INAHTA Briefs

Issue 2003/02

Title The Clinical Effectiveness and Cost-Effectiveness of Vinorelbine for Breast Cancer: A Systematic Review and Economic Evaluation

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Reference Health Technol Assess 2002; 6(14). Dec 2002. www.ncchta.org/execsumm/summ614.htm

Aim

To evaluate the clinical effectiveness and cost effectiveness of vinorelbine in managing breast cancer.

Conclusions and results

Based on evidence from randomized controlled trials (RCTs), vinorelbine monotherapy as first-line, second-line, or subsequent therapy for advanced breast cancer, may be more effective in terms of progression-free survival and survival than melphalan. Vinorelbine monotherapy was not found to be more effective than other chemotherapy regimens in terms of response rates. The poor quality of the data on which these findings were based should be considered. Vinorelbine combined with doxorubicin, 5-fluorouracil, or mitoxantrone did not appear to be more effective than alternative combinations of chemotherapy in treating metastatic breast cancer. Vinorelbine plus mitoxantrone may be associated with less nausea/vomiting and alopecia than 5-fluorouracil plus doxorubicin or epirubicin plus cyclophosphamide, but may result in more febrile neutropenia.

Evidence from uncontrolled Phase II studies suggests that vinorelbine has antitumor activity and an acceptable toxicity profile, but may be associated with leukopenia, granulocytopenia, nausea/vomiting, and constipation when used as monotherapy and neutropenia, alopecia, and nausea/vomiting when used in combination. Data from the uncontrolled studies alone are inadequate. Economic studies compared vinorelbine with taxane therapy. When comparing the cost effectiveness of vinorelbine, paclitaxel, and docetaxel one economic evaluation found vinorelbine to be the most cost-effective, one found vinorelbine to be the least expensive but the least effective, and another found docetaxel to be the most cost effective.

Recommendations

No data support the use of vinorelbine as a single agent or in combination over standard first-line chemotherapy with anthracyclines or other non-taxane containing regimens. Vinorelbine may be a possible option when an alternative agent is required.

Methods

Only RCTs and full economic evaluations were initially considered. The trials had to evaluate vinorelbine alone or combined with other agents versus systemic therapy without vinorelbine. Only trials with breast cancer patients were included. The National Institute for Clinical Excellence (NICE) requested that noncomparative Phase II studies of vinorelbine (alone or combined with other agents) as first-line therapy for advanced breast cancer be evaluated for inclusion. These data were added to update the review.

Further research/reviews required

1. Further large, well-conducted RCTs are required to investigate the use of vinorelbine alone or in combination with other chemotherapy agents.
2. Further cost effectiveness analyses of vinorelbine used in the same combinations as examined in the included trials are required.

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