

Conservative Laparoscopic And Medical Treatment For Cornual Pregnancy

S Al Inizi, M Cheema, V Bamigboye

Citation

S Al Inizi, M Cheema, V Bamigboye. *Conservative Laparoscopic And Medical Treatment For Cornual Pregnancy*. The Internet Journal of Gynecology and Obstetrics. 2006 Volume 7 Number 1.

Abstract

Cornual pregnancy is the least common type of ectopic pregnancy, occurring in less than 3% of cases and less than 1/100,000 maternities^{1,2}. Cornual resection along with salpingectomy has been the treatment of choice in patients with no concern for future fertility³. However, conservative surgical or medical approaches are preferred in subfertile patients³. Although ectopic pregnancy after IVF/ET in patients with prior salpingectomy is uncommon, it can occur and may be a cornual implantation⁴.

We report a case of cornual pregnancy with cornual dehiscence post bilateral salpingectomy who conceived by IVF/ET. Conservative laparoscopic treatment combined with systemic methotrexate was implicated. To our knowledge this is the first reported case in the literature. The diagnosis and treatment of such a pregnancy is challenging and constitutes an urgent medical situation. Conservative laparoscopic approach combined with systemic medical treatment carries a reduced morbidity and may be less likely to compromise future reproductive function.

CASE REPORT

A 27 year old woman was treated at Furness General Hospital fertility clinic since three years when she presented with four years history of primary infertility. She was diagnosed to have bilateral hydrosalpinx at laparoscopy, which was treated by bilateral fimbrial salpingostomy together with adhesiolysis for pelvic adhesions. Dye test confirmed bilateral tubal patency. Patient had ovulatory progesterone and partner had a normal seminal analysis. She had 12 cycles of controlled ovulation induction and 3 stimulated intrauterine insemination (IUI) cycles all of which were not successful. She was referred for IVF/ET, before which bilateral laparoscopic salpingectomy for small bilateral hydrosalpinges was carried out to improve her chances of implantation at IVF.

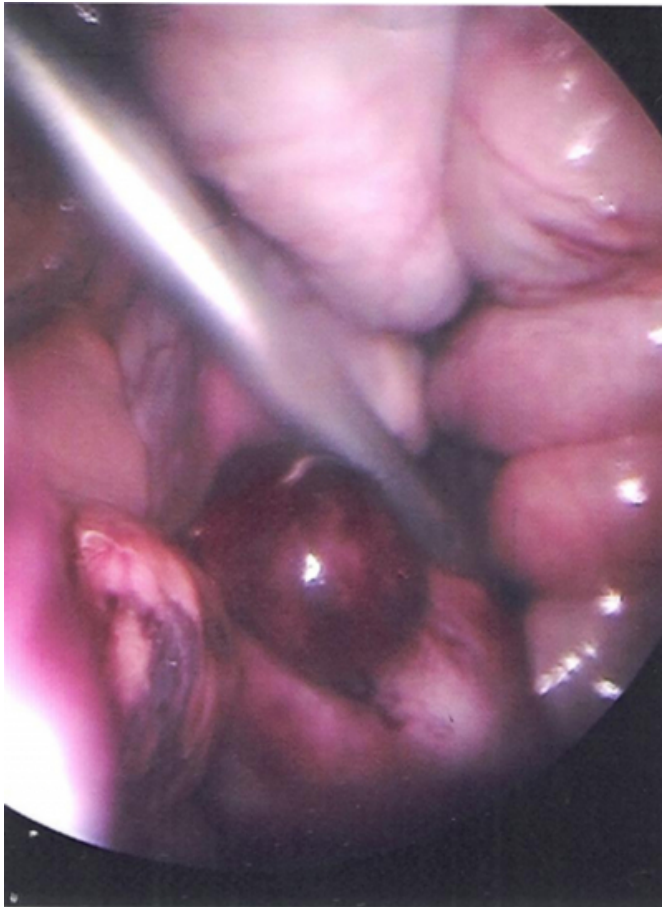
She presented to Furness General Hospital with lower abdominal pain over the last 2 days. She denied orthostatic symptoms. Four weeks earlier she had undergone the first IVF/ET cycle, during which time she had 2 embryos transferred into her uterus. The patient was normotensive and on pelvic examination she had a slightly enlarged uterus with a closed cervix and a tender right adnexum. Her haemoglobin concentration was 10 g/dL. Serum B human chorionic gonadotropin (BhCG) was 9612 IU/L, scan suspected a right cornual ectopic pregnancy with empty

uterine cavity, 1.7x2 cm eccentric mixed echogenic shadow on the right cornu and mild pelvic collection.

