Primary abdominal pregnancy following intra-uterine insemination

Sujata Kar
Department of Obsterics and Gynaecology, Kar Clinic and Hospital Pvt. Ltd., Kharvel Nagar, Bhubaneswar, Orissa, India

Address for correspondence:
Dr. Sujata Kar,
Kar Clinic and Hospital Pvt. Ltd., A-32, Unit-4, Kharvel Nagar, Bhubaneswar - 751 001, Orissa, India
E-mail: suju63@yahoo.com

Received: 18.02.11
Review completed: 04.06.11
Accepted: 06.07.11

Access this article online
Quick Response Code:

Website:
www.jhrsonline.org

DOI:
10.4103/0974-1208.86091

ABSTRACT

Primary abdominal pregnancy is an extremely rare type of extrauterine pregnancy. It has been reported from many unusual intra-abdominal sites. We report a case of primary abdominal pregnancy following intra-uterine insemination (not reported earlier to our knowledge). Implanted on the anterior surface of the uterus possibly related to an endometriotic foci. Early diagnosis enabled laparoscopic management of this case.

KEY WORDS: Ectopic pregnancy, laparoscopic management, primary abdominal pregnancy

INTRODUCTION

Primary abdominal pregnancy is possibly the rarest form of extrauterine gestation. Incidence is not known. Abdominal pregnancies (both primary and secondary) have a reported incidence of 1 in 10,000.[1] Worldwide, the incidence of ectopic pregnancies is increasing, with significant contribution from assisted reproductive technologies (ART).[2] However, the incidence of abdominal pregnancies have remained constant or reduced, and maternal mortality reduced from 20% to less than 5% in last 20 years[3] due to early diagnosis and management. Early diagnosis has enabled laparoscopic management in many of these cases. In this study, we report a case of primary abdominal pregnancy following intra-uterine insemination (IUI) managed laparoscopically.

CASE REPORT

Mrs. Y.P, a 31-year-old female, attended our OPD on 22nd August 2010, with chief complaints of amenorrhea of 2 months, following an IUI cycle. She had primary infertility of 3 years, and was undergoing IUI for mild-to-moderate male factor coupled with mild pelvic endometriosis. This was her first IUI cycle (CC1 00 mg D2-D6, HCG trigger, and dydrogestrone as luteal support). Urine pregnancy test was negative on two ocasions after IUI. She had no other complaints [Figures 1-6].

Her previous menstrual cycles were regular. LMP was performed 28.06.2010. Double IUI was done on 12th and 13th July 2010. She was amenorrhoeic for almost 9 weeks. On transvaginal sonography, the uterus was bulky, very thick regular echogenic endometrium, and no gestational sac in cavity [Figure 7]. Both ovaries were normal with a corpus luteum in the left ovary [Figures 8 and 9]. There was a 1.6 cm mass with strongly echogenic rim, close to the uterus, in the left side suggestive of an ectopic pregnancy sac. Serum b-HCG in the same day was 9470 mIU/ml [Figures 10 and 11].

Laparoscopy was offered to the patient, who however, desperately requested for the conservative approach (she had undergone diagnostic hystero-laparoscopy 2 months back during her infertility workup , and also did not want to loose a fallopian tube).

She was given one intramascular injection of methotrexate (50 mg) on 22.08.2010 following routine blood tests. However, follow-up of serial b-HCG on 26.08.2010 showed persisting levels of 9300 mIU/ml and transvaginal sonography showed a size of the mass increased to 2 cm.

She was taken up for laparoscopic surgery on 28.08.2010. At laparoscopy uterus was bulky, deviated to the right side with a few old and new endometriotic deposits on the

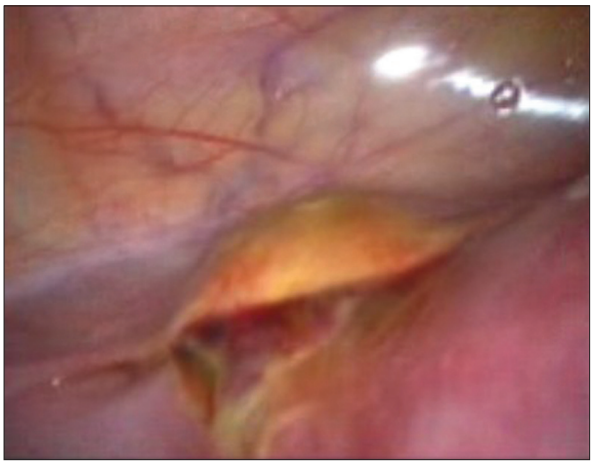

Figure 1: The undisturbed ectopic gestation sac seen on the anterior surface of the uterus and anterior leaf of broad ligament

