Cost-Effectiveness Analysis of Anastrozole versus Tamoxifen in Adjuvant Therapy for Early-Stage Breast Cancer -- A Health-Economic Analysis Based on the 100-Month Analysis of the ATAC Trial and the German Health System

Abstract:

Background: In the Arimidex, Tamoxifen Alone or in Combination (ATAC) trial, the aromatase inhibitor (AI) anastrozole had a significantly better efficacy and safety profile than tamoxifen as initial adjuvant therapy for hormone receptor-positive (HR+) early breast cancer (EBC) in postmenopausal patients. To compare the combined long-term clinical and economic benefits, we carried out a cost-effectiveness analysis (CEA) of anastrozole versus tamoxifen based on the data of the 100-month analysis of the ATAC trial from the perspective of the German public health insurance. Patients and Methods: A Markov model with a 25-year time horizon was developed using the 100-month analysis of the ATAC trial as well as data obtained from published literature and expert opinion. Results: Adjuvant treatment of EBC with anastrozole achieved an additional 0.32 quality-adjusted life-years (QALYs) gained per patient compared with tamoxifen, at an additional cost of D 6819 per patient. Thus, the incremental cost effectiveness of anastrozole versus tamoxifen at 25 years was D 21,069 ($30,717) per QALY gained. Conclusions: This is the first CEA of
an AI that is based on extended follow-up data, taking into account the carryover effect of anastrozole, which maintains the efficacy benefits beyond therapy completion after 5 years. Adjuvant treatment with anastrozole for postmenopausal women with HR+ EBC is a cost-effective alternative to tamoxifen.

Stichworte: Tamoxifen; QALY; Anastrozole; Cost-effectiveness analysis; Cost-utility analysis; Incremental cost-effectiveness ratio

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