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Emergency myomectomy for massive acute hemoperitoneum from avulsion of subserous uterine myoma following a fall: a case report

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Abstract

Uterine fibroids (myomas) are benign tumours commonly seen in women of reproductive age. The cause is generally unknown but it is associated with ovarian steroids. Uterine fibroids are usually asymptomatic but when they do, they usually heavy menstrual bleeding and pelvic pain. Diagnosis is usually made from clinical assessment, ultrasound scanning and histopathological assay of surgical specimens. The treatment can be either medical or surgical. Massive acute haemoperitoneum from the avulsion of subserous uterine myoma is rare. We had a 32-year-old nulliparous woman with acute abdomen, massive haemoperitoneum and hypovolaemic shock from the avulsion of a subserous uterine myoma of a 30-week size uterus following a fall on the abdomen. Her pulse was not palpable on presentation, blood pressure was 80/40 mmHg and she was pale with a packed cell volume of 16%. She was conscious but restless. Emergency ultrasound revealed massive haemoperitoneum and multiple uterine fibroids. She was stabilized and had emergency myomectomies for an unusual uterine fibroids presentation hence the case report. Thirty - three fibroid masses were enucleated. The estimated total blood loss was 4 litres. She was transfused with seven units of blood. She did well post-operation with a packed cell volume of 36% and was discharged home in good condition. The patient is being carefully followed up for possible spontaneous pregnancy as post-surgery HSG was normal with good dye spillage bilaterally. Emergency myomectomy is a life-saving procedure. However, elective myomectomy is advised for huge uterine fibroids to obviate the risk of traumatic complications.

Keywords: *Huge subserous uterine myoma, trauma, avulsion, massive haemoperitoneum, emergency myomectomy, outcomes*

Introduction

Uterine fibroids are the most common benign tumours of the female genital tract. While they can develop at various sites within the body, they most frequently affect the uterine myometrium, arising from the neoplastic transformation of single smooth muscle cells. They usually appear as well-circumscribed firm tumours with a characteristic white-whorled appearance. Uterine fibroids are almost always not cancerous[1-3].

The true incidence of fibroids is uncertain as many women with uterine fibroids are asymptomatic hence prevalence rate is based on rates, in asymptomatic individuals and following pathological assessment of hysterectomy. Nonetheless incidence of fibroids, we know that these common tumours are clinically apparent in 20-30% of women during reproductive life and may be present in as many as 70% of uteri removed at the time of hysterectomy[1].

There are significant racial differences in the incidence of fibroids, with Afro-Caribbean women having a 2-9 fold greater risk of developing fibroids. In addition, they tend to present at younger ages compared with Caucasian women, have multiple fibroids, have higher uterine weight, and are more prone to anaemia and severe pelvic pain[2,3]. These racial characteristics are more likely due to genetic predisposition. Reproductive factors also influence the risk of fibroids with a reduction in incidence with increasing parity.

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The cause of uterine fibroids is unknown but it is associated with ovarian steroids. It is also linked to chromosomal aberration, especially chromosomes 7, 12 and 14[4].

The size of fibroids varies greatly and uterine enlargement is equated to the pregnant uterus. The vast majority are found in the uterus corpus and may be subserosal, intramural or submucous. This benign growth may also occur in the cervix, uterine ligaments and ovary. A parasitic type can also occur.

Clinical presentations of fibroids vary from mild to severe, causing distress for individuals. The common presentation is menstrual problems especially heavy menstrual bleeding and lower abdominal pain. Other symptoms are lower abdominal swelling and infertility. However, fibroid is not a known direct cause of infertility. Fibroids are asymptomatic[5-7].

Different treatment modalities range from medical using hormones like gonadotrophin-releasing hormone, progesterone receptor modulators and Merina intrauterine devices. Surgeries such as myomectomy, hysterectomy and uterine artery embolization are usually carried out[6,7].

Myomectomy is the surgical removal of uterine myomas, also Known as fibroids. Myomectomy is an alternative to a hysterectomy, the ultimate cure for uterine fibroids. Complications especially myomectomy has early and late. Early complications include bleeding, pulmonary embolism and anaemia. Late complication includes Ashermas syndrome, chronic pelvic pain, infertility and reoccurrence.

