

Primary postpartum haemorrhage due to a large submucosal nonpedunculated uterine leiomyoma: a case report and review of the literature

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Summary

The complications of leiomyomas during pregnancy are very rare and can be divided into those occurring during pregnancy, at delivery and in puerperium. We present an unusual complication of large submucosal nonpedunculated uterine leiomyoma in puerperium. The patient was a 32-year-old woman, gravida 2, para 1, who was admitted to our department from a private maternity clinic with a considerable drop in haemoglobin 23 hours after delivery of a healthy boy. The placenta had easily and spontaneously delivered. On admission to our department her haemoglobin was 6.3 g/dl. Pelvic examination disclosed the presence of fresh blood clots in the vaginal vault. A circular firm structure, 12 by 12 cm, was noted within the external cervical os. This mass was immovable. Total abdominal hysterectomy without salpingo-oophorectomy was immediately performed and the patient's postoperative course was uneventful. In conclusion, in this patient the uterine leiomyoma obstructed the cervical os and prevented the passage of lochia resulting in haematometra, uterine atony and subsequent serious uterine haemorrhage. In such cases obstetricians and gynaecologists should proceed immediately with surgical intervention to avoid a life-threatening situation.

Key words: Leiomyoma; Fibroid complications; Pregnancy; Puerperium; Uterine atony; Haematometra; Emergency hysterectomy.

Introduction

Uterine leiomyomas (fibroids or myomas) are benign tumors that arise from the smooth muscle cells of the human uterus [1]. It has been estimated that uterine myomas occur in 20-25% of women of reproductive age [2]. The incidence of myomas during pregnancy is estimated to range from 0.3% to 2.6% [3] and the incidence of myomas complicating pregnancy has been reported to be less than 1% [4]. Most myomas are small and pass undetected or are discovered by chance [4].

In pregnant women, uterine myomas increase in size during pregnancy, but usually diminish again after pregnancy is terminated [5]. Uterine myomas in pregnancy can cause spontaneous abortion, fetal growth retardation, fetal malformation, malposition of the fetus, preterm labor, premature rupture of the membranes, abruptio placenta, obstructed labor, postpartum haemorrhage and sepsis. They can also cause pain secondary to infarction or torsion. Other complications include internal bleeding secondary to rupture of cystic degenerated fibroid, an increased ectopic pregnancy rate, uterine inversion and torsion of pregnant uterus [6-9]. In addition some authors have ascribed to uterine myomas an increased incidence of cesarean delivery and cesarean hysterectomies [10].

The purpose of this study is to report an extremely rare, but life-threatening case of primary postpartum haemorrhage due to a large submucosal nonpedunculated uterine

leiomyoma, which after delivery of an infant and placenta it prolapsed within the external cervical os and obstructed the passage of lochia resulting in haematometra, uterine atony and subsequent serious uterine bleeding.

Case Report

A 32-year-old woman was admitted to the Department of Obstetrics and Gynaecology of "G. Chatzikosta" General State Hospital of Ioannina, Greece from a private Maternity Clinic of Ioannina with postpartum uterine atonia. She was a gravida 2, para 1, and her previous medical and gynaecological history was normal. Her obstetrical history included a normal delivery of a 3,950 g boy eight years before. Her last menstrual period occurred 36 weeks prior to this admission. Her antepartum course was unremarkable. An ultrasound scan at the 10th week of gestation revealed a 6 cm submucosal fibroid and a viable fetus. The patient had a series of ultrasound examinations showing appropriate fetal growth and changes in the size of the leiomyoma: On the 20th week of gestation the maximum diameter of the leiomyoma was 9 cm and on the 33rd week of gestation it had increased to 11 cm.

The woman presented at the 36th week of gestation to the Private Maternity Clinic of Ioannina, Greece, with spontaneous rupture of membranes and lucid amniotic fluid. She was not in labor. Vaginal examination revealed cervical dilation of 2 cm and a non-tender uterus. During this time her haematocrit was 36% and her haemoglobin 12.3 g/dl. Twelve hours after the spontaneous rupture of the membranes she delivered a 3,050 g healthy boy. The placenta was easily and spontaneously delivered.

Revised manuscript accepted for publication December 19, 2002

Immediately after the delivery of the infant and the placenta the leiomyoma prolapsed within the external cervical os and obstructed the passage of the lochia. As a result haematometra occurred leading to subsequent uterine atonia and uterine haemorrhage. The uterus failed to respond to intravenous oxytocin administration. The patient was transfused with three units of packed red blood cells. Because of her serious condition at 23 hours postpartum, she was admitted to our Department of Obstetrics and Gynaecology in "G. Chatzikosta" General State Hospital of Ioannina, Greece, with haematocrit 18% and haemoglobin 6.3 g/dl. The values of prothrombine time, activated partial thromboplastin time and fibrinogen levels were normal. On examination at this time, the patient suffered from vaginal bleeding and tachycardia (110 beats per min). The blood pressure was 70/40 mmHg. Her abdomen was soft, non-tender, and without rebound or guarding. Pelvic examination disclosed the presence of fresh blood clots in the vaginal vault. A circular firm structure 12 by 12 cm was noted within the external cervical os. This mass was immovable. The patient received 15 IU of oxytocin intravenously but the uterus remained atonic. An emergency hysterectomy without salpingo-oophorectomy was immediately performed without complications through a subumbilical midline incision. On the day of operation the patient received three units of packed red blood cells and two units of fresh frozen plasma as well. Her immediate postoperative condition was satisfactory and she was discharged on the seventh postoperative day. During follow-up, four weeks later the patient was very well.

