Laparoscopic surgery for ectopic pregnancies: technology assessment and public health implications

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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.

Health technology
Laparoscopic surgery for the treatment of ectopic pregnancies.

Type of intervention
Treatment

Economic study type
Cost-effectiveness analysis.

Study population
Women with ectopic pregnancies in the USA.

Setting
Hospital, the economic study was carried out in Alabama, USA.

Dates to which data relate

Source of effectiveness data
Review of previously published studies.

Outcomes assessed in the review
The outcomes assessed are efficacy and side-effects.

Study designs and other criteria for inclusion in the review
The efficacy conclusion refers to RCT and case-control studies. There was no inclusion criteria.

Sources searched to identify primary studies
No sources were given.

Criteria used to ensure the validity of primary studies
No criteria were stated.

**Methods used to judge relevance and validity, and for extracting data**
No methods were used to judge the relevance and validity of studies. No details were given on the reviewing methods.

**Number of primary studies included**
Two studies.

**Methods of combining primary studies**
The studies were not combined.

**Investigation of differences between primary studies**
No investigation was performed.

**Results of the review**
In terms of efficacy and safety, the two treatments (on the basis of 2 papers) were said to be comparable. However, the re-operation rate for persistent ectopic pregnancy could be higher if a conservative procedure is performed laparoscopically.

**Measure of benefits used in the economic analysis**
Efficacy and side-effects.

**Direct costs**
The costs of the side-effects (re-operation) were included. Some quantities and costs were analysed separately. Costs were considered when they were incurred by the health service, including: hospitalization, nursing care, drugs, theatre, equipment and the cost data was taken from published papers. No price dates were given.

**Statistical analysis of costs**
P-values and mean values were reported for some quantities.

**Indirect Costs**
The data from various published studies was presented in terms of length of stay in hospital for the two treatments and time lost from work is thus calculated. The estimation of the value of indirect costs is based on personal communication for the Bureau of Labor Statistics, in terms of the average weekly wage of women (but no date is given for this).

**Currency**
US dollars ($).

**Sensitivity analysis**
No sensitivity analysis was performed.

**Estimated benefits used in the economic analysis**
In terms of efficacy and safety, the two treatments (on the basis of 2 papers) were said to be comparable. However, the
re-operation rate for persistent ectopic pregnancy could be higher if a conservative procedure is performed laparoscopically.

**Cost results**
Nationwide, the extra equipment costs of performing laparoscopic surgery would be $28,160,000. Extra training costs would also be incurred the authors state, but the value of this is not estimated. The cost of the side-effects of treatment (i.e. re-operations) is estimated to be $3,520,000. The difference in the costs of the two treatments to the hospital, in terms of charges (quoted from another study) is $1,500 saved per patient, with laparoscopic surgery. This difference in hospital charges when applied to all potential patients (a cohort of 70,400 patients) is a saving in charges of $105,600,000. Indirect costs are estimated to be a saving of $65,000,000 in favour of laparoscopy because of a faster return to work.

**Synthesis of costs and benefits**
No synthesis was performed.

**Authors' conclusions**
The authors conclude that laparoscopic surgery for ectopic pregnancies is an alternative to laparotomy surgery associated with a decrease in hospitalisation time, recovery time and cost.

**CRD Commentary**
No details are given on the search strategy, sources searched, reviewing procedure or dates. The two papers quoted do not prove the effectiveness of the two interventions is the same, especially when the authors say that with laparoscopic surgery there is an increase in the re-operation rate. Similarly with the cost data, a systematic search is not performed, the base year of the price data is not given and charges are used from another paper with no information on their construction. The cost analysis was not complete since costs of health professional training were not estimated. Lastly no sensitivity analyses were performed.

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