Recanalization of obstructed fallopian tube by selective salpingography and transvaginal bougie dilatation: outcome and cost analysis

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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
Transcervical salpingography and recanalisation in the management of infertility caused by tubal occlusion.

Type of intervention
Diagnosis and treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Patients with hysterosalpingography (HSG) diagnosis of obstructed fallopian tubes.

Setting
Hospital. The economic study was carried out in New Orleans, USA.

Dates to which data relate
No dates were reported for the intervention. The data related to the comparators were obtained from studies published between 1986 and 1995. The dates of the data related to resource use were not reported. The fiscal year was 1993.

Source of effectiveness data
Effectiveness data were derived from a single study and a review of previously published studies.

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

Study sample
Power calculations were not used to determine the sample size. A total of 400 patients with hysterosalpingography diagnosis of obstructed fallopian tubes were investigated. A repeat hysterosalpingogram after administration of prostaglandin antagonist demonstrated patency of the tubes in 82 patients and selective transcervical salpingography demonstrated patency in an additional 131 patients. Of the remaining 187 patients, recanalisation by transcervical techniques was successful in 145 patients. The patients' median age was 33.2 years and a problem of infertility had been established in all patients over a period of >/= 18 months. Super ovulation therapy had been carried out in 92 patients.

Study design
The study was a retrospective case series, carried out in a single centre. The duration of the follow up was at least 6 months; median duration of follow-up had a range from 16 to 39 months. The loss to follow-up was 15 patients.

**Analysis of effectiveness**

The principle (intention to treat or treatment completers only) used in the analysis of effectiveness was not explicitly specified. The main health outcomes used in the analysis were attained and maintained patency of tubes, pregnancy, and attendant complications.

**Effectiveness results**

Selective transcervical salpingography demonstrated patency in an additional 131 patients. A pregnancy rate of 12.8% was attained after transcervical recanalisation of obstructed tubes and this procedure was technically successful in 145 out of 187 patients. Complications occurred in 13 patients: perforations without sequelae in 9, Gram-negative septicaemia in 1, and temperature elevation > 38 degrees C in 3.

**Clinical conclusions**

A disparity was noted in the success rate attainable for various underlying etiologies: salpingitis isthmica nodosa, salpingitis and perisalpingitis, endometriosis, and failed surgical anastomosis.

**Outcomes assessed in the review**

Success rate or the rate of live birth were assessed by reviewing the literature.

**Study designs and other criteria for inclusion in the review**

Not reported.

**Sources searched to identify primary studies**

Not reported.

**Criteria used to ensure the validity of primary studies**

Not reported.

**Methods used to judge relevance and validity, and for extracting data**

Not reported.

**Number of primary studies included**

A total of 3 studies were included.

**Methods of combining primary studies**

Not reported.

**Investigation of differences between primary studies**

Not reported.

**Results of the review**
Tubal surgery was reported to have a range of success rate from 16% to 69%. The rates of live births for single- and three-cycle IVF were approximately 16% and 40%, respectively.

Measure of benefits used in the economic analysis
The benefit measures were live births and pregnancy rate.

Direct costs
The cost components were not reported in details by the authors.

Indirect Costs
Not considered.

Currency
US dollars ($).

Sensitivity analysis
Not performed.

Estimated benefits used in the economic analysis
A pregnancy rate of 12.8% (24/187) was attained after transcervical recanalisation of obstructed tubes and this procedure was technically successful in 145 out of 187 patients. Tubal surgery was reported to have a range of success rate from 16% to 69%. The rates of live births for single- and three-cycle IVF were approximately 16% and 40%, respectively.

Cost results
Not reported.

Synthesis of costs and benefits
Costs and benefits were combined by calculating the cost per live birth. This was $6,400 for the intervention, compared to $17,000 per live birth for tubal surgery and $12,000 per live birth after IVF treatment (Norwegian study) or $31,842 for a successful pregnancy after tubal surgery in 1983 (Cooper), the latter equating to a cost of $72,763 per pregnancy in 1993 dollars.

Authors' conclusions
An attendant increased rate of pregnancy in patients proven patent after selective salpingography, valuable detailed information about proximal and distal tubes after recanalisation of the obstructed proximal tube segment, the low rate of complications and low costs are factors recommending the use of this technique.

CRD COMMENTARY - Selection of comparators
No specific justification was given for the choice of the comparators, therefore, you, as a database user, should consider whether these are widely used health technologies in your own setting.

Validity of estimate of measure of benefit
The internal validity of the estimates of benefit may be weakened by the lack of a prospective study design in the single
study, and lack of a comprehensive literature review to provide estimates of the rate of live births, including a quality assessment of the primary studies included in the review.

**Validity of estimate of costs**
Quantities were not reported separately from the costs and no details of the methods of cost estimation were given.

**Other issues**
In view of the lack of a prospective study design in the single study, and the absence of a comprehensive literature review (including a quality assessment of the primary studies included in the review), the results need to be treated with some caution. The issue of generalisability to other settings or countries was not addressed.

**Source of funding**
None stated.

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