
Pharmacoeconomic aspects of adjuvant anastrozole or tamoxifen in breast cancer: a Slovenian perspective

Piskur P, Sonc M, Cufer T, Borstnar S, Mrhar A

Record Status

This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary

The study assessed the clinical and economic impact of anastrozole (AN) and tamoxifen for the treatment of postmenopausal women with hormone receptor-positive breast cancer. The authors concluded that AN could be considered a cost-effective strategy from the perspective of the Slovenian health care system. There were a few methodological limitations to the study, so the authors' conclusions should be considered with a degree of caution.

Type of economic evaluation

Cost-effectiveness analysis

Study objective

The study focused on the economic impact of anastrozole (AN) and tamoxifen (TAM) for the treatment of breast cancer (BC). The patient population consisted of postmenopausal women with hormone receptor-positive BC.

Interventions

The study examined AN (1 mg daily) and TAM (20 mg daily) for the treatment of postmenopausal women with early BC.

Location/setting

Slovenia/hospital.

Methods

Analytical approach:

This economic evaluation was based on a decision model that simulated the development of disease under the two treatments. A time horizon of 60 months was considered. The authors stated that the perspective of the health care provider was adopted in the study.

Effectiveness data:

The clinical data were derived from a pivotal randomised clinical trial (RCT), the Arimidex, Tamoxifen Alone or in Combination study, which followed postmenopausal women for a median time of 68 months and directly compared the two regimens. Other details of the trial were not reported. The key clinical measures were the rate of local, contralateral and distant relapse with AN or TAM.

Monetary benefit and utility valuations:

None.

Measure of benefit:

The health outcomes were left disaggregated and no summary benefit measure was used. In effect, a cost-consequences analysis was performed. The key clinical estimates were the rates of success, failure and recurrence.

Cost data:

The analysis included the health services associated with drugs, clinical examination, mammography, pre-operative diagnostics and laboratory tests, surgery, hospital stay, outpatient unit, radiotherapy, chemotherapy, home care and transportation. A breakdown of the cost items was provided. Resource use was based on the medical charts of women

diagnosed with primary early BC during 1997 to 2000 at the Institute of Oncology in Ljubljana. All medical costs came from the Institute of Oncology and other university and general hospitals. The drug costs came from a national official drug list. Non-medical costs were estimated from other national sources. The costs were in euros (EUR). The price year was not reported.

Analysis of uncertainty:

A multivariate sensitivity analysis was undertaken to address the issue of uncertainty. The prices of both drugs were varied. Worst- and best-case scenarios were then considered.

Results

The rate of success was 87.1% with AN and 84.2% with TAM. Among patients who experienced a failure, the rate of local or distant recurrence was 91.3% with AN and 88.2% with TAM, while the rate of contralateral BC was 8.7% with AN and 11.8% with TAM.

The total costs of treatment were EUR 14,820 with AN and EUR 8,448 with TAM. The difference of EUR 6,372 was almost entirely due to the higher acquisition cost of AN.

The sensitivity analysis indicated that, as expected, in the best-case scenario with a 10% reduction in the price of AN, the cost of AN was reduced to EUR 14,038.

Authors' conclusions

The authors concluded that AN could be considered a cost-effective alternative to TAM for the treatment of postmenopausal women with hormone receptor-positive early EBC from the perspective of the Slovenian health care system, despite the higher drug acquisition cost.

CRD commentary

Interventions:

The selection of the comparators was appropriate in that AN was compared with TAM, which represents the current treatment for this specific patient population.

Effectiveness/benefits:

The authors did not describe the RCT used to derive the clinical estimates because it had been published elsewhere. Nevertheless, the design of this pivotal trial should have ensured the validity of the clinical results, owing to the strengths of its characteristics and the head-to-head comparison of the two regimens. A sensitivity analysis of the clinical data would have been useful.

Costs:

The cost analysis was characterised by extensive reporting of the sources used and the categories of costs, which were consistent with the viewpoint of the study. The sources of data reflected the local accounting system. Resource use reflected the authors' experience in a large national research centre. Nevertheless, the price year was not reported and discounting, which might have been interesting given the 5-year time horizon of the analysis, was not applied. Furthermore, the costs were treated deterministically and the sensitivity analysis investigated only the impact of variations in drug price.

Analysis and results:

The authors did not derive a benefit measure, which would have been of interest for carrying out an appropriate synthesis of the costs and benefits. In effect, the analysis focused on the costs of treatment since the clinical impact had already been evaluated in the RCT. The issue of uncertainty was only partially addressed and it focused on the drug acquisition price, which was the key input of the model. The results of the analysis were presented clearly. In general, the lack of an incremental analysis means that it is not possible to assess whether the authors' conclusions are appropriate, as the value for money of AN was not fully analysed. The authors presented some findings from other studies to support their conclusions.

Concluding remarks:

There were a few methodological limitations to the study, so the authors' conclusions should be considered with a degree of caution.

Funding

None stated.

Bibliographic details

Piskur P, Sonc M, Cufer T, Borstnar S, Mrhar A. Pharmacoeconomic aspects of adjuvant anastrozole or tamoxifen in breast cancer: a Slovenian perspective. *Anti-Cancer Drugs* 2006; 17(6): 719-724

PubMedID

16917219

DOI

10.1097/01.cad.0000215057.47695.db

Other publications of related interest

The ATAC (Arimidex, Tamoxifen Alone or in Combination) Trialists' Group. Anastrozole alone or in combination with tamoxifen alone for adjuvant treatment of postmenopausal women with early breast cancer: first results of the ATAC randomised trial. *Lancet* 2002;359:2131-9.

Hillner BE. Cost-effectiveness projections of anastrozole vs tamoxifen as initial adjuvant therapy in ER-positive breast cancer. *Breast* 2003;12:S44-5.

Mansel R. Cost-utility analysis of anastrozole versus tamoxifen as adjuvant therapy in post-menopausal women with early breast cancer: a UK National Health Service perspective. *Ann Oncol* 2004;15 Suppl 3:65.

Indexing Status

Subject indexing assigned by NLM

MeSH

Antineoplastic Agents, Hormonal /therapeutic use; Breast Neoplasms /drug therapy /economics /therapy; Chemotherapy, Adjuvant; Combined Modality Therapy; Cost-Benefit Analysis; Decision Trees; Disease-Free Survival; Economics, Pharmaceutical; Humans; Neoplasm Recurrence, Local /drug therapy /economics /therapy; Neoplasms, Hormone-Dependent /drug therapy /economics; Nitriles /therapeutic use; Slovenia; Tamoxifen /therapeutic use; Treatment Outcome; Triazoles /therapeutic use

AccessionNumber

22006001807

Date bibliographic record published

26/09/2006

Date abstract record published

23/12/2008