Cure chirurgicale du varicocele et hypofertilite masculine: pour ou contre? [Surgical treatment of varicocele for male infertility: the pros and cons]

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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
Treatment of varicocele for male infertility using surgery (vein ligation), radiological intervention (sclerotherapy) or laparoscopic treatment.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Male patients suffering from hypofertility.

Setting
Hospital.

Dates to which data relate
Not stated.

Source of effectiveness data
Not based on either a primary study or on a systematic review of the existing literature on the subject. Based on opinion and on effectiveness results from several items in the bibliography.

Methods used to derive estimates of effectiveness
The author listed a number of pros and cons for each treatment (laparoscopy, vein ligation and sclerotherapy). In some cases he provided numerical information drawn from other bibliographical sources, in others, he provided effectiveness data with no reference to any source of origin.

Estimates of effectiveness and key assumptions
Two types of estimates of effectiveness were used:

1) Qualitative. Such as: need/no need for hospitalization; need/no need for general anaesthesia; need/no need for incision; presence/absence of postoperative Doppler control.

2) Quantitative (common to all three procedures): morbidity rate; rate of failure of the health technology/rate of
recidivism of the varicocele. These rates were obtained from different sources in the literature, or stated without mentioning the source.

No dates referring to these measures of benefits were given, nor the population to which they refer.

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

1) Qualitative. Such as: need/no need for hospitalization; need/no need for general anaesthesia; need/no need for incision; presence/absence of postoperative Doppler control.

2) Quantitative (common to all three procedures): morbidity rate; rate of failure of the health technology/rate of recidivism of the varicocele.

**Direct costs**

Not stated. Only overall costs were mentioned and only for vein ligation and sclerotherapy. The stated cost per procedure was a "generally agreed cost" ("co-t en convention") with no stated source for its estimation. No information on dates or population to which these costs refer was stated. Quantities and costs were not measured separately.

**Currency**

French Francs (FF).

**Estimated benefits used in the economic analysis**

1) Qualitative estimates of effectiveness. Only sclerotherapy required no general anaesthesia in any case, no hospitalization and, as opposed to surgery, no incision. Also, contrary to surgery, postoperative Doppler control was available for sclerotherapy, although there is a minor risk of allergic or psychological problems derived from the use of radiocontrast. Two incisions may be required in surgery if varicocele was bilateral. Recidivisms in surgery can be treated with sclerotherapy. A very small risk of embolic migration is involved in this last procedure.

2) Quantitative estimates of effectiveness. Morbidity figures were as follows: there is a 10% incidence of hydrocele associated with laparoscopy; a 5-10% incidence of hydrocele in surgery (this rate can be reduced if amplifying lenses are used in the procedure); a 6% incidence of persistent reflux and a 0.5% rate of plexus thrombosis associated with sclerotherapy. The frequency of technical failures/recidivism was 5-20% in laparoscopy and surgery, and 8-10% in right side sclerotherapy (1-3% in left side sclerotherapy).

**Cost results**

The generally agreed cost per vein ligation was around 6000FF if only one incision was needed (this cost rose if varicocele was bilateral, in which case two incisions are needed). The generally agreed cost per sclerotherapy was 12000FF. Cost per laparoscopic treatment was higher than both surgery and sclerotherapy.

**Synthesis of costs and benefits**

Estimated benefits and costs were not combined. No incremental analysis was performed.

**Authors’ conclusions**

Laparoscopic treatment was more expensive than surgery and sclerotherapy, and had a similar effectiveness. The choice between vein ligation (surgery) and sclerotherapy should be made by the responsible clinician/surgeon, within a team formed by himself and other specialists (urologist, gynaecologist, radiologist, reproduction biologist). The author was in favour of performing sclerotherapy in the presence of a well-trained operator.
CRD Commentary
The clinical evidence shown by the author was, at best, pooled from different items in the literature with no specified criteria, but more often it was based on opinion, or on unspecified sources. There was no evidence of a systematic search in the literature in the selection of items from which part of the clinical evidence was drawn. The methodology used in the economic study was not rigorous: it provides no objective grounds for refutation.

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