Open Access Publish Free

http://jept.ir
doi 10.34172/jept.2022.31

Journal of Emergency Practice and Trauma
Volume 9, Issue 2, 2023, p. 127-129

Case Report

Spontaneous uterine artery rupture in a non-pregnant woman: A case report

Jessica Ann Nathan[1*], Valerie Chew Sze Yen[1], Nur Fazlin Ab Manan[1]

[1]Department of Emergency and Trauma, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Received: September 2, 2022
Accepted: December 13, 2022
ePublished: December 26, 2022
***Corresponding author:**
Jessica Ann Nathan,
Email: jess_143max@hotmail.com

Citation: Nathan JA, Chew Sze Yen V, Ab Manan NF. Spontaneous uterine artery rupture in a non-pregnant woman: a case report. Journal of Emergency Practice and Trauma 2023; 9(2): 127-129. doi: 10.34172/jept.2022.31.

Abstract

Objective: Spontaneous uterine artery rupture in a non-pregnant woman is an extremely uncommon event. To date, there have only been a few cases. Patients often present with acute abdomen and are hemodynamically unstable.

Case Presentation: A 42-year-old female presented with multiple episodes of syncopal attack associated with vomiting and generalized abdominal pain. Upon arrival, she was hypotensive which required aggressive fluid resuscitation with crystalloids and blood products. Urine pregnancy test was negative. In addition, ultrasound scan showed free fluid in the abdomen mainly at the splenorenal area and organized clots around the uterus. Computed tomography of the Abdomen revealed a moderate amount of hemoperitoneum with hypodense clots at the left para-colic gutter and pelvis. She underwent an exploratory laparotomy and intraoperatively noted bleeding from left uterine artery with 1.2 L of hemoperitoneum with no other abnormalities detected. Intraoperatively, there was an estimated 5 L blood loss which required packed cell and disseminated intravascular coagulation transfusion. Subsequently, the patient was sent to intensive care unit where she recovered well and was discharged home 5 days later.

Conclusion: Spontaneous uterine artery rupture is an extremely rare occurrence with high mortality if there is failure to detect and intervene early.

Keywords: Spontaneous uterine artery rupture, Non-pregnant woman, Gynecological emergency

Introduction

Spontaneous uterine artery rupture in a non-pregnant woman is an extremely rare occurrence. To date, there have only been a few cases reported in literature. The uterine artery is an additional branch of internal iliac artery in females. It descends on the lateral wall of the pelvis, anterior to the internal iliac artery and passes medially to reach the junction of the uterus and vagina which passes directly superior to the ureter (1). This artery is the main blood supply to the uterus and it enhances significantly during pregnancy. In non-pregnant patients, the spontaneous rupture of the artery is very uncommon. These patients normally present with acute abdomen associated with haemodynamic instability. In this case report, we report an extremely rare case of spontaneous uterine artery rupture in a non-pregnant woman.

Case Presentation

A 42-year-old female was presented to the Emergency Department with complaints of multiple syncopal attacks, each episode lasting for about 2 minutes. She had vomiting prior to the first syncopal attack associated with generalized abdominal pain for one day. Upon arrival to the emergency department, the patient was very visibly lethargic and triaged to the red zone immediately. On examination, her airway was patent and she was able to speak in full sentences. Her respiratory system examination was unremarkable with clear lung findings and the respiratory rate was 19 breaths per minute with an oxygen saturation of 98% under room air. She was pale, lethargic with cold peripheries and had a very poor pulse volume. The patient was hypotensive with a range of around 80-85/55-40 mm Hg and pulse rate of 90 beats per minute. Examination of her abdomen revealed generalized guarding and tenderness. Her conscious level was full and she denied any history of trauma, fall or recent surgery. She has two children and the last childbirth was about 10 years ago. She only had underlying dyslipidemia with no other comorbidity. The patient's temperature was 37.2°C and she had a dextrose level of 10.7 mmol/L. The patient was resuscitated with intravenous normal saline fluid boluses of 20 cc/kg. Initial full blood count noted a mild decrease in haemoglobin at 10.3 g/dL (reference range 12.0-15.0 g/dL). Urine pregnancy test was negative and urine dipstick examination showed no abnormality. Also, ultrasound scan revealed collections of free fluid at

Morrison's pouch, pouch of Douglas, with the most being at the splenorenal area. There were organized clots noted around the uterus at the pelvic region. The uterus was seen to be bulkier than a normal size uterus with the presence of a stone in the bladder. The patient further received two pints of packed red cells cell due to the persistent hypotension and ultrasound findings. Intravenous tranexamic acid and intravenous morphine were also given. The surgical and obstetrics and gynaecology teams were urgently consulted due to the presence of acute abdomen, hypotension and the ultrasound findings of generalized free fluids intraperitoneally with organized clots at the uterine area. Following the blood transfusion, the patient improved haemodynamically and was sent for a computed tomography of abdomen and pelvis. Computed tomography findings demonstrated a moderate amount of hemoperitoneum with hypodense clots at the left para-colic gutter and pelvis and no pneumoperitoneum was observed (Figures 1, 2, and 3). Subsequently, the patient was pushed for an exploratory laparotomy. Intra operative findings showed bleeding from the left uterine artery with 1.2 L of hemoperitoneum with blood clots. The bleeding artery was secured with vicryl and there were no malformations detected. There was an estimated 5 L of blood loss intraoperatively and the patient received 3 pints of packed cells and 1 cycle of disseminated intravascular coagulation transfusion. There were no other gynaecological abnormalities detected. Subsequently the patient was transferred to intensive care unit where she recovered and was subsequently discharged home at day 5 post-operation with instructions to follow up under gynaecology clinic.

