Laparoscopically assisted vaginal hysterectomy: a review of 106 cases
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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
Laparoscopically assisted vaginal hysterectomy (LAVH) versus total abdominal hysterectomy (TAH) in patients requiring hysterectomy.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Patients with indications for hysterectomy, including fibroids, endometriosis, pelvic pain, menorrhagia, and benign adnexal disease.

Setting
Hospital. The economic study was carried out in Saskatchewan, Canada.

Dates to which data relate
The data for the effectiveness analysis and (broad) resource utilization were collected between June 1991 and January 1994. The price dates were not reported.

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

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

Study sample
No power calculations were reported. 106 patients were included in both the intervention and control groups. The surgical procedure was carried out by one surgeon in the intervention group and by 8 gynaecologists in the control group.

Study design
This was a non-randomised trial with concurrent controls carried out in a single centre. The duration of follow-up was until discharge from hospital (an average of 3.5 days in the intervention group, and 6.4 days in the comparator patient...
group). No loss to follow-up occurred.

Analysis of effectiveness
It was not stated whether the analysis was based on intention to treat or treatment completers only. The primary health outcomes used were rate of complications and postoperative narcotic use. The intervention group was matched by each one of the patients according to, initially, uterine weight and then patient weight. In terms of these two characteristics there was no significant difference between the averages of both groups. A confounding factor (rate of unilateral or bilateral salpingo-oophorectomy performed in the patient groups) was analysed and groups were shown to be comparable in this respect.

Effectiveness results
The average total amount of narcotic used postoperatively in the intervention group was 527mg (meperidine), whereas the average amount used after surgery in the control group was 983mg (meperidine), (the difference had a p value of 0.00001). The percentage of patients having no complications both intraoperatively and postoperatively was 84% for the intervention group and 88.7% for the comparator, (p=0.09).

Clinical conclusions
The study revealed "a lesser total narcotic dose in the postoperative period" in the LAVH group, "no difference in the rate of complication between LAVH and TAH", and "a decreased postoperative stay and increased OR time associated with LAVH".

Measure of benefits used in the economic analysis
No summary benefit measure was identified in the economic study, and only separate clinical outcomes were reported.

Direct costs
Quantities were not fully reported separately, but cost items were. The costs measured were operating costs, costs of complications, and capital costs. The estimation of quantities was based on actual data and assumptions. The perspective adopted in the cost analysis was not explicitly reported. The operating room time, narcotic use and length of stay were obtained from the mean of the study sample, whereas the 'equipment capital cost' was obtained partly by assumption. The source for the costs (unitary and total cost components) were not clearly reported, except for the equipment capital cost which was obtained from costs in the institution. The price date was not reported.

Indirect Costs
Not included.

Currency
US dollars ($).

Sensitivity analysis
No sensitivity analysis was carried out.

Estimated benefits used in the economic analysis
Not applicable.

Cost results
The total average cost of the intervention was $4,073.78 per patient. The total average cost per patient for the comparator was $4,699.61. The duration of costs was until hospital discharge.

**Synthesis of costs and benefits**
A synthesis was not undertaken by the authors since the intervention was the dominant strategy.

**Authors' conclusions**
The authors concluded that "[the study has] demonstrated that for cases matched for weight and uterine weight, laparoscopically assisted vaginal hysterectomy is an alternative to total abdominal hysterectomy. There is evidence of decreased narcotic use and a shorter postoperative hospital stay. Complication rates and costs are comparable. LAVH is an attractive alternative to TAH."

**CRD COMMENTARY - Selection of comparators**
No justification was given for the choice of the comparator.

**Validity of estimate of measure of benefit**
The estimate of measure of benefit was obtained from a non-randomised study which may have weakened the internally validity of the results, even after controlling for important demographic and confounding factors.

**Validity of estimate of costs**
The resource quantities were not fully reported separately from the prices, and no price year was reported. However, adequate details of methods of cost estimation were reported. No indirect costs (or benefits) associated with either strategy were included.

**Other issues**
In view of the lack of randomisation, sensitivity analysis, and statistical analysis of the costs, the results need to be treated with some caution. The issue of generalisability to other settings or countries was not addressed, although appropriate comparisons were made with other studies.

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