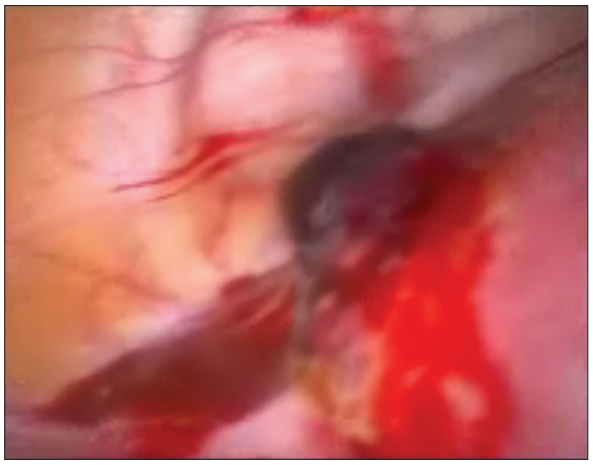

Figure 2: The ectopic pregnancy site which started to bleed,on manipulation of the uterus

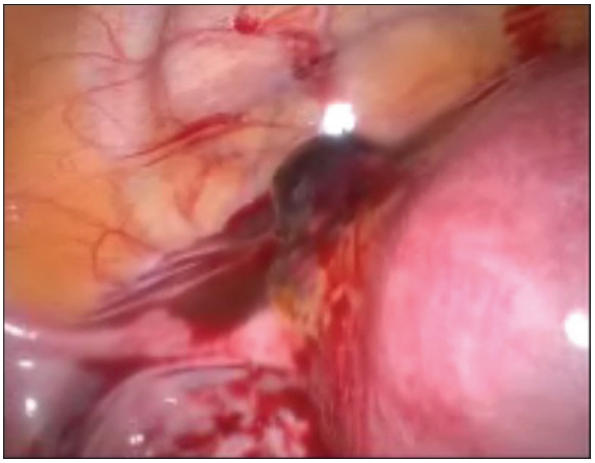

Figure 3: Bleeding ectopic sac separating from peritoneal surface

Figure 4: Protruding gestational sac

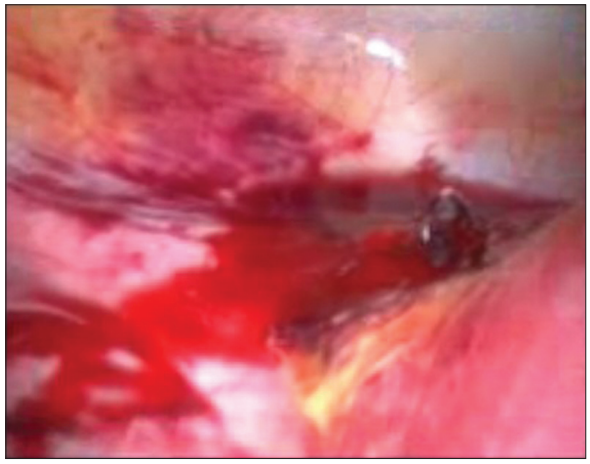

Figure 5: Bleeding from the implantation site after gestational sac was sucked out

Figure 6: Implantation site after removal of ectopic sac and hemostasis

antero-superior surface. Both the fallopian tubes and ovaries were normal. Pouch of Douglas was free. No fresh or old blood was found in the peritoneal cavity. The pregnancy sac was implanted on the peritoneal surface of the broad ligament,between the round ligament and the utero-vesical fold.

