

NATIONAL INSTITUTE FOR CLINICAL EXCELLENCE

INTERVENTIONAL PROCEDURES PROGRAMME

Interventional procedures overview of fallopian tube recanalisation by guidewire

Introduction

This overview has been prepared to assist members of the Interventional Procedures Advisory Committee (IPAC) advise on the safety and efficacy of an interventional procedure previously reviewed by SERNIP. It is based on a rapid survey of published literature, review of the procedure by Specialist Advisors and review of the content of the SERNIP file. It should not be regarded as a definitive assessment of the procedure.

Date prepared

This overview was prepared by Bazian Ltd in May 2003.

Procedure name

- Fallopian tube recanalisation by guidewire.

Specialty societies

- British Society of Interventional Radiology.
- Royal College of Obstetricians and Gynaecologists.

Description

Fallopian tube recanalisation by guidewire is a treatment for infertility caused by blocked fallopian tubes, especially if the blockage is close to the entrance to the uterus (proximal). It is carried out during the same treatment session as diagnostic salpingography and involves inserting a fine tube (catheter) past the obstruction in a fallopian tube. This, or the subsequent injection of radio-opaque dye, may clear the obstruction. If these strategies fail, a guidewire may be passed up into the fallopian tubes through the catheter, and manipulated to clear the obstruction.

Alternative radiological methods of clearing tubal obstruction including balloon tuboplasty, which involves inflating a small balloon within the tube. Tubal obstruction may also be treated surgically.

Efficacy

According to the literature, fallopian tube recanalisation by guidewire achieves tubal patency in about 70% of women with proximal tubal obstruction, and pregnancy in 10 to 20%.

The Specialist Advisors noted that the degree of efficacy may depend on patient selection.

Safety

According to the literature, fallopian tube recanalisation by guidewire may cause tubal perforation in 1 to 10% of women, and tubal pregnancy in up to 8%. According to the literature, infection is relatively rare, though only one study provided data on this outcome.

According to the Specialist Advisors the main potential complications are fallopian tube perforation, intra-abdominal bleeding, and infection.

Literature reviews

Appraisal criteria

Studies of fallopian tube recanalisation by guidewire with clinical outcomes were included.

List of studies found

One systematic review was found of management of proximal tubal blockage.¹ It found ten case series examining radiological methods of clearing tubal blockage, one of which examined therapeutic selective salpingography by guidewire in seven women.²

No randomised controlled trials or other controlled studies were found.

Six further case series were found. The four largest are described in the table.³⁻⁶

References to smaller studies are given in the Appendix.

Table 2 Summary of key efficacy and safety findings

Study details	Key efficacy findings	Key safety findings	Key reliability, generalisability and validity issues
<p>Lang, 2000³</p> <p>Case series</p> <p>USA</p> <p>430 patients</p> <ul style="list-style-type: none"> • 196 patients had salpingography only • 234 patients (465 tubes) had attempted recanalisation with guidewire if tubes were not patent <p>Follow up: 2–10 years</p>	<p>Tubes recanalized by guidewire: 176/234 patients</p> <p>Live births: 39/176 patients</p>	<p>Tubal perforation: 8/234 patients</p> <p>Pain > 24 hours: 7/234 patients</p> <p>Sepsis: 2/234 patients</p> <p>Tubal pregnancy: 1/234 patients</p>	<p>Uncontrolled case series.</p> <p>Outcomes appropriate.</p> <p>Follow up short for many patients.</p>
<p>Gazzera, 1998⁴</p> <p>Case series</p> <p>Italy</p> <p>302 patients (417 tubes), age range 20 to 42 years</p> <p>Follow up: 1 year</p>	<p>Recanalisation of tubes: 77% (321/417)</p> <p>Spontaneous pregnancy within 12 months of procedure: 10% (3/302)</p>	<p>No immediate severe complications</p> <p>Tubal perforation: 1% (4/417)</p> <p>Tubal pregnancy: 4% (12/302)</p>	<p>Uncontrolled case series</p> <p>Follow up short – up to 1 year in 12 patients only.</p> <p>Outcomes appropriate.</p>

<p>Papaioannou, 2002^b</p> <p>Case series</p> <p>UK</p> <p>150 patients had tubal catheterisation and salpingography 104 had guidewire recanalisation</p> <p>Follow up: 5 years</p>	<p>Pregnancies: 25/104</p> <p>Live births: 14/104</p>	<p>Significant discomfort requiring opioid analgesia: 3% (4/150)</p> <p>Tubal perforation: 3% (4/150)</p> <p>Tubal pregnancy: 5/104 patients</p>	<p>Uncontrolled case series.</p> <p>Main objective of study was to examine risk factors for satisfactory outcome.</p>
<p>Kelekis, 1992^b</p> <p>Case series</p> <p>Greece</p> <p>38 patients</p> <p>Follow up: not reported</p>	<p>Success (not defined): 71% 27/38</p> <p>Pregnancy: 13/38 patients</p>	<p>Tubal perforation: 4/38 patients</p> <p>Tubal pregnancy: 3/38 patients</p>	<p>Uncontrolled case series.</p> <p>Length of follow up not stated.</p>

Validity and generalisability of the studies

Only case series were found of fallopian tube recanalisation by guidewire in women with infertility and proximal tubal obstruction. Outcomes were appropriate in all the studies.

Specialist Advisors' opinions

Specialist advice was sought from consultants who have been nominated or ratified by their Specialist Society or Royal College.

The Specialist Advisors considered this to be an established procedure, with no major safety concerns. It is, however, performed infrequently and one Advisor commented that there were insufficient data on safety and efficacy.

References

Honore GM, Holden AE, Schenken RS. Pathophysiology and management of proximal tubal blockage. *Fertility & Sterility* 1999; 71: 785-95.

Woolcott R, Petchpud A, O'Donnell P, Stanger J. Differential impact on pregnancy rate of selective salpingography, tubal catheterization and wire-guide recanalization in the treatment of proximal fallopian tube obstruction. *Human Reproduction* 1995; 10: 1423-6.

Lang EK, Dunaway HE Jr. Efficacy of salpingography and transcervical recanalization in diagnosis, categorization, and treatment of fallopian tube obstruction. *Cardiovascular & Interventional Radiology* 2000; 23: 417-22.

Gazzera C, Gallo T, Faissola B, Zanon E. Tubal catheterization and selective salpingography. *Rays* 1998; 23: 735-41.

Papaioannou S, Afnan M, Girling AJ, Coomarasamy A, et al. The effect on pregnancy rates of tubal perfusion pressure reductions achieved by guide-wire tubal catheterization. *Human Reproduction* 2002; 17: 2174-9.

Kelekis D, Papageorgiou G, Fezoulidis I, Zacharopoulos G, et al. Selective transcervical recanalisation of fallopian tubes: A method for diagnosis and treatment of infertility. *Journal of Interventional Radiology* 1992; 7: 37-40.

Appendix: References to studies not described in the table

Reference	Number of study participants
Houston JG, Anderson D, Mills J, Harrold A. Fluoroscopically guided transcervical fallopian tube recanalization of post-sterilization reversal mid-tubal obstructions. <i>Cardiovascular & Interventional Radiology</i> 2000; 23: 173-6.	26
Gleicher N, Redding L, Parrilli M, Karande V, et al. Wire guide cannulation alone is no treatment of proximal tubal occlusion. <i>Human Reproduction</i> 1994; 9: 1109-11.	25