Histology reported that the resected uterine corpus was symmetrically enlarged measuring 21 x 15 x 14 cm. The resected cervix measured 9 x 5.5 x 4 cm. On the cut surface a leiomyoma, 12 cm in maximum diameter, protruded from the left lateral wall of the uterine corpus. The thickness of the myometrium was between 3 to 5 cm and contained numerous leiomyomas. The uterine cavity contained blood clots but no identifiable placental tissue.

Discussion

Postpartum haemorrhage is still a major contributor to maternal morbidity and mortality. The incidence in developed countries is 4-6% of pregnancies with 0.5% resulting in haemorrhage severe enough to cause hypotension and shock [11]. Primary postpartum haemorrhage is defined as haemorrhage occurring within the first 24 h postpartum, while when it occurs after the first 24 h is termed secondary postpartum haemorrhage [11]. The most common cause of postpartum haemorrhage is uterine atony (75-90%) [11]. Uterine fibroids are factors predisposing to uterine atony [11] leading to severe haemorrhage, which is a risk factor for disseminated intravascular coagulation (DIC) [12]. In the present study we presented an unusual case of uterine atony due to a large submucosal nonpedunculated uterine leiomyoma protruding from the left lateral wall of the uterine corpus. After delivery of the infant and placenta the leiomyoma



Figure 1. — On the cut surface of the resected uterine corpus a large submucous leiomyoma, 12 cm in maximum diameter, can be seen protruding from the left lateral wall of the uterine corpus.

prolapsed within the external cervical os carrying away with it the uterine wall. Lochia stayed in the uterine cavity creating haematometra and the uterus remained atonic. Attempts to replace the leiomyoma inside the uterine cavity and to increase uterine muscle tone with intravenous administration of oxytocin failed and uterine bleeding continued. The patient was admitted to our department 23 hours after delivery, having already received three units of packed red blood cells. Her haematocrit and haemoglobin had dropped from 36% and 12.3 g/dl (upon admission to labor) to 18% and 6.3, g/dl, respectively (upon admission to our department). We immediately examined the values for prothrombine time, activated partial thromboplastin time and fibrinogen, which were found to be normal. On pelvic examination the uterine leiomyoma remained immovable within the external cervical os. An emergency hysterectomy without salpingo-oophorectomy was performed to avoid the risk of disseminated intravascular coagulation (DIC). The patient received an additional three units of packed red blood cells and two units of fresh frozen plasma on the day of surgery and had an uneventful postoperative course.

In cases of otherwise intractable obstetric haemorrhage emergency hysterectomy may be a life-saving procedure. According to Clark et al, the incidence of emergency hysterectomy after both caesarean section and vaginal delivery was found to be 0.7% and 0.02%, respectively [13]. Subtotal hysterectomy has traditionally been viewed as a

quicker procedure, associated with less blood loss. However, Clark *et al.*, found no significant difference between total abdominal hysterectomy and subtotal hysterectomy with respect to blood loss, operative time or hospital stay. In our case we performed an easy total abdominal hysterectomy without increasing the operative time significantly. It is questionable if our patient had avoided this serious postpartum complication, whether a caesarean section would have been performed. Clark *et al.*, reported that 26% of patients who will experience a complication mandating emergency hysterectomy, cannot be identified before delivery [13].

The complications of leiomyomas in pregnancy can be divided into three aspects: during pregnancy, at delivery and in puerperium [7]. Only subserous myomas, which cause severe pain resistant to therapy, should be considered for removal before 26 weeks of gestation [7]. The best predictor of whether a leiomyoma can cause problems during pregnancy is not the size, but the location [14]. Submucous leiomyomas are most likely to interfere with the implantation of the placenta [14]. Subserosal leiomyomas are more likely to present as infarction, while leiomyomas in the cervix or at the lower uterine segment may cause obstruction of labor [14]. The treatment of leiomyomas complicating labor is one of the most interesting problems in obstetrics practice [15]. When labor becomes obstructed and the baby is alive, the correct treatment is abdominal delivery by caesarean section [15]. At surgery the fibroids should be left untouched. Leiomyomas are best dealt with at a later stage, after delivery, when involution is complete. Ogunbode *et al.*, suggest that there are many objections to myomectomy at caesarean section [15]. The operation is accompanied by formidable blood loss and the dilated cervix provides free communication for infection between the vagina and the myometrial cavity. In addition, recurring active contractions of the uterus during puerperium jeopardizes the integrity and healing of the scar [15].

In conclusion, we have presented an unusual complication of a large submucosal nonpedunculated uterine leiomyoma, which interfered with puerperium by obstructing the passage of lochia and led to haematometra and uterine atony. This case provides information for obstetricians and gynaecologists to proceed immediately with surgical intervention in order to avoid a life-threatening situation.

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