Initial appearance was a mound-like elevation, with

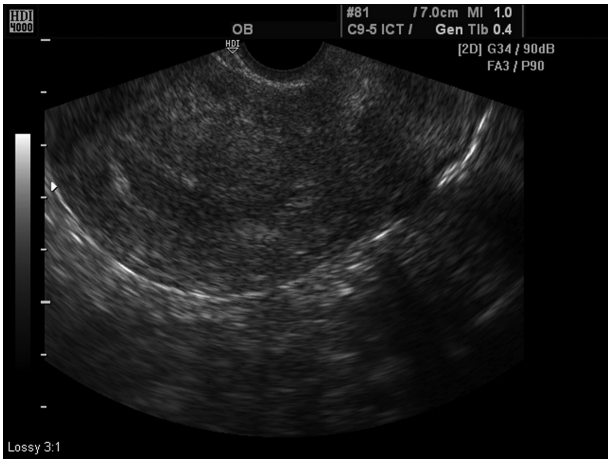

Figure 7: Uterus with empty endometrial cavity

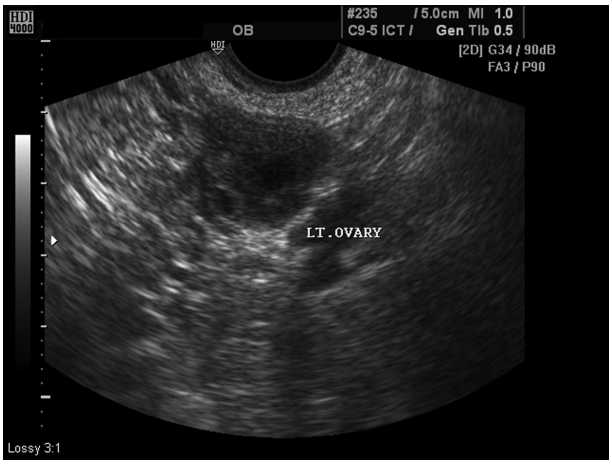

Figure 8: Transvaginal scan showing left ovary with a corpus luteum

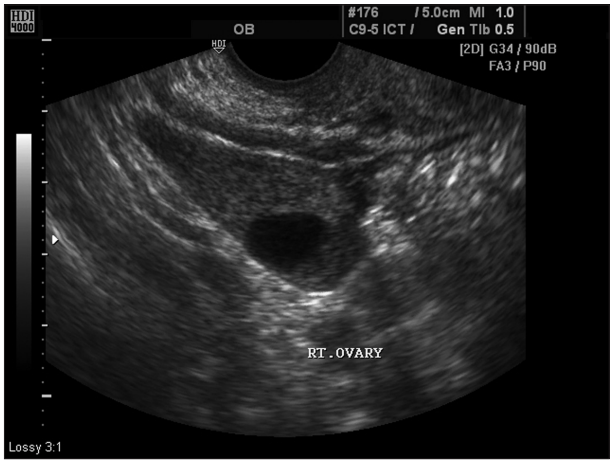

Figure 9: Image of the normal right ovary

Figure 10: Transvaginal sonography showing ectopic gestational sac in the region of the left adnexa

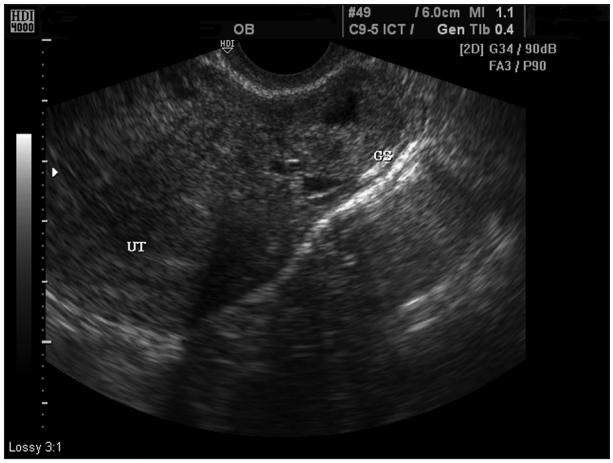

Figure 11: Transvaginal sonography picture showing both the empty uterus and adjacent ectopic sac

yellowish brown margins [Figures 1 and 2]. Fresh bleeding started only upon manipulation of the uterus. Gestational sac was sucked out [Figures 3 and 4]. There was significant bleeding from the base [Figure 5], which was controlled with bipolar coagulation and superficial infiltration of Pitressin [Figure 6]. Endometrial curettage was performed. The product of conception retrieved was sent for histopathology [Figure 12]. The patient made an uneventful postoperative recovery. β-HCG fell to 203 IU within 4 days, and subsequently declined to non-pregnant levels.

