Early outcomes of laparoscopic-assisted vaginal hysterectomy versus laparoscopic supracervical hysterectomy

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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 techniques for hysterectomy.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Women with no cervical pathology requiring hysterectomy. No further details were provided.

Setting
Hospital. The economic study was conducted in Tennessee, USA.

Dates to which data relate
The effectiveness data related to a period prior to March 1995. The price year was not stated.

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

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

Study sample
The last 20 cases of LSH performed before March 1995 were matched with 20 cases of LAVH performed in the same period. Indications for hysterectomy in the two groups were: endometriosis (7 for LSH and 7 for LAVH), pain (9 for LSH and 5 for LAVH), fibroids (5 for LSH and 6 for LAVH), bleeding (3 for LSH and 6 for LAVH), adnexal mass (1 for LSH and 1 for LAVH), and cervical dysplasia (0 for LSH and 2 for LAVH).

The two groups were significantly different in terms of age (37 and 41), and lower mean parity (0.95 and 1.45). Ten women were nulliparous (2 virgins) in the LSH group and 2 (sexually active) in the LAVH group.

Study design
Retrospective case-control study.

**Analysis of effectiveness**
The analysis was based on treatment completers. Primary health outcomes considered were: operating time, expected blood loss, hospital stay, number of complications, time to return to sexual intercourse, ability to achieve orgasm.

**Effectiveness results**
The mean operative time was 2.04 hours for LAVH and 1.46 hours for LSH. The average expected blood loss was 245 ml for LAVH and 200 ml for LSH. These differences did not reach statistical significance.

The average hospital stay was 1.7 days for LAVH and 1.1 days for LSH. The difference was significant at 0.0005 level. 3 complications occurred for LAVH and 2 for LSH. The average time to return to sexual intercourse was 3.5 weeks for LSH and 5.9 weeks for the LAVH. Sexual function was improved in 9 women for LSH and 7 for LAVH, unchanged in 7 for LSH and 12 for LAVH, worse in 2 for LSH and 1 for LAVH. The ability to achieve orgasm was increased in 7 women for LSH and 9 for LAVH, unchanged in 9 for LSH and 14 for LAVH, decreased in 2 for LSH and 1 for LAVH.

**Clinical conclusions**
LSH significantly reduces hospital stay compared with LAVH. It also reduces operating time, expected blood loss and the number of complications, although without any statistical significance.

**Measure of benefits used in the economic analysis**
The primary health outcomes considered were: operating time, expected blood loss, hospital stay, number of complications, time to return to sexual intercourse, ability to achieve orgasm. These outcomes were not combined in a single measure of benefits. As such the benefits were assumed to be identical to the effectiveness results.

**Direct costs**
Costs were calculated from a hospital perspective (excluding surgical, anaesthsetiology and pathology fees and before any managed care discounts). Discounting was not relevant due to the length of analysis. The price year was not stated.

**Statistical analysis of costs**
Health outcomes (operating time, blood loss, hospital stay) and hospital costs were treated stochastically by performing a Student's t-test which specified the observed level of significance (p=0.05).

**Indirect Costs**
Not stated.

**Currency**
US dollars ($).

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

**Estimated benefits used in the economic analysis**
The mean operative time was 2.04 hours for LAVH and 1.46 hours for LSH. The average expected blood loss was 245
ml for LAVH and 200 ml for LSH. These differences did not reach statistical significance.

The average hospital stay was 1.7 days for LAVH and 1.1 days for LSH. The difference was significant at 0.0005 level.3 complications were reported for LAVH and 2 for LSH. The average time to return to sexual intercourse was 3.5 weeks for LSH and 5.9 weeks for the LAVH. Sexual function was improved in 9 women for LSH and 7 for LAVH, unchanged in 7 for LSH and 12 for LAVH, worse in 2 for LSH and 1 for LAVH. The ability to achieve orgasm was increased in 7 women for LSH and 9 for LAVH, unchanged in 9 for LSH and 14 for LAVH, decreased in 2 for LSH and 1 for LAVH.

Cost results
Mean hospital costs were $7,501 for LSH and $8,832 for LAVH.

Synthesis of costs and benefits
Costs and benefits were not combined. In all outcome measures LSH was more effective than LAVH. It was also lower in treatment costs and can therefore be assumed to be the dominant strategy.

Authors' conclusions
Hospital stay and operating time are lower for LSH than LAVH. This results in cost savings for LSH compared with LAVH.

CRD COMMENTARY - Selection of comparators
The authors compared two techniques in laparoscopic hysterectomies. This does not necessarily confirm, however, that the comparator is the most traditional and widely adopted technique.

Validity of estimate of measure of benefit
Benefits imply some measure of quality of life. The authors did not, however, combine benefits into a single unit of measure.

Validity of estimate of costs
Costs were calculated from a hospital perspective but benefits to the patients imply some differences in quality of life and indirect costs could also have been considered.

Implications of the study
Further studies are required to assess the cost-effectiveness of LSH compared with LAVH.

Source of funding
None stated.

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