A cost-effectiveness study of a randomised trial of laparoscopy versus laparotomy for ectopic pregnancy

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
Therapeutic laparoscopy versus open laparotomy for the treatment of laparoscopically diagnosed ectopic pregnancy.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Women with ectopic pregnancies, stratified by age and a risk-scoring system.

Setting
University Hospital in Sweden.

Dates to which data relate

Source of effectiveness data
Single study.

Link between effectiveness and cost data
The cost data was carried out on the same sample but retrospectively.

Study sample
Between May 1987 and June 1989, 264 patients were treated at a hospital in Sweden. Of these, 109 had diagnostic laparoscopy and met the criteria for inclusion. 52 were in the treatment group (laparotomy) and 57 were in the laparoscopy group. No power calculations were reported.

Study design
Randomised controlled trial (RCT), single centre study. The duration of the study was approximately forty days.
Analysis of effectiveness
The analysis was based on intention to treat. The main outcomes were elimination of trophoblastic activity, clinical features and complications. There were no differences between groups in terms of demographic or prognostic features.

Effectiveness results
The initial procedure eliminated trophoblastic activity without significant complications in 81% (95% CI 68-90) of laparoscopy patients and 95% (85-99) of the laparotomy patients.

Clinical conclusions
The clinical outcomes were equivalent.

Measure of benefits used in the economic analysis
Main outcomes were elimination of trophoblastic activity, clinical features and complications.

Direct costs
Resource use data was gathered on the procedure, length of stay, complications, readmissions, and theatre use (including capital overhead, equipment and materials). Costs were estimated from data from a University institute. Results were based on total costs from a health service perspective. Quantities and costs were analysed separately. Resources were measured between 1992 and 1993 from the trial records and other sources. Prices were in 1992 Swedish kroner.

Currency
Swedish Kroner (SEK).

Sensitivity analysis
Sensitivity and threshold analyses were performed to test variability in readmission rates, percentage of patients requiring treatment for retained trophoblast, number of laparotomies, and patients treated without diagnostic laparoscopy.

Estimated benefits used in the economic analysis
The initial procedure eliminated trophoblastic activity without significant complications in 81% (95% CI 68-90) of laparoscopy patients and 95% (85-99) of the laparotomy patients.

Cost results
Laparoscopy had a mean cost per case of SEK 22,058 and laparotomy of SEK 32,699.

Synthesis of costs and benefits
Laparoscopy was equally effective with lower costs. The laparoscopy strategy would have been as costly as laparotomy had the proportion of patients requiring repeat interventions reached 32% (actual observation was 19%).

Authors' conclusions
Laparoscopy produced equivalent outcomes at a lower cost. As laparoscopic outcomes improve, this new approach will lead to it being increasingly preferable.
CRD Commentary
This was a good study with a very clear presentation of costs and quantities. However there does not appear to have been a power calculation for the RCT.

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Swedish Medical Research Council (grant 8663) and Goteborg Medical Society, Goteborg, Sweden.

Bibliographic details

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Other publications of related interest

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