A randomised prospective study of laparoscopic vaginal hysterectomy versus abdominal hysterectomy each with bilateral salpingo-oophorectomy

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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
Operative technique for hysterectomy where oophorectomy is also required: comparison of laparoscopic vaginal hysterectomy with abdominal hysterectomy, in both cases with bilateral salpingo-oophorectomy.

Type of intervention

Economic study type
Cost-effectiveness analysis.

Study population
Women with benign gynaecological conditions requiring hysterectomy and bilateral oophorectomy. Their mean age was approximately 45 years, around 80 percent were parous.

Setting
London teaching hospital.

Dates to which data relate
The effectiveness study was conducted, and resource data were collected, between March 1992 and October 1993. The price year was not specified.

Source of effectiveness data
Single study.

Link between effectiveness and cost data
Costing was undertaken prospectively on the same sample as the effectiveness study.

Study sample
The choice of sample size was based on an expected 25% reduction in morbidity with the vaginal technique, assuming a 40% morbidity rate for abdominal hysterectomy, with a power of 90% at the 5% level. The primary outcome for power calculations was not further defined. There were 40 women in each arm of the trial, 80 altogether. The number of those refusing consent was not stated.

Study design
The study was a randomized controlled trial. The comparison of techniques was based on a prospective single centre randomised controlled trial, using sealed opaque envelopes, and block randomization. All women were followed up at a 6 week follow-up clinic. It is not clear whether there were any drop-outs from the trial: numbers were not specified in the results tables.

**Analysis of effectiveness**

It is unclear whether the analysis was based on intention to treat. The primary health outcome was the length of time until recovery from pain. Groups were comparable in demographic and prognostic features.

**Effectiveness results**

Women undergoing the laparoscopic procedure received post-operative analgesia for a shorter period, recovered from pain more quickly, and more likely to have resumed work and physical activities (all p<0.0001) and were less tired (p<0.01).

**Clinical conclusions**

If oophorectomy is recommended at the time of hysterectomy, then laparoscopic oophorectomy with vaginal hysterectomy is as safe as a standard abdominal approach, and would be the women’s preferred choice.

**Measure of benefits used in the economic analysis**

Time to recover from pain, time to recover from tiredness, restricted physical activity, and general malaise.

**Direct costs**

The study considered short term hospital provider’s costs. Cost analysis for the operative procedures was based on the operating time and the difference in use of disposable consumables. The cost analysis for post-operative hospital stay was based on the length of stay recorded in the trial. The details of costing methods were not specified.

**Statistical analysis of costs**

Financial costs were presented as point estimates, utilisation data are presented as median and range. Significance was based on Mann-Whitney U test on medians.

**Indirect Costs**

No indirect costs were estimated, but differences in return to normal activity and work were reported.

**Currency**

UK pounds sterling ( £ ).

**Sensitivity analysis**

No sensitivity analysis was presented.

**Estimated benefits used in the economic analysis**

Women undergoing the laparoscopic procedure received post-operative analgesia for a shorter period, recovered from pain more quickly, and more likely to have resumed work and physical activities (all p<0.0001) and were less tired (p<0.01).
Cost results
The mean estimated cost for laparoscopic surgery and hospital stay was 1260 compared to 1750 for the abdominal approach. Median time to return to work was 21 days (range 7-35) for women in the laparoscopic group and 42 days (range 21-67) for women in the abdominal group (p<0.0001).

Synthesis of costs and benefits
Costs and benefits were not synthesised. The laparoscopic procedure appears to be dominant: it reduced cost and improved outcomes. The shorter post-operative period and quicker return to work was likely to offset the costs of additional operation time and disposables.

Authors' conclusions
'Early discharge from hospital has major cost implications and it would appear that this benefit will offset the added operation costs incurred by the use of some disposable instruments and longer operating time ... The quicker recovery in the post-operative period and return to work are two major advantages with the laparoscopic procedure.'

CRD Commentary
The authors suggested that laparoscopic surgery was not the usual method for hysterectomy where oophorectomy is indicated. This study suggested that the procedure would be better for women and may reduce costs to the health service. The results were based on a randomized trial, but it is unclear if the results are presented on an intention to treat basis: so there may be some bias. The methods for cost estimation were not well described, and confidence intervals were not presented for the observed cost difference. The costs to the primary health services were not estimated, but would probably have reinforced the findings, given that pain was less and women were more likely to return to normal activities in the 'laparoscopic' group.

Implications of the study
If oophorectomy is justified, women requiring hysterectomy and oophorectomy would benefit from the laparoscopic technique at lower health service cost.

Bibliographic details

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Other publications of related interest

Indexing Status
Subject indexing assigned by NLM

MeSH
Adult; Blood Loss, Surgical; Cost-Benefit Analysis; Female; Humans; Hysterectomy /economics /methods; Hysterectomy, Vaginal /economics /methods; Laparoscopy /economics; Length of Stay; Menstruation Disturbances /surgery; Middle Aged; Ovariectomy /economics /methods; Pelvic Inflammatory Disease /surgery; Postoperative Care; Prospective Studies; Time Factors

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