Acute Haemoperitoneum from Ruptured Veins on a Leiomyomatous Uterus – a Case Report

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Abstract

Acute haemoperitoneum from spontaneous rupture of superficial veins on a leiomyoma is very rare. This report describes such a case. The clinical presentation included abdominal swelling, severe generalized abdominal pain, with vomiting and diarrhoea. There were features of intra-abdominal haemorrhage. Exploratory laparotomy and total abdominal hysterectomy was done. The diagnostic dilemma and management options are discussed.

Key Words: Fibroid, Leiomyoma, Haemoperitoneum, Hysterectomy [Trop J Obstet Gynaecol, 2003, 20: 164-166]

Introduction

Acute spontaneous haemoperitoneum is a common event in gynaecological practice. The most frequent causes are ruptured ectopic gestation, haemorrhagic corpus luteum and twisted adnexa [1]. A very rare cause is rupture of a vein overlying a leiomyoma below the serosal surface of the uterus [1, 2]. The sub-serous location of a fibroid changes the vascular pattern of the uterus considerably. In every instance, the bleeding has occurred from torn, enlarged veins coursing over the surface of sub-serous fibroids [3]. Less than 100 cases have been reported in the English literature worldwide [4]. In view of the serious nature of this rare clinical entity, we present a case that we managed recently and discuss the treatment options.

Case Report

Mrs. E.A., a 30 year old grandmultipara (Para 6^{+1}) presented in the Accidents and Emergency unit of UNTH, Enugu on 20th August, 2000 with a two-month history of lower abdominal fullness and abdominal pain of two days duration.

Her last menstrual period was on 9th August 2000, about two weeks prior to presentation. She had hoped that the abdominal fullness would resolve after her menstruation. However, it got worse. Two days prior to presentation, she developed severe generalised abdominal pain, associated with vomiting and diarrhoea, as well as increasing abdominal girth. She denied any recent menstrual irregularity, unprotected intercourse, genitourinary symptoms, pelvic inflammatory disease, or abdominal trauma. Past medical and surgical history were non-contributory and no history of fibroids could be elicited.

Examination revealed a lady in severe pain. She was very pale but afebrile and anicteric, with no pedal oedema. Her respiratory rate was 24 per minute and the lung fields were clinically clear. The pulse was of low volume and the rate was 104 beats per minute. The blood pressure was 100/50 mmHg. Her heart sounds were normal. The abdomen was grossly distended and a poorly defined suprapubic mass that was tender and smooth-surfaced was balloted. Fluid thrill was positive. Pelvic examination revealed a normal vulva and vagina. The cervix was patulous but the uterus was difficult to define because of tenderness. Paracentesis abdominis yielded dark non-clotting blood. An initial diagnosis of haemorrhagic ovarian cyst was made. The differential diagnosis was ruptured ectopic pregnancy. She was resuscitated with intravenous fluids and blood transfusion.

At emergency laparotomy, there were 2.5 litres of haemoperitoneum, a 20-week size uterus with a firm fundal mass, intramural in location, measuring 20cm by 20cm. There were multiple dilated veins, about 10 in number and each measuring approximately 0.5 - 1.0 cm in diameter. Two of the veins were ruptured and bleeding actively. The omentum, liver, spleen and kidneys were free from metastatic deposits. Both ovaries looked healthy. A total abdominal hysterectomy was done. Recovery was uneventful. She was discharged on 30th August 2000. At follow-up 6 weeks later, she had no complaint. Her general condition was satisfactory. Histology confirmed intramural leiomyoma without evidence of malignant change.

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Discussion

One of the rare complications of leiomyomata is haemoperitoneum arising from rupture of subserosal vessels on the surface of the tumour [5, 6, 7]. Increased vascular flow to pelvic organs during menstruation or pregnancy, have been considered responsible for the onset of massive intra-abdominal bleeding in these cases [3, 6]. Another theory is that of mechanical extrusion as the tumour pushes itself out of the myometrial confines. The force of tension created on the surface may tear a superficial vein and cause spontaneous bleeding [3].

In a review of the literature [4], the following factors were identified: increased abdominal pressure as a result of hardwork, violent coitus, abdominal massage, defaecation, sports, and examination under anaesthesia. It was postulated that increased abdominal pressure could cause passive congestion and rupture of superficial veins. In the series of Saidi *et al* [3], most patients were between 30 and 44 years old. Trauma can cause rupture of a uterine fibroid [8]. Posterior location of the bleeding vein favours the theory of direct contact injury from the promontory of the sacrum. Infarction, malignant or aseptic degeneration of a leiomyoma can occur, with secondary haemorrhage. Spontaneous bleeding without any recent history of trauma, increased abdominal pressure, recent pregnancy or menstruation is very rare. Mechanical extrusion may explain why the intramural fibroid in our patient led to the tearing of the superficial veins. The average weight of leiomyoma that bleeds has been put at 3000g and an average diameter of 10 to 16cm [4]. The fibroid in our patient had a diameter of 20cm but the weight was not measured separately from the uterus.