DISCUSSION

Most gynecologists would not encounter a case of abdominal pregnancy during their career. Incidence has been reported as approximately 1 in 10,000 live births,[1] and 9.2 per 1000 ectopic pregnancies.[4] Most of these are secondary abdominal pregnancies, which means the embryo had primarily implanted in the fallopian tube, extruded, or expelled and then secondarily implanted itself on another intra-abdominal surface.[4]

In primary abdominal pregnancy, which is the rarest type of

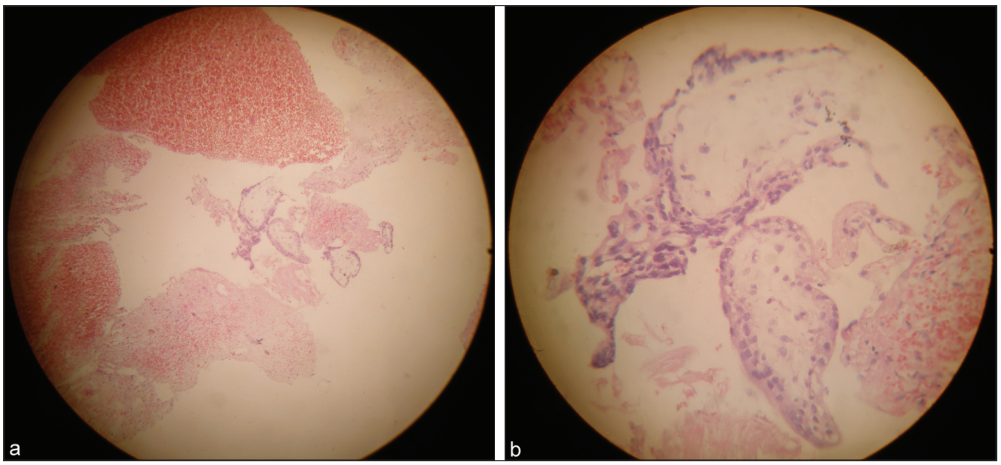

Figure 12: Histopathology picture showing chorionic villi, bleeding, and no tubal epithelium. (a and b) Low and high magnification

ectopic gestation, the conceptus implants on the peritoneal surface.

Studdiford's criteria used to diagnose primary abdominal pregnancy are described as:

1. The presence of normal bilateral tubes and ovaries with no evidence of recent or past pregnancy.
2. No evidence of a uteroperitoneal fistula.
3. The presence of pregnancy related exclusively to the peritoneal surface, early enough to eliminate the possibility of secondary implantation after primary tubal nidation.[5]

Alternatively, a classification relevant from diagnosis and treatment defines early peritoneal pregnancy (≥20 weeks of gestation) or advanced (≤20 weeks of gestation).[6]

Primary abdominal pregnancies have been reported from omentum, sigmoid colon, posterior peritoneum of pelvis, spleen, liver, diaphragm, obturator foramen, posterior surface of uterus, retroperitoneum, and pancreas.[7-21]

Primary peritoneal pregnancy has been reported in relation to foci of endometriosis.[21,22]

ART has contributed significantly to the increased incidence of ectopic pregnancies. Rare and new varieties of ectopics such as heterotopic pregnancies, cervical, cesarean scar pregnancies have surfaced. However, the incidence of abdominal pregnancies has not changed, may be reduced due to early diagnosis.[23,24] Presentation of patents with primary abdominal pregnancy varies greatly,[6] however, with early diagnosis like our case, patients may be totally asymptomatic.

In earlier literature abdominal pregnancies were typically diagnosed late. Now with serial b-HCG, excellent ultrasonography, and MRI facilities, these pregnancies are diagnosed much earlier.[25,26]

Our case is unique in some aspects. To our knowledge, this is the only case reported of primary peritoneal pregnancy in the anterior peritoneal leaf of the broad ligament following intrauterine insemination.

The implantation appears to be related to endometriotic foci. The presence of uterine surface endometriosis was documented by a routine diagnosis laparoscopy only 2 months earlier.

CONCLUSIONS

With early diagnosis laparoscopic management becomes feasible. Prognosis for future fertility also appears good following early diagnosis, as the tubes, ovaries are not directly involved in pregnancy, nor removed during the operative procedure and are not involved in postoperative adhesion formation. Future fertility does not appear to be adversely affected.[6]