We present a rare case report of a nulliparous woman with acute massive haemoperitoneum and hypovolaemic shock from the avulsion of a huge subserous uterine myoma in a 33-week-sized uterus following a fall on the abdomen.

Case presentation

A case of a 32-year-old Para 0+0 but married who was brought through an accident and emergency unit of the hospital after a fall on her abdomen while avoiding a motorcycle hit in town. She was hawking minerals. She was unable to get up until she was assisted by some good Samaritans who brought her to the hospital an hour following the fall.

There was no prior history of any ailment other than a diagnosis of uterine fibroids three years before presentation. There was a history of heavy menstrual bleeding but she never had a blood transfusion. She was also not able to conceive after 5 years of marriage. She confessed to being on native medication for the treatment of fibroids before the fall with no significant result.

The examination revealed a young woman drowsy, restless but communicating, with no bruises or any injury on the body, marked pale but not febrile to touch and no pedal oedema. Her pulse was not palpable but her blood pressure was 80/40mmgh. The abdomen was full, moved with respiration and there was generalised tenderness with guarding and signs of fluid within the peritoneal cavity. The uterus was 30/52 in size and nodular. The liver, spleen and kidneys could not be assessed due to marked tenderness. There was no vaginal bleeding. An assessment of acute abdomen and hypovolaemic shock secondary to visceral rupture and suspected hemoperitoneum was made. She was resuscitated with 3 litres of normal saline, blood was collected for emergency packed cell volume which was 16%, and 4 units of blood were grouped and cross-matched. An emergency scan revealed massive hemoperitoneum and multiple uterine myomas with the largest 10cm x 8cm in size. Surgeons reviewed and made similar assessments. She was booked for exploratory laparotomy after stabilization with normal saline and 2 units of blood transfused.

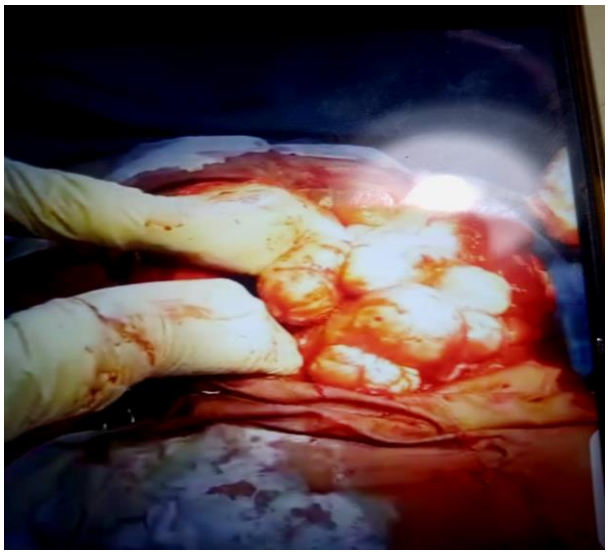

Figure 1A

The intraoperative findings were that of massive hemoperitoneum of 2.5 litres, normal spleen, pancreas and liver surfaces, bowel loops were intact but there was avulsion of one of the subserous uterine myomas from which there was oozing of blood from its base measuring 8cm x 9cm. There were 33 fibroid masses with the largest 10cm x 9cm and the smallest 0.5cm x 1cm with varying degrees of degenerative changes (hyaline, calcified and cystic). The ovary and tube were grossly normal bilaterally. The estimated total blood loss was 4 litres. The surgical images of the fibroids are shown in Figure 1.

Figure 1B

Fig.1(A) surgical picture of the subserous uterine myomas and (B) surgical specimen of the 33 uterine myomas removed from the index case in formalin bowl for histopathological assay.

Following the application of the tourniquet, the fibroid masses were enucleated, the uterus was reconstituted, and adequate haemostasis was secured. The patient had a total of 7 units of blood transfused pre-, intra- and post-operation. The anterior abdominal wall is routinely closed layer by layer. A drain was also put in place to monitor intra-abdominal collection which was removed 5th day post-operation. She had prophylactic antibiotics and analgesics. The post-transfusion packed cell volume was 36%. The patient was discharged home 10 days post - operation and the follow-up has been normal. Her post-operation HSG revealed patency of her fallopian tubes and she is being followed up carefully as she desires to get pregnant.