Arrangements were made for emergency laparoscopy and possible laparotomy. Four units of blood were prepared. Laparoscopy confirmed an intact right cornual ectopic pregnancy sac protruding through a dehiscent right cornu together with 200 ml of blood in the pouch of Douglas (Figure 1).

Figure 1

Figure 1: Intact right cornual gestation sac protruding through a dehiscence right uterine cornu seen at laparoscopy.



Ectopic sac was pulled gently with a grasping forceps and the bleeding area of the myometrium was coagulated using bipolar diathermy forceps. Haemostasis was secured. 72 mg of systemic methotrexate was given. Her postoperative course was uncomplicated. She was discharged home four days later. BhCG was repeated which dropped back to normal after 2 weeks. Histopathology confirmed cornual ectopic pregnancy.

DISCUSSION

A cornual gestation is one of the most hazardous types of ectopic gestation with high mortality. Cornual ectopic pregnancy is difficult to diagnose and management options are always challenging. IVF/ET post bilateral salpingectomy can predispose to interstitial or cornual pregnancy ⁵.

This patient had laparoscopic bilateral fimbrial salpingostomies for bilateral small hydrosalpinges to increase her chances of conception with controlled ovulation induction and IUI. Aboulghar et al reported that in selected cases of small thin walled hydrosalpinges with healthy

mucosa, good results can be achieved by fimbrial salpingostomy or fimbrioplasty performed by experienced surgeon ⁶. Unfortunately this patient failed to conceive with the above assisted reproductive treatment and she was referred for IVF.

She had laparoscopic bilateral salpingectomy prior to IVF to increase her chances of pregnancy. Murray et al reported that the presence of hydrosalpinx during an IVF/ET cycle results in significant decrease in implantation rates and pregnancy rate⁷. Surgical treatment of hydrosalpinges before IVF/ET cycles improves implantation rates.

Both surgical and medical treatments for cornual gestation exist, each is not without its shortcomings. Medical treatment is associated with failure rates that may result in uterine rupture and catastrophic haemorrhage. Surgical treatment that involves hysterectomy causes a loss of future childbearing capability. Surgical treatment that involves resection of the involved cornual region is associated with decreased fertility rates and increased rates of uterine rupture in future pregnancies ⁸.

Different modalities of surgical intervention for cornual gestation were reported in the literature. Laparotomy with cornual resection was traditionally performed in ruptured cornual pregnancy when the patient is haemodynamically unstable. Recently, more conservative operations have been developed, and operative laparoscopy had provided yet another management option. Grobman & Milad had treated a case of a large cornual ectopic pregnancy by conservative laparoscopy⁹. However, Morita et al reported a case of cornual pregnancy successfully treated laparoscopically with fibrin glue haemostasis after coagulation of the bleeding area of the myometrium with bipolar diathermy¹⁰. Laparoscopic cornuostomy and cornual resection were reported previously for the treatment of interstitial ectopic pregnancy ^{11,12}. Laparoscopic and ultrasound-guided transcervical evacuation of cornual ectopic pregnancy was also ¹³.

Combined laparoscopy and dilatation and evacuation together with post operative methotrexate injection used to treat cornual pregnancy was reported by Ross et al ⁸. We treated this patient conservatively by laparoscopy to avoid any possible future compromise to her reproductive function.

We combined the conservative laparoscopic approach with systemic methotrexate, thinking that some of the trophoblast might still be in the cornu due to the high primary BhCG. However, follow up was essential in this case in order to

make sure that the BhCG was declining. Even intrauterine pregnancy post bilateral salpingectomy is at risk of bilateral cornual uterine dehiscence which indicates that bilateral salpingectomy is not an entirely safe procedure ¹⁴.

