

Cost-effectiveness analysis of anastrozole versus fadrozole for the treatment of postmenopausal advanced recurrent breast cancer in Japan

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Abstract :

Background

The aromatase inhibitors, anastrozole and fadrozole have been confirmed to be effective for the treatment of postmenopausal advanced recurrent breast cancer. However, clinicians often encounter the problem that the two drugs, that have no remarkable difference in effectiveness but differences in toxicity and cost, should be used for first-line therapy. The aim of this analysis is to compare the cost-effectiveness of anastrozole therapy with one of fadrozole for postmenopausal advanced recurrent breast cancer.

Methods

A Markov model of standard treatments for postmenopausal advanced recurrent breast cancer was constructed, and retrospective cost-effectiveness analysis was carried out, incorporating cost data on the medical fee points and the NHI prices, and the clinical data in the published literatures. In this analysis, the period from the onset of first-line therapy to the failure of third-line therapy was defined as the survival period, according to which the effectiveness of the treatment was evaluated.

Results

The cost-effectiveness was 60,820 yen/survival-month when the treatment was initiated with anastrozole and 63,173 yen/survival-month when with fadrozole. The monthly treatment cost including drug cost was 21,773 yen for anastrozole and 21,420 yen for fadrozole. This results showed that treatment with anastrozole is more cost-effective than one with fadrozole although the NHI price of anastrozole was higher than that of fadrozole. When the treatment was initiated with anastrozole, the incremental cost-effectiveness ratio was 17,228 yen/survival-month.

Conclusions

Anastrozole is considered to be more cost-effective than fadrozole despite its higher price primarily because of its greater anti-cancer efficacy. A major cost-driving factor was that the treatment with a relatively cheap aromatase inhibitor can be continued longer in anastrozole group than fadrozole group. Therefore, anastrozole is a cost-effective agent for first-line therapy for patients with postmenopausal advanced recurrent breast cancer, and can prolong their survival.