

Selective Salpingography and Recanalisation of Blocked Fallopian Tubes

Abstract:

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Abstract

Fallopian tubal disease is a common cause of subfertility. Reproductive surgery or assisted reproduction techniques such as in vitro fertilization (IVF) have been the main treatment options for patients with tubal disease in Ireland, although access to these treatments remains limited. We describe a case of pregnancy following selective salpingography and fallopian tube recanalisation.

Introduction

Tubal factors account for approximately 14% of cases of subfertility may be caused by pelvic inflammatory disease, previous tubal / pelvic surgery, endometriosis, salpingitis isthmica nodosa, obliterative fibrosis, as well as mucus polyps and intra-luminal debris. Tubal microsurgery is generally indicated for young women with tubal disease amenable to reconstruction. It is available in a very limited number of centres in Ireland. Assisted reproductive techniques such as IVF, which effectively bypass the fallopian tubes, are usually indicated when the age-related decline in fertility is also an issue.

¹. Tubal occlusion

Case Report

A 36-year old woman and her partner were referred by their GP with a history of primary subfertility. Baseline fertility investigations were suggestive of an ovulatory defect due to polycystic ovarian disease. Hysterosalpingography indicated a normal endometrial cavity but no flow of contrast beyond the utero-tubal junctions bilaterally. Laparoscopy visualized a normal appearance to the uterus and fallopian tubes and a normal endometrial cavity was seen hysteroscopically. Methylene blue dye injected through the cervix failed to traverse the cornual portions of the fallopian tubes on either side. Surgical manoeuvres and anti-spasmodics used in an effort to flush the tubes were unsuccessful. There was no evidence of pelvic infection or endometriosis in the pelvis / abdominal cavity. Thus the patient had dual pathology; an ovulatory defect and fallopian tubal obstruction.

After counseling regarding treatment options, the patient opted for radiologically guided fallopian tube recanalisation. Antibiotic prophylaxis was given using doxycycline 100mg po for 2 days pre- and 3 days post-procedure. The procedure performed with the patient in the lithotomy position under conscious sedation using midazolam 5mg i.v. The cervix was cannulated using an intrauterine access balloon catheter and the radio-opaque contrast iopamidol (Niopam, Bracco) was injected into the endometrial cavity. As neither fallopian tube was visualized, selective salpingography was performed using a 5-French catheter placed in the tubal ostia. Right tubal patency was demonstrated on selective salpingography with persistent left proximal tubal occlusion (Figure 1). A 0.035 hydrophilic guidewire was passed through the 5F catheter, which was lodged in the left tubal ostium, and used to negotiate the obstruction. Repeat contrast injection confirmed left tubal patency (Figure 2). The patient was discharged home that day. The patient subsequently conceived following her 2nd cycle of ovulation induction using clomiphene citrate, and intrauterine insemination. An ultrasound scan at 7 weeks gestation demonstrated a singleton intrauterine pregnancy with fetal heart activity.

Figure 1: Fluoroscopic image demonstrates right tubal patency with peritoneal spill of contrast post selective right salpingography (arrow). The left fallopian tube is occluded

Figure 2: Fluoroscopic image shows 5F selective salpingography catheter in left cornual region (arrow). Left tubal patency is seen post passage of guidewire

Discussion

The causes of tubal blockage in the presence of apparently normal fallopian tubes are unclear, although transient causes such as tubal spasm, mucus plugs and debris are suspected. Many of these minor causes may self-resolve or be released by the tubal flushing involved in the diagnostic test. Indeed, repeat HSG may demonstrate tubal patency in up to one quarter of cases where a previous test had diagnosed occlusion. The technique of selective salpingography / tubal recanalisation is employed for persisting tubal occlusion. It is a minimally invasive procedure with significant advantages over surgical approaches to tubal disease, and may reduce the number of patients requiring surgery or IVF. It is a day-case procedure with minimal recovery post-procedure, involving little delay in subsequent attempts to conceive. The need for subsequent fertility treatment following tubal recanalisation is individualized for couples, but the spectrum of options ranges from expectant management to ovulation induction and intrauterine insemination.

Despite increases in the demand for fertility treatment in Ireland, access to specialized services remains limited. Tubal microsurgery is currently performed in only one centre in the Republic, and IVF treatment is not funded by the public health system. With such restrictions on access, there is a clear need to provide additional healthcare resources for subfertile patients. This is the first report to our knowledge of pregnancy in Ireland following minimally invasive correction of tubal obstruction. This technique represents significant medical and financial benefits to suitable patients. By reducing the need for tubal surgery and IVF, it also provides a cost-efficient utilization of healthcare resources.

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