Up to our knowledge, this case of intact cornual ectopic sac with cornual dehiscence conceived by IVF/ET post bilateral salpingectomy, treated by combined conservative laparoscopic approach and systemic methotrexate is the first case reported in the literature. We concluded that bilateral salpingectomy for hydrosalpinges prior to IVF, is not an entirely safe procedure. Close monitoring of pregnancies conceived by IVF/ET following bilateral salpingectomy is essential to prevent a deleterious delay in treatment of a cornual pregnancy. Combined conservative laparoscopic approach together with systemic methotrexate for an intact cornual ectopic sac, can be a good treatment option for women who wish to preserve fertility.

Currently there is insufficient evidence to recommend any single treatment modality for cornual gestation, and the decision should be based on such factors as clinical presentation, surgeon's expertise, side effects, overall cost and patient's preference.

CORRESPONDENCE TO

Dr. Shamma Al Inizi, 10 Bracken Close, Sale, Cheshire M33 5EX UK Tel +447821708743 Email address: shammainizi@hotmail.com

References

1. Stock RJ. (1991).Tubal pregnancy: associated histopathology. *Obstet Gynecol Clin North Am.* 18,73-94.
2. Gezer A and Mutlu H.(2004). Laparoscopic management of corneal pregnancy without sutures. *Arch Gynecol Obstet.* 270(3),194-196.
3. Aruh I, Uran B, Demir N. (1997). Conservative approach in unruptured cornual pregnancy with a live fetus. *Inter Nat J Gynecol Obstet.* 59,43-45.
4. Chen CD, Chen SU, Chao KH, Wu MY, Ho HN, Yang YS. (1998). Cornual pregnancy after IVF-ET. A report of three cases. *J Reprod Med.* 43(4),393-396.
5. Oki T, Douchi T, Nakamura S, Maruta K, Ijuin H, Nagata Y. (1998). A woman with three ectopic pregnancies after in-vitro fertilisation and embryo transfer. *Hum Reprod.* 13(2),468-470.
6. Aboulghar MA, Mansour RT, Serour GI.(1998). Controversies in the modern management of hydrosalpinx. *Hum Reprod Update.* 4(6),882-890.
7. Murray DL, Sagoskin AW, Widrea EA, Levy MJ.(1998).The adverse effect of hydrosalpinges on in vitro fertilisation pregnancy rates and the benefit of surgical correction. *Fertil Steril.* 69(1),41-45.
8. Ross R, Lindheim SR, Olive DL, Pritts EA.(2006). Corual gestation: a systematic literature review and two case reports of a novel treatment. *J Minim Invasive Gynecol.* 13(1),74-78.
9. Grobman WA and Milad MP.(1998).Conservative laparoscopic management of a large cornual ectopic pregnancy. *Hum Reprod.* 13(7),2002-2004.
10. Morita Y, Tsutsumi O, Momoeda M, Taketani Y.(1997).Cornual pregnancy successfully treated laparoscopically with fibrin glue haemostasis. *Obstet Gynecol.* 90(4 pt 2),685-687.
11. Sagiv R, Golan A, Arbel-Alon S, Glezerman M. (2001).Three conservative approaches to treatment of interstitial pregnancy. *J Am Gynecol Laparosc.* 8(1),154-158.
12. Coric M, Barisic D, Strelec M.(2004)Laparoscopic approach to interstitial pregnancy. *Arch Gynecol Obstet.* 270(4),287-289.
13. Thakur Y, Coker A, Morris J, Oliver R.(2004).Laparoscopic and ultrasound-guided transcervical evacuation of cornual ectopic pregnancy: an alternative approach. *J Obstet Gynaecol.* 24(7),809-810.
14. Inovay J, Marton T, Urbancsek J, Kadar Z, Altdorfer K, Papp Z. (1999).Spontaneous bilateral cornual uterine dehiscence early in the second trimester after bilateral salpingectomy and in-vitro fertilisation: a case report. *Hum Reprod.* 14(10),2471-2473.

Author Information

Shamma Al Inizi, MRCOG

Department of Obstetrics and Gynaecology, Furness General Hospital

Masroor Cheema, MBChB

Department of Obstetrics and Gynaecology, Furness General Hospital

Vincent Bamigboye, MRCOG

Department of Obstetrics and Gynaecology, Furness General Hospital