Locally derived clinical practice guidelines using a decision analysis model
Mutnick A H, Szymusiak-Mutnick B 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.

Health technology
Granisetron versus ondansetron (antiemetics) for treating and preventing chemotherapy-induced nausea and vomiting.

Type of intervention
Treatment and secondary prevention.

Economic study type
Cost-effectiveness analysis.

Study population
Haematology and oncology patients receiving highly emetogenic chemotherapy.

Setting
The setting was a hospital in Iowa, USA.

Dates to which data relate
The dates associated with the effectiveness, resource data collection and prices were not stated.

Source of effectiveness data
Effectiveness data were derived from a review of previously completed studies.

Link between effectiveness and cost data
Not stated.

Modelling
A decision tree model was used in the study to estimate the expected treatment success and costs (both of initial and subsequent treatment for side effects and failures) of using one antiemetic option relative to the other, in the authors' setting (hospital). The model was designed with respect to a reference population of patients receiving either highly or very highly emetogenic chemotherapy, such as cisplatin, ifosfamide, etoposide, cyclophosphamide, and other agents.

Outcomes assessed in the review
Not stated.

Study designs and other criteria for inclusion in the review
Sources searched to identify primary studies
Not stated.

Criteria used to ensure the validity of primary studies
Not stated.

Methods used to judge relevance and validity, and for extracting data
Not stated.

Number of primary studies included
Not stated.

Methods of combining primary studies
Not stated.

Investigation of differences between primary studies
Not stated.

Results of the review
Granisetron was successful in 35 out of 50 patients and ondansetron was successful in 30 out of 50 patients.

Measure of benefits used in the economic analysis
Additional patients with successful therapeutic outcomes: patients without nausea or vomiting during chemotherapy.

Direct costs
Costs included those associated with antiemetics and costs of treating adverse effects of antiemetics and additional therapy for therapeutic failures. No additional information was given.

Currency
US dollars ($).

Sensitivity analysis
One-way sensitivity analysis was performed on the success and failure rates in the model.

Estimated benefits used in the economic analysis
Granisetron resulted in an expected 10 additional successful cases relative to ondansetron per 100 patients receiving the antiemetic course (0.7 versus 0.6 success rates, respectively).

Cost results
The mean cost with granisetron was $165, whilst the mean cost with ondansetron was $195, a saving of $30.
Synthesis of costs and benefits
Since granisetron was the dominant strategy (less costly and more beneficial than the alternative), costs and benefits were not combined. The authors reported that as long as the granisetron success rate was at least 50%, it remained an efficient choice. On the other hand, if the success rate falls below 50% and ondansetron approaches 100%, ondansetron becomes the efficient choice.

Authors’ conclusions
The sensitivity analysis confirmed the initial assessment of results and made a strong case for selection of granisetron therapy for patients receiving highly or very highly emetogenic chemotherapy.

CRD COMMENTARY - Selection of comparators
It is not clear why these two comparators, in particular, were chosen.

Validity of estimate of measure of benefit
The assessment of the validity of the estimate of benefit given in this study (primary health outcome) cannot be fully assessed as insufficient information regarding the methodology used to derive the estimate was provided.

Validity of estimate of costs
Insufficient details of cost sources, types, dates, and prices were given.

Other issues
Lack of clarity surrounding the methodology behind the study results means that the conclusions drawn from this study may need to be treated with some caution.

Implications of the study
Further information and analysis of the data are needed before the validity of the study results can be fully assessed.

Source of funding
None stated.

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