ABSTRACT: Time Savings with Trastuzumab Subcutaneous (SC) Injection vs. Trastuzumab Intravenous (IV) Infusion: A Time and Motion Study in 3 Russian Centres

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Objectives

Trastuzumab (TRA) subcutaneous (SC) injection is an alternative to intravenous (IV) administration for the treatment of HER2+ early breast cancer (EBC). The objective was to quantify healthcare professional (HCP) time and patient chair time related to TRA treatment to estimate potential time and cost savings with a transition from IV to SC.

Methods

A multi-centre, prospective time-and-motion study was run in three Russian centres participating in the SafeHer clinical trial (MO28048). Case report forms listing pre-specified tasks for IV, SC, and pharmacy management in chronological order and tailored to site practices were used for data collection. Trained observers recorded patient chair time and durations that HCPs were actively completing the tasks.
A random effects regression model was run for each task to generate mean and 95% confidence intervals. IV vs. SC process time was calculated as the sum of the mean task times. HCP and chair time were translated to cost using Russian salary data, and 354 roubles (p) per infusion chair hour.

**Results**

Mean reduction in HCP time per patient session was 18.6min (−48%) (IV: 38.7min vs. SC: 20.1min; centre range: 8.6–31.1min), of which 61% of time reduced was achieved in the treatment room. Per treatment session (total 18 sessions), the estimated time saving was 5.6 hours (range across centres: 2.6–9.3hours). Reduction in mean chair time was 59.5min (−89%) (IV: 67.1min vs. SC: 7.6min; centre range: 29.8–97.3min). The monetary value of HCP and patient chair time saved was 1,175p and 6,314p, respectively, for 18 treatment sessions.

**Conclusions**

Transition from IV to SC TRA leads to substantial reductions in administration chair time, active HCP time and associated costs. This allows more time to be used for other patient care activities, increasing the number of patients who could be treated and thus increasing the overall efficiency of treatment centres.