Gynecol Surg (2006) 3: 34–36
DOI 10.1007/s10397-005-0150-4

CASE REPORT

A. O. Alalade · F. O. Odejinmi

Laparoscopic management of uterine perforation following surgical termination of pregnancy: a report of three cases and literature review

Published online: 17 December 2005
© Springer-Verlag Berlin/Heidelberg 2005

Introduction

Surgical termination of pregnancy is one of the most commonly performed gynaecological procedures, the safety of which is a global concern. Uterine perforation is one of its commonest complications. Traditionally, most of these were managed by laparotomy; however, with increasing availability of operative laparoscopy, it is becoming increasingly possible to manage these cases laparoscopically. We present three cases of therapeutic laparoscopic management of uterine perforation resulting from surgical termination of pregnancy as opposed to either laparotomy or diagnostic laparoscopy followed by laparotomy. All patients were referred from the local termination of pregnancy service.

Case 1

An 18-year-old para 1+1 was referred from the local pregnancy advisory clinic having had a termination of pregnancy at 9 weeks gestation, with a history of suspected uterine perforation. Dilation of the cervix was said to have been difficult, and the uterus was retroverted. The operator reported aspirating an amniotic fluid-like substance; he later observed a piece of omentum at the external os. Products of conception were reported complete.

At presentation to our gynaecology emergency unit, she was haemodynamically stable, abdomen soft, non-tender, and bowel sounds heard. On speculum examination, there was a lobulated 2 cm mass protruding from the external os, suggestive of omentum. Her blood investigations were normal and she consented to diagnostic laparoscopy, which led to repair of uterine perforation and partial omentectomy with possible repair of bowel perforation. At surgery, omentum was visible through the uterine perforation. There was no bowel involvement, no adhesions, and both tubes and ovaries were normal. An intracorporeal suture was applied to the omentum and the redundant piece excised. The uterine perforation was repaired with a figure-of-eight intracorporeal suture using 2/0 Vicryl. Postoperative care was uneventful and she was discharged home on the day after the procedure.

A. O. Alalade · F. O. Odejinmi (✉)
Department of Obstetrics and Gynaecology,
Whipps Cross University Hospital,
London, E11 1NR, UK
e-mail: Jimi@doctors.org.uk
Fax: +1-20-85044082

Case 2

A 25-year-old para 0+1 was transferred from the local termination of pregnancy service. She had a termination of pregnancy at 9 weeks gestation. Four days prior to referral, she had continued to have vaginal bleeding and abdominal pain and subsequently had a repeat procedure to evacuate retained products of conception. This failed to stop the bleeding. She was put on an oxytocin infusion and transferred to our unit.

At presentation she was pale, tachycardic, and pyrexial. Abdominal examination revealed a very tender abdomen, with guarding and rebound tenderness. Percussion notes were tympanic and bowel sounds reduced. There was cervical excitation tenderness. There was minimal vaginal bleeding. Abdominal and chest X-rays were normal, but an ultrasound scan suggested a large haemoperitoneum. The patient was stabilized and consented to a laparoscopy with possible repair of uterine perforation and/or repair of viscous perforation. At surgery, there was 2.5 l haemoperitoneum, with a fundal uterine perforation. There was no evidence of faecal contamination and after careful inspection of the bowel to exclude perforation in conjunction with the general surgeons, the perforation was repaired with intracorporeal sutures which also arrested the bleeding. Postoperatively, she developed clinical depression for which a referral to the psychiatrists was made before commencement on antidepressants. She was discharged home on postoperative day 6, her prolonged hospital stay being on psychiatric advice.

Case 3

A 26-year-old para 2 (one previous Caesarean section) was referred from the local termination clinic with a history of lower abdominal pain and bleeding par vaginum after surgical termination of pregnancy at 17 weeks gestation. She had 2 units of blood and fresh frozen plasma at the clinic before transfer.

At presentation to the gynaecological emergency unit, she was pale with stable vital signs. Abdominal examination revealed a non-distended, tender abdomen with guarding. She was stabilized and investigations were carried out to rule out bowel perforation. Abdominal and chest X-rays were normal. It was thus initially decided to manage her conservatively, as she was stable with no active vaginal bleeding. However, she developed increasing abdominal and shoulder tip pain and an ultrasound scan revealed products of conception and an increasing haemoperitoneum. She was stabilised, transfused and consented to laparoscopy with possible repair of a uterine perforation and completion of the evacuation of retained products of conception under direct vision. At operation, there was a large 5 cm perforation through the old uterine scar with 1 l haemoperitoneum. Peritoneal toileting was carried out; the defect was packed with Surgicel and held in place with two intracorporeal Vicryl sutures. Her postoperative care was uneventful.

