

P215B Evaluation of the cost-effectiveness of Oncotype-DX[®] multigene assay in Hungary

Health politics/Guidelines

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Goals: The Oncotype DX[®] breast cancer (BC) multigene expression assay can predict the likelihood of chemotherapy (CT) benefit for patients (Pts) treated with different CT regimens as well as the risk of recurrence in early-stage BC. The assay is intended for women with stage I or II, node-negative (N⁻), estrogen receptor-positive (ER⁺), HER-2-negative and for post-menopausal Pts with 1–3 node-positive (N⁺), HR-positive invasive BC who will be treated with endocrine therapy.

We analysed the clinical and pathological data of these Pt groups at National Institute of Oncology (NIO) in order to study the cost-effectiveness of the use of Oncotype DX[®].

Methods: Between 01.01.2009 and 01.01.2010 1014 consecutive Pts were detected in the registry of our multidisciplinary institutional breast oncoteam with 780 Pts whom have had adjuvant therapy decision. 410 Pts had Stage I–II, ER-positive and HER-2 negative disease. We entered these Pts into two subgroups: I: N⁻(pT1–3pN0M0, N = 306) and II: 1–3 N⁺(pT1–2pN1M0; N = 104).

Based on these epidemiological data we made a cost-utility model. The model's main assumption is the following: if a Pt has low Recurrence Score[®] she can avoid CT which raises the quality of life while the chemotherapy associated costs are decreasing.

A systematic literature review suggests that the total net change in CT use because of Oncotype DX is 34.4% (in the pN0 group) and 35% for pN1a–c Pts.

The increase in quality adjusted life years (QALYs) by avoiding chemo equals 0.5 (Simes et al, 2001). In addition we assume utility of 0.9 for women without recurrence or other tumor and utility of 0.7 for women with recurrence or another tumor.

The costs are based on the official database (National Health Insurance Fund. Hungary. 2010). The time horizon was 30 years, the costs over 1 year are discounted at rate of 5%.

Results: The incremental cost-effectiveness ratio (ICER) was 8,529€/QALY respectively. The total net costs per Pt is 2,126€, while the QALY gain is 0.2493.

Conclusion: Based on valid epidemiological data we came to a conclusion that the counted ICER was 8,529€/QALY. This value is favorable among the oncology related health technologies.