REFERENCES

1. Yildizhan R, Kurdoglu M, Kolusari A, Erten R. Primary omental pregnancy. Saudi Med J 2008;29:606-9.
2. Rojansky N, Schenjer JG. Heterotopic pregnancy and assisted reproduction: An update. J Assist Reprod Genet 1996;13:594-601.
3. Hong JH, Shin JH, Song KJ, Lee HJ, Kim IS, Lee JK, *et al*. Laparoscopic management of primary omental pregnancy. J Minim Invasive Gynecol 2008;15:640-1.
4. Shin JS, Moon YJ, Kim SR, Kim KT, Moon H, Hwang YY. Primary peritoneal pregnancy implanted on the uterosacral ligament: A case report. J Korean Med Sci 2000;15:359-62.
5. Studdiford WE. Primary peritoneal pregnancy. Am J Obstet Gynecol 1942;44:487-91.
6. Martin JN Jr, McCaul JF 4th. Emergent management of abdominal pregnancy. Clin Obstet Gynecol 1990;33:438-47.
7. Daw E, Colaco E. Primary peritoneal pregnancy on the anterior surface of the uterus. Br J Clin Pract 1978;32:205-7.
8. Kellet RJ. Primary abdominal (peritoneal) pregnancy. J Obstet Gynaecol Br Commonw 1973;80:1102-5.
9. Goh TH, Rahman SA. Primary peritoneal pregnancy implanted on the

uterine fundus. Aust N Z J Obstet Gynecol 1980;20:240-1.
10. Johnson AG. Primary peritoneal pregnancy. Br Med J 1968;4:96-7.
11. Hatada Y. The pedunculated type of primary peritoneal pregnancy implanted on the infundibulopelvic ligament. Obstet Gynecol 1993;82(2 Suppl):693-5.
12. Copper JA. Early primary peritoneal pregnancy. J Obstet Gynaecol Br Commonw 1968;75:232-3.
13. Friederich MA. Primary omental pregnancy. 2 cases of primary peritoneal pregnancy. Obstet Gynecol 1968;31:104-9.
14. Yackel DB, Panton ON, Martin DJ, Lee D. Splenic pregnancy: Case report. Obstet Gynaecol 1988;71:471-73.
15. Kahn JA, Skjeldestad FE, v During V, Sunde A, Molne K, Jorgensen OG. A spleen pregnancy. Acta Obstet Gynecol Scand 1989;68:83-4.
16. Cormio G, Santamato S, Vimercati A, Selvaggi L. Primary splenic pregnancy: A case report. J Reprod Med 2003;48:479-81.
17. Biolchini F, Giunta A, Bigi L, Bertellini C, Pedrazzoli C. Emergency laparoscopic splenectomy for haemoperitoneum because of ruptured primary splenic pregnancy. ANZ J Surg 2010;80:55-7.
18. Panda S, Darlong LM, Singh S, Borah T. Case report of a primary ovarian pregnancy in a primigravida. J Hum Reprod Sci 2009;2:90-2.
19. Yildizhan R, Kolusari A, Adali F, Adali E, Kurdoglu M, Ozgokce C, Cim N. Primary abdominal ectopic pregnancy: A case report. Cases J 2009;2:8485.
20. Plotti F, Di Giovanni A, Oliva C, Battaglia F, Plotti G. Bilateral ovarian pregnancy after intrauterine insemination and controlled ovarian stimulation. Fertil Steril 2008;90:2015.e3-5.
21. Chopra S, Keepanasseril A, Suri V, Gupta N. Primary omental pregnancy: Case report and review of literature. Arch Gynecol Obstet 2009;279:441-2.
22. Norenberg DD, Gundersen JH, Jains JF, Gundusen AL. Early pregnancy on the diaphragm with endometriosis. J Obs Gyn Br Commonwealth 1977;75;232-3.
23. Bouyer J, Coste J, Fernandez H, Pouly JL, Job-Spira N. Sites of ectopic pregnancy: A 10-year population-based study of 1800 cases. Hum Reprod 2002;17:3224-30.
24. Malian V, Lee JH. MR imaging and MR angiography of an abdominal pregnancy with placental infarction. AJR Am J Roentgenol 2001;177:1305-6.
25. Yoshigi J, Yashiro N, Kinoshito T, O'uchi T, Kitagaki H. Diagnosis of ectopic pregnancy with MRI: Efficacy of T2*-weighted imaging. Magn Reson Med Sci 2006;5:25-32.
26. Clark AD, McMilan JA. Maternal death due to primary peritoneal pregnancy. J Obstet Gynaecol Br Commonw 1974;81:652-4.

How to cite this article: Kar S. Primary abdominal pregnancy following intra-uterine insemination. J Hum Reprod Sci 2011;4:95-9.

Source of Support: Nil, **Conflict of Interest:** None declared.