Cost analysis model of outpatient management of ovarian hyperstimulation syndrome with paracentesis: "tap early and often" versus hospitalization

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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 objective was to compare the cost of conservative in-patient management, versus out-patient management with paracentesis, for moderate-to-severe ovarian hyperstimulation syndrome. The authors concluded that out-patient paracentesis was cost-effective compared with in-patient management. There were a few limitations to this study. The authors’ conclusions might reflect the available evidence, but should be considered with caution.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
The objective was to compare the cost of conservative in-patient management against that of out-patient management, using paracentesis, for moderate-to-severe ovarian hyperstimulation syndrome.

Interventions
The conservative in-patient management strategy consisted of supportive therapy of intravenous fluids, bed rest, and monitoring. This was compared with out-patient management by paracentesis performed transvaginally with ultrasound guidance and vacuum aspiration of all obtainable ascitic fluid.

Location/setting
USA/secondary care.

Methods
Analytical approach:
A decision-analytic model was constructed to combine published evidence and observational data, to compare the management strategies. The authors did not report the study perspective.

Effectiveness data:
The effectiveness data were estimated from a number of published studies and a retrospective review of hospital records. The main clinical effectiveness estimates were the probabilities of spontaneous resolution, in-patient and repeat paracentesis, and hospital and intensive care admission.

Monetary benefit and utility valuations:
Not applicable.

Measure of benefit:
The measure of benefit was the number of in-patient days.

Cost data:
The costs included those of in-patient and out-patient management, procedures, and laboratory tests. They were from the records of the Strong Memorial Hospital in Rochester, New York, which was chosen to represent a medium-sized tertiary hospital. The costs were presented in 2007 US dollars ($).

Analysis of uncertainty:
One-way sensitivity analyses were performed on the patient costs, the outcome probabilities, and the length of hospital
Results
Conservative in-patient therapy was estimated to cost $10,099 compared with $1,954 for out-patient management with paracentesis. Out-patient management with paracentesis was estimated to result in cost savings of $8,145 per patient.

The sensitivity analysis suggested that in-patient management was equal in cost to out-patient management if the length of in-patient stay was 0.71 days or less.

Authors' conclusions
The authors concluded that out-patient paracentesis appeared to be cost-effective compared with in-patient management.

CRD commentary
Interventions:
The interventions were not described in detail and the results might not be applicable outside the study setting. The analysis appears to have included the usual care in the study setting.

Effectiveness/benefits:
The effectiveness data were from a combination of published data and retrospective data collection. The authors presented the details and references of the studies used, as well as the method for extracting the retrospective data. No systematic review was reported and it is impossible to determine if the best available evidence was used. The authors stated that they conducted a cost minimisation study, but they provided no evidence for the equivalence of the benefits of the two interventions. It was unclear if discounting was undertaken on the benefits and the time horizon was not reported, which adds uncertainty to the results.

Costs:
The authors did not report the perspective, but the costs appear to have been relevant to the perspective of the health care payer. The cost estimates seem to have been relevant to the population and setting, but it was unclear if discounting was undertaken, introducing uncertainty in the cost estimates.

Analysis and results:
The decision model was described, with a diagram, but there were some limitations in the description of the analysis. The results were reported clearly, and appropriate one- and two-way sensitivity analyses were reported. A probabilistic sensitivity analysis could have more thoroughly captured the parameter uncertainty. The authors acknowledged and discussed some limitations of their study.

Concluding remarks:
There were a few limitations to this study. The authors’ conclusions might reflect the available evidence, but should be considered with caution.

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