The onset of symptoms is usually sudden and most patients have a sharp pain over the lower abdomen. There may be associated dizziness, nausea and vomiting. Shoulder pain may be present. As the bleeding continues, there is peritoneal irritation with tenderness, guarding and rebound. The presence of a large pelvic tumour discovered on physical examination as in our patient, or a history of such a tumour may be a helpful hint. However, there may be no clue to the presence of a fibroid beforehand. The severe tenderness and rigidity of the abdomen at the time of haemorrhage often precludes detection of a fibroid on physical examination. Signs of hypovolaemic shock are present. Culdocentesis or paracentesis abdominis is positive for dark non-clotting blood. Sonogram of the pelvis is very important at arriving at a diagnosis as it can show the tumour and free fluid. The patient presented here had a grossly distended abdomen with severe generalized abdominal tenderness and positive paracentesis abdominis. Due to the degree of blood loss, the patient became heamodynamically unstable. The correct diagnosis is rarely made prior to surgery [3], as was the case in our patient.

The ideal procedure for preservation of childbearing is simple excision of the leiomyoma [3]. Hysterectomy can be the procedure of choice when the patient has multiple leiomyomas and many superficial blood vessels are present [4], as was the case in this patient. Secondly, hysterectomy was considered the most expedient treatment for our patient because the patient was grandmultiparous, and the mass could have been a uterine sarcoma judging from the degree of neovascularisation and the intramural location of the mass. Both ovaries were conserved because they looked healthy, she was 30 years old, and premenopausal. Another reason for conservation of the ovaries, despite the possibility that the tumour could have been an uterine sarcoma is that the overall prognosis for leiomyosarcoma is not significantly altered whether or not bilateral salpingo-oophorectomy is done with total hysterectomy [9].

Rapid suturing of the bleeding vessels, deferring hysterectomy to a later date can be considered when the patient is too unstable to remain under anaesthesia for any significant length of time. The patient here came in shock and had a massive intramural fibroid with multiple dilated vessels coursing all over the anterior surface of the uterus. Two of the dilated veins were bleeding actively. The patient was stable following resuscitation and definitive surgery was considered more appropriate.

Massive intra-abdominal haemorrhage from subserous veins overlying a uterine fibroid, though rare, is a serious clinical entity. The degree of blood loss endangers the patient's life and demands prompt surgical intervention. The patient presents with acute abdomen and haemodynamic instability. Precise preoperative diagnosis is difficult. Laparotomy is diagnostic and therapeutic in this unusual intra-abdominal catastrophe. Facilities for frozen-sections may help to rule out malignancies during the exploratory laparotomy.

Treatment by myomectomy is feasible and often successful, and it is recommended when reproductive function needs to be preserved. However, hysterectomy is advocated when there are multiple leiomyomata, if many large blood vessels are present and especially when leiomyosarcoma cannot be ruled out and the patient has completed her family.

References

1. Mattison DR, Yeh SY. Haemoperitoneum from rupture of a uterine vein overlying a leiomyoma. *Am J Obstet Gynecol,* 1980; 136(3): 415-416.
2. Pinkerton JHM, Stewart DB. Uterine Fibroids. In: Lawson JB & Stewart DB. (eds) *Obstetrics and Gynaecology in the Tropics and Developing Countries.* London: Edward Arnold Publishers 1967: 395.
3. Saidi F, Constable JD, Ulfelder H. Massive intraperitoneal haemorrhage due to uterine fibroids. *Am J Obstet Gynecol,* 1961; 82: 367-374.
4. Danikas D, Theodorou SJ, Kotrotsios J, Sills C, Cordero PE. Hemoperitoneum from spontaneous bleeding of a uterine leiomyoma: a case report. *Am J Surg* 1999; 65: 1180-1182.
5. Buttery BW. Spontaneous haemoperitoneum complicating uterine fibromyoma. *Aust N Z J Obstet Gynaecol,* 1972; 12(3): 210-213.
6. Cordiner JW, Low RA, Hart DM, Smith IS. Spontaneous haemoperitoneum in pregnancy due to a rupture of a uterine vein. *J Obstet Gynaecol Br Commonw,* 1973; 80: 940-941.
7. Picker RH, Saunders DM, Coppleson JV. Massive haemoperitoneum due to spontaneous rupture of a uterine varix. *Aust N Z J Obstet Gynaecol* 1973; 13: 236-237.
8. Sule AZ. Traumatic rupture of uterine fibroid: an uncommon cause of posttraumatic haemoperitoneum. *West Afr J Med,* 2000; 19: 158-159.
9. Burkman RT. Management of the fibroid uterus. *Curr Probl Obstet Gynecol Fertil* March/April 1998; 35.