Discussion

Termination of pregnancy is one of the commonest gynaecological procedures, with approximately 50 million terminations performed worldwide annually, the majority of which are surgical terminations (STOP) [1]. The incidence of uterine perforation during first trimester termination of pregnancy has been estimated at 0.8–6.4/1000 procedures [1]. General anaesthesia, advanced age and parity have been associated with increased incidence of this complication [2]. Uterine retroversion does not significantly contribute to perforation [3]

It has been suggested that most cases of uterine perforation go unnoticed. In studies where direct visualization was employed at the time of procedure, the incidence was estimated at 30/1000 [4].

A conservative approach to management has been described by several authors, with surgical intervention necessary in cases of increasing pain, haemodynamic instability and evidence of intra-abdominal viscus perforation or protrusion of abdominal content through the cervix [5]. Others advocate that laparoscopy should be used in all cases where uterine perforation is suspected [6]; however, there is sparse literature on laparoscopic repair of uterine perforations. Nathanson [7], in a series of 24 perforations, managed 13 patients conservatively and in ten performed laparotomy to effect uterine repair. In a series by Freiman and Wulff, four patients needed laparotomy for insertion of sutures, though three of these needed other therapeutic procedures [8]. In a more recent series, Goldchmit and colleagues performed laparotomy in six patients to insert uterine sutures with no other treatment carried out [9]. Puharic et al. [10] managed uterine perforations laparoscopically with low voltage endodiathermy to stop bleeding without insertion of sutures; this may lead to weakness of the uterine wall, which may result in uterine perforation in future pregnancy.

The literature is thin on the laparoscopic repair of uterine perforation with application of intra-uterine stitches. This method of repair has the advantage of preventing a laparotomy in cases where haemostasis cannot be achieved with diathermy and ensuring integrity of the uterine wall. There is an added psychological advantage to the patient with regard to hospital stay [11].

Laparoscopic management of uterine perforation in haemodynamically stable patients is feasible, as illustrated in these case reports. It also has the advantage of shorter hospital stay, earlier return to normal activities and all other advantages of laparoscopic surgery.

Conclusion

There is a reported increase in the number of surgical terminations of pregnancy performed annually. For women requiring intervention as a result of uterine perforation, laparoscopy is a viable intervention not only for diagnosis leading to laparotomy, but also for treatment.

References

1. Ganesh A, Heulwen M, Leslie P, Regina F (2004) A randomized trial comparing surgical termination of pregnancy with and without continuous ultrasound. Eur J Obstect Gynecol Reprod Biol 114(1):69–74
2. Kaali SG, Szigetvari IA, Bartfai GS (1989) The frequency and management of uterine perforations during 1st trimester abortions. Am J Obstet Gynecol 161(2):406–408
3. Kumar P, Rao P (1998) Laparoscopy as a diagnostic and therapeutic technique in uterine perforations during 1st trimester abortions. Asia Oceania J Obstet Gynecol 14(1):55–59
4. White MK, Ory HW, Goldenberg LA (1977) A case-control study of uterine perforations documented at laparoscopy. Am J Obstet Gynecol 129:623
5. Lindell G, Flam F (1995) Management of uterine perforations in connection with legal abortion. Acta Obstect Gynecol Scand 74(5):373–375
6. Lauerseen NH, Bimbaum S (1977) Laparoscopy as a diagnostic and therapeutic technique in uterine perforations during first trimester abortions. Am J Obstet Gynecol 117:522–526
7. Nathanson BN (1972) Management of uterine perforation suffered at elective abortion. Am J Obstet Gynaecol 114:1054–1059
8. Feiman SM, Wulff GJ Jr (1977) Management of uterine perforation following elective abortion. Obstet Gynecol 50:647–650
9. Goldchmit R, Yaron Z, Elchalal U, Matzkel A, Dgani R (1995) Management of uterine perforation complicating first trimester termination of pregnancy. Isr J Med Sci 31:232–234
10. Puharic I (1990) Laparoscopy in the treatment of uterine perforation in induced abortions. Jugosl Ginekol Perinatol, 30(5–6): 121–125
11. Mustafa MS, Gurab S (1995) Endoscopic management of bleeding uterine perforation occurring during evacuation of retained products of conception. Int J Gynaecol Obstet 49:71–72