

Cost-effectiveness of chemotherapy for HER-2 positive metastatic breast cancer

Summary

Objectives: To evaluate the current use and assess the cost-effectiveness of the anticancer drugs trastuzumab, pertuzumab and trastuzumab emtansine in the treatment of HER2-positive metastatic breast cancer in Estonia.

Methods: A literature search for evidence of the efficacy and cost-effectiveness of trastuzumab, pertuzumab and trastuzumab emtansine was performed in the Medline database, and health technology appraisal evaluations of the cost-effectiveness of these drugs were sought from the databases of the respective agencies in Australia, Canada, England, Ireland and Scotland. The current use of anticancer drugs in the treatment of breast cancer in Estonia was analysed using the administrative database of health services of the Estonian Health Insurance Fund.

Results: Trastuzumab in combination with standard chemotherapy represents an effective first-line treatment of HER2-positive metastatic breast cancer and its current use in Estonia is in line with the recommendations of international guidelines.

The potential health gain of adding pertuzumab to trastuzumab and docetaxel is up to 15 months of overall survival, including 6 months of progression-free survival, making 0.775 QALYs per patient treated.

The potential health gain of using trastuzumab emtansine in patients previously treated with trastuzumab and a taxane is up to 31 months of overall survival, including 9 months of progression-free survival, making 0.3125 QALYs per patient treated.

In the event that pertuzumab or trastuzumab emtansine is reimbursed for the treatment of HER2-positive metastatic breast cancer in Estonia, this will increase health insurance costs by 0.9-1.4 and 0.7 million euros, respectively.

Conclusions: The incremental cost per QALY gained ranged from 28,000-96,000 euros for pertuzumab and from 38,000-77,000 euros for trastuzumab emtansine, according to the estimates of overall survival increase in the studies published.

The comparison of evidence on the efficacy and cost-effectiveness of anticancer drugs with current availability and use in Estonia resulted in recommendations to change the reimbursement principles and regulations of metastatic breast cancer chemotherapy.

Citation: Adamson A, Jaal J, Jõgi K, Pisarev H, Kiiwet RA. HER2-positiivsete rinnakasvajate kemoterapia kliiniline tõendus põhisis ja kulutõhusus. Tartu: Tartu Ülikooli peremeditsiini ja rahvatervishoiu instituut; 2016.