

**CASE REPORT****BROAD LIGAMENT HAEMATOMA FOLLOWING NORMAL VAGINAL DELIVERY****Faiza Ibrar, Azra Saeed Awan, Touseef Fatima, Hina Tabassum**

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A 37-year-old, patient presented in emergency with history of normal vaginal delivery followed by development of abdominal distention, vomiting, constipation for last 3 days. She was para 4 and had normal vaginal delivery by traditional birth attendant at peripheral hospital 3 days back. Imaging study revealed a heterogeneous complex mass, ascites, pleural effusion, air fluid levels with dilatation gut loops. Based upon pelvic examination by senior gynaecologist in combination with ultrasound; a clinical diagnosis of broad ligament haematoma was made. However, vomiting and abdominal distention raised suspicion of intestinal obstruction. Due to worsening abdominal distention exploratory laparotomy was carried out. It was pseudo colonic obstruction and caecostomy was done. Timely intervention by multidisciplinary approach saved patient life with minimal morbidity.

**Keywords:** Broad ligament; Haematoma; Pseudo intestinal obstruction; Caecostomy.

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**INTRODUCTION**

Broad ligament haematoma is collection of blood in broad ligament. It is due to vaginal, cervical or uterine tear leading to bleeding inside the broad ligament. The reported incidence is 1: 20,000.<sup>1</sup> It is a rare complication of normal vaginal delivery that can occur due to tear in vagina or cervix. The source of broad ligament haematoma can be venous, arterial or both. The most frequent site of rupture is proximal uterine artery that lies within 15 cm of bifurcation of iliac artery. Two types of broad ligament haematoma are described, i.e., Supralelevator haematoma and infralevator haematoma.

Supralelevator haematoma spreads upwards and outwards. The predisposing factors for development of broad ligament haematoma are the same as for perineal trauma such as rapid labour, extension of uterine incision in caesarean section and instrumental deliveries.<sup>2</sup> Its occurrence following normal vaginal delivery is very rare. As it can be silent, not causing obvious vaginal bleeding so if the obstetrician is unaware of it life threatening haemorrhage can occur.<sup>3</sup> Symptomatology varies according to size of haematoma. Generally, patients present with persistent postpartum perineal pain, fullness or pressure in the recto-anal area, inability to pass urine, dizziness, pallor, hypotension or sudden drop in haematocrit level.<sup>4</sup> A high level of suspicion is warranted to diagnose it as clinical symptoms can be quite vague. Ultrasound imaging can confirm the diagnosis. The role of pelvic MRI in the evaluation of such type of haematomas is still under investigation. MRI scan should be used to evaluate patients with persistent postpartum localized pelvic pain without clinical findings.<sup>6</sup>

Regarding management, broad ligament haematoma can be treated either conservatively but with close observation keeping an eye on patient vitals, or with surgical exploration under regional or general anaesthesia. Mostly they are self-limiting and non-expanding and may settle well without symptoms and without being diagnosed. On the other hand, resuscitation, volume replacement and surgical management may be required. Conservative surgery like incision in anterior leaflet of broad ligament is required for large expanding haematomas. Large expanding haematomas may also require evacuation of blood clots, securing haemostasis, and bilateral internal artery ligation or even hysterectomy may be indicated if all manoeuvres fail. Management depends upon patient circumstances. Hysterectomy<sup>7</sup>, internal iliac artery ligation or angiographic embolizations<sup>8</sup> have been proposed options for the management of broad ligament haematoma. In the presence of a haemodynamically stable woman and absence of congenital or acquired bleeding tendency, it is reasonable approach to adopt conservative management. It can be life threatening if not recognized and managed quickly as the patient can lose a large amount of blood in a short time.

**CASE REPORT**

A 37-year-old lady was referred to the gynaecology department of Foundation University Medical College and Fauji Foundation Hospital Rawalpindi with abdominal distention, vomiting and constipation. She was para 4 and had history of normal vaginal delivery by traditional birth attendant at some peripheral hospital three days back, immediately after which she developed these symptoms for which she was referred to tertiary care hospital for multidisciplinary management. Patient

was evaluated by a team of surgeons, gynaecologists and radiologists. On examination patient was critically ill. She was markedly pale; her pulse rate of 110/min, with marked periorbital oedema. Her breasts were engorged and air entry was decreased on right side of chest. Abdomen was distended, soft and bowel sounds were not audible. Pelvic examination was done by senior gynaecologist. Speculum examination revealed extremely foul-smelling discharge with a gauze piece inside the vagina which was removed immediately. Bimanual examination revealed hot vagina, an involuting uterus, tenderness in right fornix and a mass approximately 8x10cm high up in right lower abdomen. However, mass was not palpable on abdominal examination due to abdominal distention. Her initial laboratory investigation showed haemoglobin of 4.5 GM%, while other labs were normal.

Transabdominal ultrasound showed involuting uterus and an irregular heterogeneous complex mass measuring 11x10.6x6.7 cm with a volume of 411 ml seen in right lower abdomen. No definite vascularity was seen on colour doppler, no pulsatile movement seen in this area. Fluid filled normal caliber gut loops with no peristaltic movement in lower abdomen, mild ascites and right pleural effusion was also seen. (Figure-1, 2) X-Ray abdomen erect supine view showed air fluid levels with dilated gut loops suggestive of intestinal obstruction. (Figure-3)

Consultant made a decision to manage patient conservatively. Initially for 48 hours as per protocol of suspected intestinal obstruction patient was kept nothing per oral with three liters IV fluids and third generation IV antibiotics. She was transfused four units of RCC. Patient didn't improve. There was worsening abdominal distention which led to the decision of exploratory laparotomy by consultant surgeon.

