

Haemorrhage associated with avulsion of liver capsule during laparoscopic salpingectomy for ectopic pregnancy

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Abstract Laparoscopic salpingectomy is the preferred treatment for ectopic pregnancy. Fitz Hugh Curtis syndrome (FHCS) is a well known extra hepatic complication of chlamydial infections leading to perihepatic adhesions. Pneumoperitoneum created during laparoscopy can cause avulsion of the adhesions between the liver and diaphragm and can cause liver capsule tear. We report a case of haemorrhage associated with liver capsule tear during laparoscopic salpingectomy for ectopic pregnancy.

Keywords Ectopic pregnancy · Laparoscopic salpingectomy · Chlamydial infections · Fitz Hugh Curtis syndrome · Pneumoperitoneum

Case report

A 36-year-old para-2+0 woman presented at the accident and emergency department with lower abdominal pain, fever and vaginal bleeding. Two days prior to the onset of symptoms she had undergone termination of pregnancy at 9 weeks gestation in a private clinic.

Past history revealed treatment for Chlamydia in 2002. She had also undergone colposcopy and large loop excision of the transformation zone (LLETZ) for cervical intra-

epithelial neoplasia (CIN III) in 2002. Following the treatment all her smears had been normal and she was using condoms for contraception.

On examination her pulse and blood pressure were stable. Abdominal examination revealed tenderness and guarding in the lower abdomen, more marked in the left iliac fossa. Speculum examination showed minimal bleeding from the cervix and vaginal examination elicited positive cervical excitation but it was difficult to determine any adnexal masses due to pain.

Subsequently, she had a transvaginal ultrasound which showed a live left tubal ectopic pregnancy corresponding to 9 weeks gestation. Her haemoglobin was 12.1 g/dl.

She was booked for an emergency laparoscopic salpingectomy. Laparoscopy revealed adhesions in the pelvis and a left tubal ectopic pregnancy. After adhesiolysis, left salpingectomy was performed using endoloop. Following irrigation and wash out of the pelvis, the tubal stump was noted to have good haemostasis but fresh bleeding was seen coming from the right paracolic gutter. As the bleeding was continuous, with obvious pelvic haemostasis having been achieved, a laparotomy was performed to determine the site of the haemorrhage. Bleeding was noted to come from the upper right quadrant. Dense adhesions around the liver were seen probably due to FHCS [1]. The bleeding points were identified to be under the surface of the liver near the gall bladder fundus. Adhesiolysis was performed and bleeding was controlled using diathermy, pressure and surgicel.

The patient had a total blood loss of approximately 2,000 ml and her haemoglobin intraoperatively was 8 g/dl. She was transfused with 3 units of blood. Her post operative recovery was uneventful and she was discharged home after 5 days. Histology of the left fallopian tube confirmed tubal ectopic pregnancy.

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Discussion

Laparoscopic salpingectomy for ectopic pregnancy is a routine procedure and is safe and effective as it produces outcomes equivalent to those of laparotomy but with lower costs, shorter hospital stays, and quicker return to normal activity [2, 3]. It allows both radical and conservative procedures to be performed. Complications of laparoscopy include problems related to induction of the pneumoperitoneum and insertion of the laparoscope includes cardiac arrhythmias, perforation of a hollow viscus, and puncture of a solid organ, bleeding, and subcutaneous emphysema. In most reported series, complications of laparoscopic surgeries are minor and occur with a frequency of 1–5%, and the mortality rate is approximately 0.05% [4, 5].

Pelvic adhesions and perihepatic adhesions between the liver capsule and the diaphragm or the anterior peritoneal surface characterizes FHCS [6]. This is an extra pelvic manifestation of chlamydial infections occurring in about 15–30% of woman with pelvic inflammatory disease (PID) [7]. Incidence of FHCS is as high as 27% in adolescents with PID due to the less mature anatomy which makes them more susceptible to infection [8, 9]. The violin-string-like adhesions of FHCS are usually diagnosed during laparoscopy [10]. Lysis of the adhesions resolved the patients' symptoms of persistent severe abdominal pain.

Avulsion of perihepatic adhesions as a result of pneumoperitoneum created during laparoscopy may cause bleeding [11]. This should be considered in patients who experience bleeding with no obvious pelvic source. Bleeding from the liver is usually venous as 80% of the blood supply is derived from the portal vein. This complication of laparoscopy has been described as a rare complication during laparoscopic cholecystectomy by surgeons and is usually managed conservatively [12]. Gynaecologists should be aware of this unusual complication.

(A case of avulsion of perihepatic adhesions during laparoscopy has been described by gynaecologists Rogers and Monahan in 1996 in the literature).

Conclusion

Avulsion of liver capsule is an unusual laparoscopic complication of laparoscopic procedures which gynaecologists should be aware of and also the need for judicious exploration of upper abdomen bleeding in such situations. It may be advisable to discuss with patients at risk of FHCS regarding this possible but extremely uncommon complication.

References

1. Cates W, Wasserheit JN (1991) Genital chlamydia infections: epidemiology and reproductive sequelae. *Am J Obstet Gynecol* 164:1771–1774
2. Yao M, Tulandi T (1997) Current status of surgical and nonsurgical management of ectopic pregnancy. *Fertil Steril* 67:421–433
3. Gray DT, Thorburn J, Lundorff P, Strandell A, Lindblom B (1995) A cost effective study of a randomised trial of laparoscopy versus laparotomy for ectopic pregnancy. *Lancet* 345:1139–1143
4. Mishra RK (2007) Frequently asked questions about laparoscopic complications. <http://www.laparoscopyhospital.com/complication.htm>. Accessed 16 May 2007
5. Alexander HC (1993) Two unusual hemorrhagic complications during laparoscopic cholecystectomy. *Surg Laparosc Endosc* 3(4):346–348
6. Wu HM, Lee CL, Yen CF, Wang CJ, Soong YK (2001) Laparoscopic diagnosis and management of Fitz-Hugh-Curtis syndrome: report of three cases. *Chang Gung Med J* 24(6):388–392
7. Frumvotiz M, Ascher-Walsh CJ (2006) Fitz-Hugh-Curtis syndrome. <http://www.emedicine.com/med/topic797.htm>. Accessed 16 May 2007
8. Semchyshyn S (1979) Fitz-Hugh Curtis syndrome. *J Reprod Med* 22:45–48
9. Ali V, Lilja JF et al (1998) Incidence of perihepatic adhesions in ectopic gestation. *Obstet Gynecol* 92:995–998
10. Sarli L, Villa F, Iusco DR (2001) The value of laparoscopy in the diagnosis and therapy of violin-string like perihepatic non postoperative adhesions. *Sur Endos* March 15(3):323
11. Rogers RG, Monahan EG (1996) Postoperative hemorrhage due to avulsion of perihepatic adhesions after pneumoperitoneum. *J Am Assoc Gyn Lap* 3(4):631–633
12. Obara K, Imai S, Uchiyama S, Uchiyama K, Moriyama Y (1998) Case with subcapsular hematoma of the liver following laparoscopic cholecystectomy. *Nippon Ika Daigaku Zasshi* 65(6):478–480