EDITORIAL

Massive Intraperitoneal Haemorrhage due toUterine Fibroid in Pregnancy: A Case Rerort and Literature Review

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Abstract:

This is a report of a case of massive intraperitoneal haemorrhage during the third trimester of pregnancy due to rupture of coronary vessels overlying uterine Leiomyoma. Diagnosis was made after exploratory laparotomy. Emergency caesarean section and myomectomy were performed.
The objective of this case report is to highlight diagnostic challenges, aggressive resuscitations, and prompt multi disciplinary interventions of unusually rare case during late pregnancy, and review of literature.

Key words: haemoperitoneum**,** uterine fibroid, Leiomyoma

Introduction:

Uterine fibroids are often seen in pregnancy, with a reported prevalence between 0.1% and 15%% [(1)]. The incidence is increasing because more women delay pregnancy. In 2% of all pregnancies with uterine fibroids, conservative therapy fails and myomectomy had to be performed for severe pain or haemoperitoneum [(2)]. In these cases the procedure appears to improve pregnancy outcome [(3)]

Hemoperitoneum may develop as the result of intra abdominal pathology. It varies from 6% overall to as high as 57% in premenopausal women [(4)] Potential causes include: splenic rupture and infarct [(5)] carcinomatosis of the liver, Liver rupture and liver cyst rupture with retroperitoneal hematoma [(6)], Iliopsoas hematoma [(7)] and bleeding from the outer uterine wall in a pregnant patient receiving peritoneal dialysis [(8)]. Additional rare causes during pregnancy include hemorrhagic luteal cyst, ovarian cyst rupture, pregnancy, aneurysm rupture, vascular catastrophe, and bleeding diathesis.
Treatment of the underlying cause is essential, and curative management may require emergent evaluation and care. The most frequent cause of gynaecological haemoperitoneum is ruptured ectopic pregnancy. An uncommon cause of haemoperitoneum is rupture of uterine Leiomyoma vessels.
The objective of this case report is to highlight the clinical presentation, diagnostic challenges, and management of unusually rare case of rupture of surface veins of uterine fibroid during late

pregnancy, and review of literature.

Case Presentation:

A 35-year-old primigravidae at 36 weeks gestation was admitted to the labour ward in Khartoum Teaching Hospital in April 2014. It was her first spontaneous pregnancy after 6 months of marriage. On her last antenatal visit two days prior to admission, her blood pressure was 140/90 with no protein in urine, she was told that her pregnancy was bigger than dates and was booked for ultrasound scan which was not done. She was previously healthy and has no history of contributory medical or surgical problems and not previously diagnosed as having fibroid uterus.
On admission she was complaining of worsening generalized abdominal pain and vomiting, she was pale; her pulse was 120, and Blood- pressure 120/95 with oedema of the leg and protein in urine. Examination revealed a distended abdomen with generalized rigidity and tenderness more obvious on the right side. On palpation, uterine outlines could not be felt with certainty, and fetal lie and presentation could not be estimated. The fetal heart was not heard. Ultrasound examination showed a 36 weeks fetus on vertex presentation, with fetal heart 150/minute; the placenta was localized at the posterior uterine funds. Scan also showed an ill defined (10X 8 cm) mass at the uterine funds. A free fluid on the abdominal cavity has been noticed. The cervix was long, posterior, and closed; the pouch of Douglas was tender and no vaginal bleeding. Blood tests showed no significant abnormalities apart from low haemoglobin and haematocrit levels.
A provisional diagnosis of preeclampsia with placental abruption and couvelaire uterus was made, also the possibility of subcapsular liver haematoma and acute ruptured liver with intraperitoneal haemorrhage had been considered. Prompt resuscitation with fluids and blood transfusion was made and emergency laparotomy through a median incision was done. Intraoperative, the abdomen was full of blood; approximately 2500 ml with clotted and unclotted blood. Caesarean section was carried out and a live male baby weighing 2600 g was delivered with Apgar scores of 6 and 9 at 1 and 5 minutes and placenta delivered by cord traction but with no evidence of placental abruption or retro placental clot. Abdominal exploration showed an enlarged uterus with 8x6 cm anterior intramural fibroid and a large 12x10 cm sub serous Leiomyoma with a short pedicle at the posterior uterine fundus. No adhesions were encountered. On the dome of the fibroid there were several thinned-walled veins. There was a tear in one of the veins overlying the sub serous fibroid on the posterior wall with active bleeding. After suture of the ruptured vein, myomectomy was carried out to remove the subserous fibroid. To minimise bleeding, the uterine serosa was opened (6 cm away from the uterine base of the fibroid peduncle) in order to identify the capsule of the myoma before dissection of the peduncle, clamps were placed on the peduncle and the myoma transfixed sutured with Vicryl 1-0. Further exploration revealed an intact congested liver with no subcapsular haematoma; the spleen was normal, and no other source of bleedings was encountered and drain placed. The patient was transfused with 2500 ml of packed red cells and frozen plasma. Her postoperative course was complicated with disseminated intravascular coagulation treated in time

with good recovery. The fibroid specimen measured 15 cm in diameter and weighted 1300 g. Microscopic evaluation revealed uniform smooth muscle fibres and red degeneration without cellular Atypia.

