Laparoscopically assisted vaginal hysterectomy at a health maintenance organization: cost-effectiveness and comparison with total abdominal hysterectomy

Bornstein S J, Shaber R E

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) compared with total abdominal hysterectomy (TAH).

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Women undergoing hysterectomy.

Setting
Hospital. The economic study was carried out in a Health Maintenance Organisation in California, USA.

Dates to which data relate
Effectiveness data for the TAH procedure were collected between August 1991- March 1992 and from March through June 1993 for the LAVH procedure. Resources and prices relate to the same years.

Source of effectiveness data
Single study.

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

Study sample
The 50 LAVH procedures were carried out between March and June 1993. The charts of 46 patients who had the TAH procedure between August 1991 and March 1992 were reviewed to see if LAVH would have been suitable. No information was given on the number of TAH patients excluded from the comparison. 95 patients undergoing hysterectomy were included in the study. No power calculations related to the sample size were stated.

Study design
Non-randomised trial with historical controls. This was a single centre study with unspecified duration of follow-up.
Analysis of effectiveness
The analysis of the clinical study was based on treatment completers only. Indications for surgery, weight and parity were similar in both groups. The primary health outcomes used in the analysis were: drop in hematocrit, estimated blood loss, major and minor complications, disability until return to work.

Effectiveness results
Drop in hematocrit was 7.5% for LAVH and 5.4% for TAH (p=0.0019). Estimated blood loss (ml) was 337 for LAVH and 279 for TAH (p=0.2373). Both groups had a similar incidence of minor and major complications, with more blood transfusions required in the LAVH group. Recovery time was 6.3 weeks for LAVH patients and 7.5 weeks for TAH patients (p=0.0025).

Clinical conclusions
When LAVH is done by experienced gynecologic surgeons for well selected patients, the procedure offers real benefits when compared with TAH and does not increase the risk of serious complications.

Measure of benefits used in the economic analysis
Benefits measured were: Drop in hematocrit, estimated blood loss, major and minor complications, disability until return to work.

Direct costs
Direct health service costs were considered, such as cost of non-reusable instruments and hospital stay. Quantities and costs were not analysed separately and costs were not discounted. Some costs were not considered possible to estimate e.g. pharmaceutical agents, reusable instrument costs and fixed costs of staffing. The costs were obtained from the surgical unit records.

Currency
US dollars ($).

Estimated benefits used in the economic analysis
LAVH resulted in increased blood loss, but recovery time was 1 week less. The authors stated that the advantages of LAVH outweighed its disadvantages.

Cost results
The average cost per case of reusable instruments with LAVH was $1,250. The cost of a day in hospital was $850. An average reduction of 2.2 days in the hospital stay leads to a cost saving per case of $1,878 or a net saving of $629 per case, considering the cost of disposable instruments. The costs of adverse effects were not included.

Synthesis of costs and benefits
Costs and benefits were not synthesised in the study. However the authors suggested that LAVH leads to improved overall health benefits and lower costs. LAVH, therefore, can be regarded as a cost-effective alternative.

Authors' conclusions
Although operating time and blood loss were greater for LAVH, it resulted in a statistically significantly shorter hospital stay, and an earlier return to normal activity.
CRD Commentary
The estimates of relative clinical effectiveness may not be valid because of historic comparison. Patients treated now by LAVH may not be comparable to patients having abdominal operations in the past. Some important costs, such as increased operating time with LAVH or adverse effects (such as transfusions) were not included. It is not clear how generalisable the results are to other settings and to less experienced gynaecologists.

Source of funding
None stated.

Bibliographic details

Indexing Status
Subject indexing assigned by NLM

MeSH
Absenteism; Blood Loss, Surgical; Comparative Study; Cost-Benefit Analysis; Female; Health Maintenance Organizations; Hospital Costs; Humans; Hysterectomy /adverse effects /economics; Hysterectomy, Vaginal /adverse effects /economics /methods; Laparoscopy /adverse effects /economics; Length of Stay; Retrospective Studies; Time Factors

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