CASE REPORT

Pregnancy after hydrosalpinx treatment with Essure

Gonçalo Inocêncio, Lúcia Coutinho, Raquel Maciel, Márcia Barreiro

Department of Obstetrics/
Gynecology, Centro Hospitalar
do Porto—Maternidade Júlio
Dinis, Porto, Portugal

Correspondence to

Dr Gonçalo Inocêncio,
inocencio@portugalmail.com

SUMMARY

We present a case of a 29-year-old woman, with a history of ectopic pregnancy, which required left salpingectomy, and with a tortuous and impermeable right fallopian tube, compatible with hydrosalpinx. As hydrosalpinx itself can compromise a future pregnancy, treatment with Essure was proposed before passing to medically assisted procreation techniques. Five months after placement of Essure in the right fallopian tube, an in vitro fertilisation cycle was successfully completed and the woman had a singleton pregnancy and vaginal delivery without intercurrents.

BACKGROUND

Hydrosalpinx is an obstruction of the fallopian tube, resulting in fluid accumulation and it may affect one or both fallopian tubes. Usually, it is asymptomatic, but it can cause abdominal or pelvic pain in some women. The main presentation of a hydrosalpinx is infertility. Tubal factor accounts for 25–35% of female infertility¹ and hydrosalpinx is present in 10–30% of all patients undergoing in vitro fertilisation (IVF).²

The techniques of medically assisted procreation (MAP), IVF and intracytoplasmic sperm injection, do not depend on tubal permeability, and there is substantial evidence to say that success is significantly lower in women with hydrosalpinx.

Essure is a non-incisional procedure that involves hysteroscopic insertion of a small flexible device called as microinsert into the fallopian tubes to permanently occlude the proximal tube for female sterilization. In addition, the Essure microinsert also prevents hydrosalpingeal fluid from entering the endometrial cavity. Consequently, the procedure has been proposed as a non-incisional treatment for hydrosalpinx.³

CASE PRESENTATION

A 29-year-old woman, para 0+1 abortion, presented with secondary infertility. Past medical history of left salpingectomy for an ectopic pregnancy (during surgery there were no noteworthy findings: ovaries, uterus and the right fallopian tube were macroscopically normal).

Hysterosalpingography revealed 'right tube tortuous and impermeable', consistent with an image suggestive of right hydrosalpinx (49×17 mm) by transvaginal ultrasound (see figure 1). The patient did not intend to undergo surgery and, therefore, Essure was proposed before MAP treatment. After the acceptance of the patient, we proceeded to the placement of Essure in the right fallopian tube, without any complications (see figures 2 and 3). IVF cycle was performed 5 months after introduction of

Figure 1 Hydrosalpinx.

Essure, with flexible GnRH antagonist protocol. Six oocytes were obtained from the ovarian puncture. Two embryos were transferred on the third day. The pregnancy was confirmed by assay of β -human chorionic gonadotropin 15 days after embryo transfer and by ultrasound at 7 weeks of gestation. A single pregnancy was monitored without complication. An uneventful vaginal delivery occurred at 39 weeks gestation, resulting in a healthy newborn weighting 2.9 g.

DISCUSSION

It is known that the hydrosalpinx may hinder conception or complicate initial pregnancy development and therefore is associated with higher unsuccessful pregnancy rates namely in MAP

Figure 2 Essure visualisation by hysteroscopy.

To cite: Inocêncio G, Coutinho L, Maciel R, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2013-009018

Figure 3 Essure visualisation by ultrasound scan.

techniques. Both retrospective and prospective studies have demonstrated that women with hydrosalpinx have up to 50% reduction in implantation and pregnancy rates after IVF compared with women with tubal factor infertility without hydrosalpinx.^{1–7}

In order to increase the success rate of pregnancy in women with hydrosalpinx several techniques have been realised, including: salpingectomy, salpingostomy, proximal tubal occlusion and drainage of the hydrosalpingeal fluid at either laparoscopy, laparotomy or transvaginal ultrasound needle aspiration. Of these various methods, Essure, has been gaining greater importance, by demonstrating its efficacy, with the advantage of being a less invasive procedure.

If the woman achieves pregnancy after Essure placement, the risks of the microinsert to the patient, the fetus and continuation of the pregnancy have been unclear. One big question is whether there is a higher rate of preterm premature rupture of membranes. The description of this case, among other series of similar cases is important, and we should consider future multicentre studies with a large number of pregnant women after Essure treatment in order to answer these questions.

Learning points

- ▶ Infertility is one of the clinical presentations of hydrosalpinx.
- ▶ Hydrosalpinx decreases the successful pregnancy rates of medically assisted procreation techniques.
- ▶ Essure is less invasive than the existing treatment modalities for hydrosalpinx.
- ▶ Essure is a treatment option for women with hydrosalpinx who want to become pregnant, prior to in vitro fertilisation/intracytoplasmic sperm injection.

Acknowledgements The authors would like to acknowledge Dr Joana Mesquita Guimarães (Director of Medically Assisted Procreation Department), Dr Alice Pinto, Dr Carla Leal (from Medically Assisted Procreation Laboratory) and the Directors of our unit—Maternidade Júlio Dinis—Dr Serafim Guimarães (Obstetrics and Gynecology Director) and Dr Paulo Sarmento (Maternal and Child Health Director).

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Murray DL, Sagoskin AW, Widra EA, *et al.* The adverse effect of hydrosalpinges on in vitro fertilization pregnancy rate and the benefit of surgical correction. *Fertil Steril* 1998;69:41–5.
- 2 Barmat LI, Rauch E, Spandorfer S, *et al.* The effect of hydrosalpinges on IVF-ET. *J Assist Reprod Genet* 1999;16:350–4.
- 3 Galen DI, Khan N, Richter KS. Essure multicenter off-label treatment for hydrosalpinx before in vitro fertilization. *J Minim Invasive Gynecol* 2011;18:338–42.
- 4 Camus E, Poncelet C, Goffinet F, *et al.* Pregnancy rates after IVF in cases of tubal infertility with and without hydrosalpinx: meta-analysis of published comparative studies. *Hum Reprod* 1999;14:1243–9.
- 5 Johnson N, Van Voorst S, Sowter MC, *et al.* Surgical treatment for tubal disease in women due to undergo in vitro fertilisation. *Cochrane Database Syst Rev* 2010;1:2–9.
- 6 Soares RS, Vesasco JAG, Fernandez M, *et al.* Clinical factors affecting endometrial receptiveness in oocyte donation cycles. *Fertil Steril* 2008;89:491–501.
- 7 Zeyneloglu HB, Arici A, Olive DL. Adverse effects of hydrosalpinx on pregnancy rates after in vitro fertilization-embryo transfer. *Fertil Steril* 1998;70:492–9.

Copyright 2013 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.

BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow