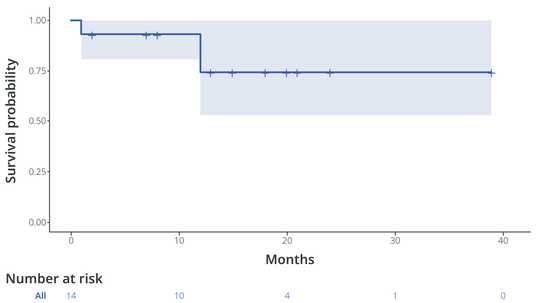
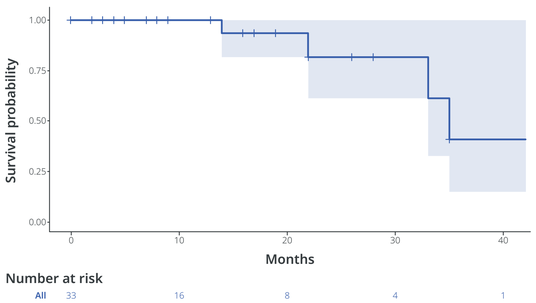


Figure 3. Progression free survival in early breast cancer patients



RESULTS (cont)

Table 3. Adverse events reported in patients treated with trastuzumab-qyyp

Adverse events	Grade 1	Grade 2	Grade 3	Grade 4
Spinal cord compression	0	0	0	1
Seizure	0	1	1	1
Diarrhea	15	17	9	1
Dysarthria	1	0	0	1
Decreased ejection fraction	2	8	4	1
Urinary tract infection	1	7	0	1
Arthralgia	7	7	1	0
Bacteremia	0	0	1	0
Headache	8	4	2	0
Eye disorder	0	0	1	0
Dysnea	2	1	5	0
Cardiac chest pain	0	1	1	0
Limb pain	1	0	1	0
Lower back pain	1	2	1	0
Pelvic pain	1	2	1	0
Pulmonary edema	0	0	2	0
Elevated creatinine levels	0	1	1	0
Elevated troponin levels	0	0	1	0
Heart failure	0	1	1	0
Fatigue	12	8	2	0
Arterial hypertension	0	0	1	0
Myalgias	4	4	2	0
Oral mucositis	4	3	1	0
Allergic reaction	2	4	1	0
Syncope	0	0	1	0
Nausea	23	13	0	0
Other	116	94	0	0

CONCLUSION

- Trastuzumab-qyyp demonstrated effectiveness in both mBC and eBC with manageable adverse events primarily being gastrointestinal symptoms and fatigue. Treatment discontinuation due to adverse events was infrequent.

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