

Impact associated with pertuzumab and trastuzumab SC and IV formulations utilization in metastatic HER2-positive breast cancer patients treated in SUS

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Introduction: Current gold standard therapy for metastatic breast cancer (mBC) HER2-positive patients – double blockage with pertuzumab and trastuzumab (P+T) – is available in the Sistema Único de Saúde (SUS) as intravenous (IV) formulations. Despite important clinical and economic benefits that these two medicinal products bring to patients when administered intravenously (P+T IV), they require considerable healthcare resource utilization in their preparation, administration and monitoring and have significant impact to patients and healthcare professionals (HCP). Recently, a subcutaneous (SC) fixed-dose combination of P+T (PT SC) with comparable efficacy and safety has been registered and made available in the Private system in Brazil. This is a much less invasive formulation, preferred by the vast majority of patients and HCPs when compared to P+T IV requiring considerably less administration (5-8 vs 60-150 minutes with IV formulations) and monitoring times (15-30 vs 30-120 minutes with IV formulations)^{1,2}. **Objective:** Estimate resource use (time and costs) associated with PT SC and P+T IV formulations in mBC HER2+ patients' treatment in SUS. **Material and Method:** Four experts (oncologist, nurse, pharmacist and hospital manager) were previously interviewed and data on healthcare resource utilization and time associated with HCP tasks performed in mBC treatment with both formulations was collected. For each alternative, preparation (including catheter implantation), administration and monitoring times and costs were considered using official sources – Sistema de Gerenciamento da Tabela de Procedimentos, Medicamentos e OPM do SUS (SIGTAP)³ and average salaries of nurses⁴. Impact to SUS – time spent by patients, HCPs, hospital stay and associated costs – was estimated for a 5 year period based on DataSUS data on mBC HER2+ patients currently treated at SUS and projection on the 2025-2029 horizon⁵. **Results:** For a 1-year period (18 cycles), P+T IV treatment resulted in BRL 1,458 per patient. In contrast, PT SC summed up BRL 170 per patient only. Such values considered administration and chair times and costs with HCPs. PT SC allows savings, on average, of 32.2 hours/patient vs IV considering administration and observation times. Time saving with PT SC would allow to treat 5 times more HER2+ mBC patients requiring 1-year treatment in SUS compared with P+T IV. Considering the 78,901 anti-Her2 double-blockage administrations needed for mBC HER2+ patients in SUS in the upcoming 5-year period, PT SC adoption would result in BRL 13,415,411 compared to BRL 115,012,370 with P+T IV – potential savings of up to BRL 101,596,958 for SUS. **Conclusions:** Considering resource used and HCPs time required for IV and SC P+T administrations, switching from IV to SC administration could save SUS more than 101 million BRL in a 5 year period and reducing patients time stays in the hospital, increasing their quality of life, allowing more patients to be treated in due time.

Keywords: Breast cancer; Subcutaneous; Intravenous; Economics.

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