Discussion:

The cause of haemorrhage from the surface of uterine fibroids is well not known. Intraperitoneal haemorrhage from ruptured uterine veins over a fibroid or varicosities may precipitate acute abdominal emergency. The condition is extremely rare despite the fact that this is the most common tumor in women but it represents a serious complication when it occurs in pregnancy [(8)]. In the first case reported by (Rokitansky 1861) and others, the condition was discovered at necropsy of a girl who had died from internal abdominal bleeding. Few other cases have been reported in the literature: (Brunner (1910) Ernest (1922) and Hasskari (1945).

Many conditions have been incriminated as risk factors that precipitate rupture of the veins on the surface of fibroids. Traumas of any kind, increased intra - abdominal pressure, vascular congestions, violent coitus [(9)], or injury of veins by the sacral promontory were reported. Increased congestion of the tumor during menstruation was reported by (Davies 1955), and McNeil) (1952) postulated that the source of bleeding may be due to torn of adhesions between the tumor and the posterior peritoneum in cases of fibroids situated on the posterior uterine wall. In a reported case of red degeneration by Pineda, it was suggested that the extension of the degenerative process into the vessel wall may be responsible for rupture of the veins. In 2 out of 20 cases reviewed by Polacco [(10)], the bleeding was arterial, and essential hypertension was regarded as the precipitating factor. Twisting of a subserous fibroid was held responsible in 10 out of 60 cases in a review of literature by Hasskari (1949).

The condition is rare during pregnancy; very few cases were reported in literature. One explanation is that pregnancy causes venous dilatation on the surface of the fibroid making them thinned-walled and more likely to rupture. In majority of cases however, no obvious cause or risk factor is found

It is difficult to make a correct preoperative diagnosis in such an emergency condition. The condition causes acute abdominal symptoms, which warrant urgent exploratory Laparotomy, but rarely has the correct diagnosis been made preoperatively. In the 60 cases reviewed by Hasskari only 4 cases had been diagnosed before surgery. The condition was missed for other conditions: mainly aneurysm of splenic artery, twisted ovarian cyst, Ectopic gestation (abdominal pregnancy) and other vascular accidents. Generally speaking the bleeding may be from any intra-abdominal artery, vein, a spleen, or liver. Although well documented reviews indicate that aortic aneurysms are the most likely to rupture during pregnancy, the majority of reports suggest that bleeding in many times is caused by the spleen, splenic vessels, pelvic vessels and varicosities [(11, 12)].

It is very important to emphasize that when intraperitoneal bleeding occurs in the pregnant patients, obstetrics causes presenting with pain and shock, especially accidental haemorrhage may lead to delay of diagnosis [(13, 14)]. In the presented case, the provisional diagnosis of preeclampsia

complicated by accidental haemorrhage and couvelaire uterus, and ruptured subcapsular liver haematoma, was made, This was based on the similarity of the clinical presentation and the patient's recent history of elevated blood pressure, oedema, and proteinuria.
In spite of the fact that the fetus was alive.

Ultrasonography and CT of the abdomen can diagnose haemoperitoneum but it may be difficult to detect the origin of haemorrhage [14]. Because recognition of preoperative diagnosis is not always easy, a multidisciplinary approach in these cases is important for better outcome.

Myomectomy seems the main justifiable treatment in young and childless patients. In this case, the fibroid was subserous with thick pedicle and situated in the posterior uterine wall. Because of the age and parity of patient the operation was limited to the removal of the subserous fibroid. The intramural fibroid was large, and was left untouched!

Myomectomy during pregnancy is not without risks, as substantial bleeding may occur. The operation is achievable when the fibroids are sub serous, small and readily accessible [15]. The management is the same as in non-pregnant women. Consent should be obtained in all cases and hysterectomy is more readily performed as alternative to myomectomy [16, 17] if situation warrants that. Other treatment options have been reported in literature: simple ligation of the bleeding vessels have been reported in two cases [3] and in a recent study [16] haemoperitoneum has been controlled by uterine artery embolizations.

Conclusion:

Although very rare, spontaneous haemoperitoneum due to rupture of a coronary vessel overlying uterine fibroid should be included in the obstetrician, gynaecologists, surgeons, and emergency doctor's differential diagnosis when a pregnant woman experienced acute-onset abdominal pain and unexplained intraperitoneal haemorrhage even without an episode of trauma.

Management during pregnancy depends on the clinical awareness of the condition, the high index of suspicion for early diagnosis, aggressive resuscitations of patient, and on prompt multidisciplinary interventions.

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