Discussion

Uterine fibroids are the most common benign tumours of the female genital tract. While they can develop at various sites within the body, they most frequently affect the uterus arising from the neoplastic transformation of single smooth muscle cells[1-7].

The incidence of fibroids is uncertain as many women with uterine fibroids are asymptomatic. The prevalence rates are based on rates of diagnosis in symptomatic individuals and following pathological assessment of hysterectomy specimen; 20-30% of women during reproductive life may develop fibroids and may be present in as many as 70% of the uterus removed at the time of hysterectomy[1]. The racial differences in the incidence of fibroids with Afro-Caribbean women having a 2 - to 9-fold greater risk of developing fibroids. In addition, they tend to present at a younger age compared with Caucasian women[2,3]. This agreed with the index case as she is black and younger and nulliparous.

Fibroids are paler than the surrounding myometrium and there is usually a very sharp line of demarcation between the tumour and the normal uterine muscle. This usual appearance of fibroid tumour differs in this index case as dissolution and loss of demarcation probably due to long-standing ingestion of native concoction making the enucleation difficult.

The size of the fibroids varies greatly and uterine enlargement is equated to the pregnant uterus. The index case uterus was 30 weeks in size, irregular in shape and multiple. The vast majority are found in the uterus corpus and may be subserosal, intramural or submucous. The index case has all the above sites. One of the subserosal, about 9cm x 8cm got avulsed at its base due to a fall and blunt abdominal trauma causing a massive hemoperitonium of 2.5 litres leading to the patient presenting in hypovolaemic shock in the hospital. This is an unusual presentation of uterine myoma hence the case report. Though the history of heavy menstrual bleeding was present prior to her presentation, intra-cavitary fibroids are associated with unscheduled bleeding and menorrhagia. The bleeding may be as a result of the presence of surface vessels on the fibroid and the resultant surface area of the uterine cavity. Endometrial abnormality functions may be a contributing factor. Others include pressure symptoms and dragging

sensations. Fibroid is not a direct cause of infertility but slightly associated is pregnancy losses. However, the index case was not able to get pregnant after five years of marriage.

The diagnosis of uterine fibroids is clinical with a central, mobile pelvic mass. The index case has an enlarged uterus, nodular and tender. It may be difficult to distinguish an enlarged uterus from that of an ovarian mass so further imaging is mandatory. This woman had an emergency scan of the abdomen that revealed a bulky uterus with multiple fibroids and a massive hemoperitoneum.

This benign growth may also occur in the cervix, ligaments and ovary. A parasitic type can also occur. The parasitic type was not present in this case. Malignancy in a fibroid is extremely uncommon. Leiomyosarcoma is a disease largely occurring in the seventh decade of life whereas fibroids tend to occur in women 20-30 years younger. As fibroids have not been identified in pre-pubertal girls and usually shrink at the time of menopause, it has been assumed that these lesions are dependent on the presence of sex steroids, oestrogens and progesterone.

This lady was stabilised and had an exploratory laparotomy with the surgical team in attendance. The source of the bleeding was identified and haemostasis was secured. Emergency myomectomies were performed to remove the multiple myomas, 33 of them were removed and the uterus was reconstituted as she desired to preserve the uterus for possible pregnancy. Other forms of treatment for symptomatic uterine fibroids include hysterectomy, medical treatment using hormones and uterine artery embolization.

Conclusion

The index woman had an emergency myomectomy for an unusual uterine fibroids presentation hence the case report. She had blunt abdominal trauma following a fall, which was complicated by avulsion of a huge subserous uterine myoma, massive haemoperitoneum and hypovolemic shock. She was stabilized and had exploratory laparotomy and emergency myomectomy with adequate control of haemostasis. Her post-transfusion packed cell volume was 36%. She did well after the surgery and was discharged home in good condition. The follow-up has been normal. The patient is being carefully followed up for possible spontaneous pregnancy as post-surgery HSG was normal with good spillage bilaterally. The outcome of the index case has shown clearly that emergency myomectomy is a life-saving procedure. Albeit, elective myomectomy is advised for huge uterine fibroids to obviate the risk of traumatic complications.

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