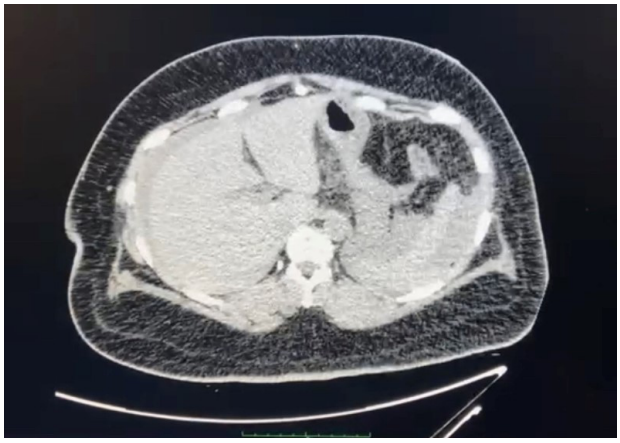

Figure 1. Computed tomography abdomen showing intraperitoneal hematoma

Discussion

Spontaneous rupture of uterine artery in a non-pregnant woman is extremely rare. Most of the cases reported happened during pregnancy or in the post-partum period in which the women presented with spontaneous pelvic hematoma and /or intraperitoneal haemorrhage (2,3). Many factors involving the anatomic and hormonal conditions of the patients as well as the pressure dynamics have been suggested; however, the exact etiology of spontaneous uterine artery rupture when associated with pregnancy is still largely speculative (4). If these symptoms are present during pregnancy, we need to consider other common diagnoses such as ruptured uterus, placental abruption, and splenic or hepatic aneurysm ruptures (5).

To date, there is only another similar case reported for a spontaneous uterine artery rupture occurring in a non-pregnant woman (5). In this case report which was published in 2003, the histopathological results showed non-specific adventitial changes; however, the diameter of the artery itself was fairly large which could have implied a possible aneurysmal dilation. It is important to mention that the exact cause still remains unknown. Other cases have been reported in patients who are usually accompanied by underlying gynaecology pathology such

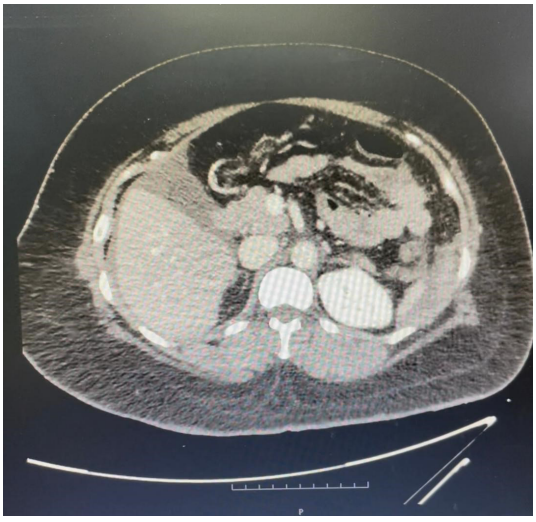

Figure 2. Hyperdense layering seen within hypodense fluid at left para colic gutter

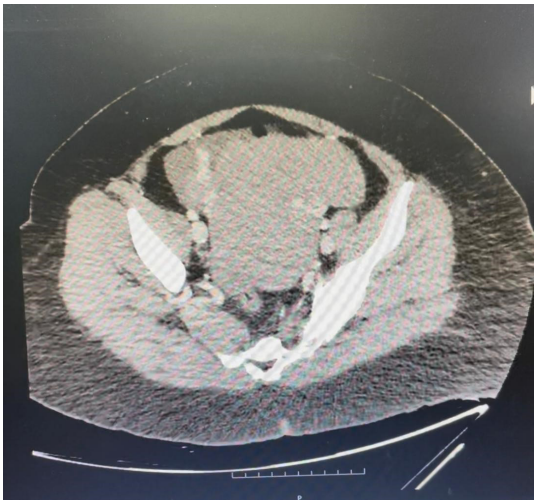

Figure 3. Computed tomography abdomen showed a moderate amount of hemoperitoneum with hyperdense clots at the left paracolic gutter and pelvis region

as infiltrating endometriosis (5-7).