On opening abdomen, a non-expanding broad ligament haematoma of 11x8 cm was seen in right adnexal region. No active bleeding or pus collection was observed. Caecum was grossly distended and was adherent to the haematoma with no interface with haematoma. Operative diagnosis of pseudocolonic obstruction was made. Due to gross distention of caecum, Caecostomy was done and drain was placed. Haematoma was nonexpanding and it was not drained. Patient was shifted to ICU postoperatively, was transfused two units of RCC and antibiotics were continued. Intravenous fluids with an ampule of KCL were given. Patient was discharged on fourth post-operative day. Stitches were removed on tenth post-op day. Follow up scan after four weeks showed resolving haematoma with size visibly reduced.

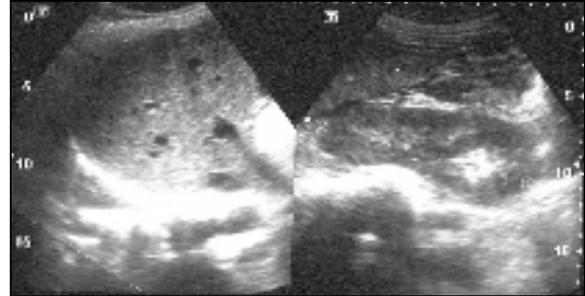


Figure-1: USG pelvis: Broad ligament hematoma

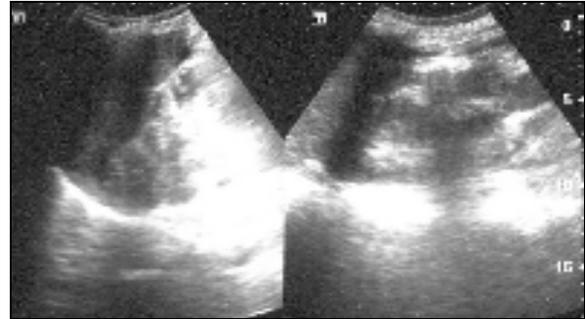


Figure-2: USG pelvis: Broad ligament hematoma

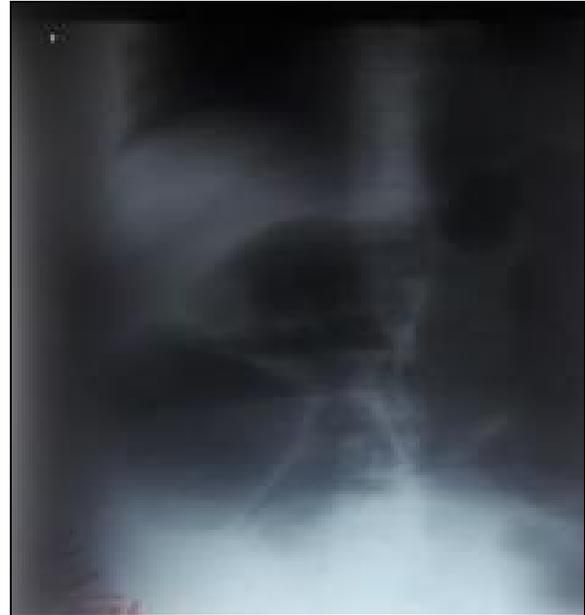


Figure-3: X-ray abdomen

## DISCUSSION

Broad ligament hematoma is a rare complication of vaginal delivery. The clinical presentation of the condition is variable. Literature review showed that symptoms of broad ligament hematoma vary ranging from mild cases presenting with non-specific symptoms to severe cases presenting in shock. One case reported by Murali the patient presented with perineal heaviness and inability to pass urine.<sup>5</sup> In another case reported by Nelofer patient presented with shock and needed

resuscitation and volume replacement.<sup>1</sup> No such case is found in literature in which patient with broad ligament haematoma presented with intestinal obstruction.

Our patient presented in postpartum period with features of intestinal obstruction. Since she was in perpeurium she was seen by both surgical and OBGYN department. A clinical diagnosis of broad ligament hematoma by consultant gynaecologist was made which was later confirmed by pelvic ultrasound. A decision of conservative management with blood transfusion for build-up of patient haemoglobin was made by gynaecologist. For intestinal obstruction, the surgeons initially managed her conservatively but patient did not respond to the treatment. On the basis of worsening of intestinal obstruction, a plan of laparotomy was made. The advanced imaging like CT scan was not performed. The operative diagnosis was intestinal pseudo obstruction. The main stay of diagnosis in intestinal pseudo obstruction is clinical or plain radiograph while computed tomography has no role in the diagnosis though it may have been helpful for excluding obstruction or frank perforation.<sup>9</sup> This condition is characterized by a clinical picture of mechanical obstruction in the absence of any demonstrable evidence of such obstruction in the intestine.<sup>10</sup> The most common site is caecum and exact pathophysiology is unknown.<sup>10</sup> Possible causes are infection, retroperitoneal trauma or cardiac disease.

The most serious complication of colonic pseudo-obstruction is perforation of the caecum with a reported incidence of 3–40%, and the associated mortality is 40–50%.<sup>12–14</sup> In our patient broad ligament haematoma probably caused pseudo intestinal obstruction. The recommended procedure for refractory pseudo colonic obstruction is caecostomy to avoid disastrous consequences, i.e., gut perforation.<sup>15</sup> Caecostomy is a surgical procedure in which caecum is brought through abdominal wall by a tube and opened for drainage or decompression. The tube may later be removed without the need for subsequent surgical intervention. There is no such reported case of broad ligament haematoma presenting as features of intestinal

obstruction. In our patient haematoma was managed conservatively while intestinal obstruction was managed by caecostomy. Proper timely management by multidisciplinary team saved the life of patient with minimum morbidity.

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