Laparoscopic tubal ligation in a minimally invasive surgical unit under local anaesthesia compared to a conventional operating room approach under general anaesthesia

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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 tubal ligation in a minimally invasive surgical unit under local anaesthesia.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Healthy female patients between the ages of 24 and 40, undergoing tubal ligation.

Setting
University of Utah clinics, USA.

Dates to which data relate
Effectiveness data were collected between 12 May 1993 and 12 May 1994. Hospital charges were used as a surrogate for costs.

Source of effectiveness data
Effectiveness data were derived from a single study.

Link between effectiveness and cost data
Costing was undertaken retrospectively on the same patient sample as that used in the effectiveness analysis.

Study sample
Power calculations determined the sample size. 14 women desiring sterilisation were randomised by a computer-generated random number to tubal ligation in the OR with general anaesthesia (n=7) or to tubal ligation in the MIS unit with IV sedation and local anaesthesia (n=7). The age range was 24 to 40 years, the women were healthy and had no surgical or anaesthesia risk factors.

Study design
Randomised controlled trial.
Analysis of effectiveness
The analysis of effectiveness was based on intention to treat. The health outcome used in the analysis was the number of complications. Patient satisfaction was assessed using a survey (acceptance for pain, fatigue and days of work missed) administered in the recovery room and again one week postoperatively.

Effectiveness results
There were no surgical complications in either group. Patient acceptance, measured using surveys carried out in the operation room and at 1 week postoperatively, was similar between the two groups.

Clinical conclusions
Both MIS and OR were found to be equally safe and to lead to similar patient satisfaction with respect to pain and fatigue, and number of days off work.

Measure of benefits used in the economic analysis
Since the effectiveness analysis showed no difference in effectiveness between the intervention and the comparator, the economic analysis was based on the difference in costs only.

Direct costs
Hospital charges were used as a surrogate for cost. Surgical time, in-room time, and post-anaesthesia care unit time were recorded, as well as the anaesthesia, equipment and medication charges. Charge dates were not given. Quantities and costs were not reported separately.

Statistical analysis of costs
Between-group comparisons were evaluated by the unpaired Student's t test (interval data) and are reported as the mean +/- SEM.

Indirect Costs
Not considered.

Currency
US dollars ($).

Estimated benefits used in the economic analysis
Not applicable.

Cost results
The cost of minimally invasive tubal ligation ($1,615 +/- $143) was significantly lower than the cost of the conventional technique ($2,820 +/- $110), (p<0.001). Total charges included physician fees were $4,112 (+/- $160) versus $2,737 (+/- $113), (p<0.01). Surgical times were similar, but total in-room and recovery time was longer for the OR technique.

Synthesis of costs and benefits
Not applicable.
Authors’ conclusions
The use of MIS to perform tubal ligation has advantages over conventional laparoscopic tubal ligation under general anaesthesia with regard to cost and time utilisation. The MIS appears to be safe, easy to learn, and well tolerated.

CRD COMMENTARY - Selection of comparators
The reason for the choice of the comparator (conventional laparoscopic tubal ligation) is clear, as this was a widely used technology in the authors' setting. You, as a user of this database, should consider if this applies to your own setting.

Validity of estimate of measure of benefit
Data do not appear to have been used selectively to prove a particular point and the choice of health outcomes is justified.

Validity of estimate of costs
Details of the methods of cost estimation were not given; hospital charges were used as surrogate for costs.

Other issues
Cost data may not be generalisable to other settings or countries.

Source of funding
None stated.

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