In an adult patient with an acute abdomen and hypotension, there must always be good history taking and a thorough initial assessment and resuscitation following the standard Airway, Breathing and Circulation (ABC) protocol done for all patients. In addition, point of care ultrasound should be done to guide the initial resuscitation while obtaining further information (8). Any suspicion of intra-abdominal pathology should be further evaluated with computed tomography (9). However, in cases with high clinical suspicion of vascular injury, given the technical difficulty to identify the bleeding site and targeted vessel by ultrasound, computed tomography angiography should be proceeded as the first line investigation for patients with suspected vascular injury (10).

In the case of our patient, computed tomography abdomen and pelvis showed a moderate amount of hemoperitoneum with hypodense clots at the left paracolic gutter and pelvis and no pneumoperitoneum was observed. The underlying cause was reported as undetermined in that study. Intraoperatively, there was hemoperitoneum with bleeding from the left uterine artery. No other significant findings or abnormalities were noted.

In hemodynamically unstable patients with evidence of intraperitoneal hematoma, the goals of treatment besides initial resuscitation, is emergency laparotomy. One of the potential indications for immediate laparotomy is unexplained signs of blood loss or hypotension in patients who cannot be stabilized and accordingly intra-abdominal injury is strongly suspected.

Conclusion

In summary, spontaneous rupture of the uterine artery in a non-pregnant woman is an extremely rare occurrence. It is an obstetrics and gynecological emergency with high mortality if not aggressively resuscitated and early hemorrhage controlled done. It is a diagnosis to be considered in women who present with sudden onset of abdominal pain, hypotension and evidence of a large volume of free intraperitoneal fluid.

Author's Contribution

Conceptualization: Jessica Ann Nathan, Valerie Chew Sze Yen, Nur Fazlin Ab Manan.
Formal analysis: Jessica Ann Nathan, Valerie Chew Sze Yen, Nur Fazlin Ab Manan.
Investigation: Jessica Ann Nathan, Valerie Chew Sze Yen, Nur Fazlin Ab Manan.
Project administration: Jessica Ann Nathan.
Validation: Nur Fazlin Ab Manan.
Visualization: Valerie Chew Sze Yen.
Writing–original draft: Jessica Ann Nathan, Valerie Chew Sze Yen, Nur Fazlin Ab Manan.
Writing–review & editing: Valerie Chew Sze Yen.

Competing Interests

None.

Ethical Approval

No names or personal information about the patient has been disclosed. There are no ethical issues involved.

Funding

None.

References

1. Moore KL, Dalley AF, Agur AM. Clinically Oriented Anatomy. Lippincott Williams & Wilkins; 2013.
2. da Silva CM, Luz R, Almeida M, Pedro D, Paredes B, Branco R, et al. Hemoperitoneum during pregnancy: a rare case of spontaneous rupture of the uterine artery. Case Rep Obstet Gynecol. 2020;2020:8882016. doi: 10.1155/2020/8882016.
3. Swaegers MCR, Hauspy JJ, Buytaert PM, De Maeseneer MG. Spontaneous rupture of the uterine artery in pregnancy. Eur J Obstet Gynecol Reprod Biol. 1997;75(2):145-6. doi: 10.1016/s0301-2115(97)00121-8.
4. Hardin N, Delozier A, Torabi A, Laks S. Spontaneous rupture of the uterine artery in an otherwise normal pregnancy. J Radiol Case Rep. 2017;11(1):7-13. doi: 10.3941/jrcr.v11i1.2946.
5. Rabie ME, Wali MA. Spontaneous rupture of the uterine artery in a non-pregnant woman. Ann Saudi Med. 2003;23(3-4):177-8. doi: 10.5144/0256-4947.2003.177.
6. Buggio L, Aimi G, Vercellini P. Hemoperitoneum following sexual intercourse in a woman with deep infiltrating endometriosis. Gynecol Obstet Invest. 2016;81(6):559-62. doi: 10.1159/000447262.
7. Janicki TI, David LJ, Skaf R. Massive and acute hemoperitoneum due to rupture of the uterine artery by erosion from an endometriotic lesion. Fertil Steril. 2002;78(4):879-81. doi: 10.1016/s0015-0282(02)03348-4.
8. Atkinson PR, McAuley DJ, Kendall RJ, Abeyakoon O, Reid CG, Connolly J, et al. Abdominal and cardiac evaluation with sonography in shock (ACES): an approach by emergency physicians for the use of ultrasound in patients with undifferentiated hypotension. Emerg Med J. 2009;26(2):87-91. doi: 10.1136/emj.2007.056242.
9. Genovese EA, Fonio P, Floridi C, Macchi M, Maccaferri A, Ianora AA, et al. Abdominal vascular emergencies: US and CT assessment. Crit Ultrasound J. 2013;5(Suppl 1):S10. doi: 10.1186/2036-7902-5-s1-s10.
10. Patterson BO, Holt PJ, Cleanthis M, Tai N, Carrell T, Loosemore TM. Imaging vascular trauma. Br J Surg. 2012;99(4):494-505. doi: 10.1002/bjs.7763.