Laparoscopic colposuspension: is it cost-effective?

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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 colposuspension in patients with urinary stress incontinence.

**Type of intervention**
Treatment.

**Economic study type**
Cost-effectiveness analysis.

**Study population**
Patients undergoing colposuspension.

**Setting**
Hospital. The economic study was conducted in Australia.

**Dates to which data relate**
The effectiveness and resource use data were collected between 1992 and 1995. The price year was 1995.

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

**Link between effectiveness and cost data**
The effectiveness and resource use data were prospectively collected from the same patient sample.

**Study sample**
From a total of 54 patients who underwent colposuspension, 49 were included in the study (exclusions were due to concurrent hysterectomies performed at the time of surgery). Of these, 26 patients underwent laparoscopic operations and 23 open procedures. No power calculations were reported.

**Study design**
The study was a retrospective case-control study from a single centre. The duration of follow-up was until hospital discharge.

**Analysis of effectiveness**
The principle on which the analysis was based was not clearly stated. The primary health outcome used was the rate of complications and length of stay. The groups were matched for age, comorbidity, weight, previous abdominal surgery, previous bladder neck surgery, concomitant minor surgery, and the incidence of complications. However, the laparoscopic group was older (although without clinical significance), and had more patients undergoing minor procedures at the time of colposuspension. On the other hand, the open group had a history of a greater number of operations per person.

**Effectiveness results**
The number of complications in the open and laparoscopic groups were 10 and 11, respectively (p<0.21). The length of hospital stay for the open and laparoscopic groups were, respectively, 6.3 (+/- 3.0) days and 3.7 (+/- 2.3) days (p=0.001).

**Clinical conclusions**
The laparoscopic procedure was safe and effective and resulted in a shorter length of stay.

**Measure of benefits used in the economic analysis**
The measure of benefits was the number of hospital days avoided.

**Direct costs**
Quantities of resource use were not analysed separately from the costs. The operating and 'hotel' costs of hospital were measured. The resource use data were derived from actual data from a single institution in Australia. The unit costs were obtained from costs associated with laboratory investigations and medications. The valuation was carried out using standardised 1995 prices. For accommodation costs, the standard cost of a private room in 1995 was used. The surgical unit's operation costs were valued with a fee for disposable items, as stated in patient accounts, and also using a standardised fee from a private health payer for either surgical procedure. Consultant fees for both the anaesthetist and surgeon were obtained from Medicare rates. The price year was 1995. The costs associated with 'regular' medications, overheads, capital, and minor procedures were not included.

**Statistical analysis of costs**
Student's t tests were used to test differences in costs.

**Currency**
Not stated although likely to be Australian dollars (Aus$).

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

**Estimated benefits used in the economic analysis**
The intervention resulted in 2.6 fewer hospital days, relative to the open procedure.

**Cost results**
The mean difference in per patient costs between groups was $246.00 (p=0.533). The direction of this difference was not clearly stated although it appears to favour the laparoscopic group.

**Synthesis of costs and benefits**
As the intervention was shown to be the dominant strategy, the synthesis of costs and benefits was not reported.

**Authors' conclusions**
This study is appropriate in terms of identifying major differences in in-hospital costs between strategies and proving the null hypothesis. Laparoscopic colposuspension is certainly not significantly more costly than an open procedure. Other studies have shown laparoscopic surgery to be a safe and effective mode for the management of urinary stress incontinence. This study now indicates that it is also a feasible option in colposuspension procedures.

**CRD COMMENTARY - Selection of comparators**
The authors justified the choice of comparator by stating that the open Burch colposuspension procedure was widely used in the study hospital as a standard of choice until the early 90s.

**Validity of estimate of measure of benefit**
The validity of the estimate of benefit may have some limitations due to the retrospective design used, which in fact controlled for the rate of complications. As such, the NHS EED abstractor has assumed length of hospital stay to be a proxy for benefits.

**Validity of estimate of costs**
The resource use quantities were not analysed separately from the costs with the exception of complications and length of hospital stay. However, it was not clearly stated what relationship exists between the former and operation costs. Other details were adequately reported. It is worth noting that overhead costs were omitted from the analysis.

**Other issues**
The uncertainty in the analysis was addressed by carrying out statistical tests on the differences in results between groups. The issue of generalisability was partially addressed by reviewing the experience with laparoscopic cholecystectomy in other health areas. Total costs were not clearly reported.

**Implications of the study**
Further prospective studies, with concurrent data collection, are desirable in order to obtain valid estimates of costs and benefits associated with laparoscopic colposuspension.

**Source of funding**
None stated.

**Bibliographic details**

**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Adult; Costs and Cost Analysis; Humans; Laparoscopy /economics; Length of Stay /economics; Middle Aged; Postoperative Complications; Retrospective Studies; Urinary Bladder /surgery

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