

Uncommon Presentation of Uterine Artery Pseudoaneurysm: A Case Report of Post Cesarean Hemorrhage

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Abstract: *Uterine artery pseudoaneurysm is an uncommon cause of vaginal bleeding that can occur after cesarean, hysterectomy, myomectomy, uncomplicated vaginal delivery, as well as gynecologic surgery. A 27 - year - old woman (P2L2) who underwent cesarean section, 3 years ago came with chief complain of heavy uterine bleeding since 3 months following 3 years amenorrhea, was found to have a 3.5*2.3 cm right uterine artery pseudo aneurysm on ultrasound. The patient presented to interventional radiology for angiography and uterine artery embolization to minimize the risk of spontaneous hemorrhage. This is the rare reported case, to our knowledge, of a uterine artery pseudo aneurysm associated with an old cesarean section. Computed tomography angiogram, with multi planar and maximal intensity projection images, can optimally display the pseudo- aneurysm and the feeding vessel, which can provide valuable information for image - guided catheter embolization.*

Keywords: Catheter embolization; Uterine artery pseudoaneurysm, Vaginal bleeding; interventional radiology Angiography

1. Introduction

A pseudoaneurysm is a blood - filled cavity with turbulent flow communicating with the parent vessel leading to a deficiency of the arterial wall. Pseudoaneurysm of the uterine artery—a rare, life- threatening complication causing vaginal bleeding—has been associated with cesarean or vaginal delivery and gynecologic surgery [1].

Typically, patients are diagnosed due to rupture of the pseudoaneurysm, leading to hemorrhage [2]. Doppler sonography and arteriography are usually used as a diagnostic test [3]. More importantly, transcatheter uterine artery embolization (UAE) has emerged as an effective method to control obstetric and gynecologic hemorrhage [4], especially in the treatment of pseudoaneurysm after iatrogenic injury. We report a case of pseudoaneurysm of the right uterine artery presenting after the cesarean section. [5]

2. Case Presentation

A 27 - year - old woman (P2L2; 1st NVD, 2nd LSCS - 3 years back) came with chief complain of heavy uterine bleeding since 3 months following amenorrhea for 3 years with a history of abortion in previous pregnancy.

She was known case of hypothyroidism (on Tab. Levothyroxine 50micrograms OD). She had not been on any medication post last child birth. The patient denied any

clinical symptoms of vaginal pain or bleeding. She did not have abdominal pain, dizziness, or dysuria. She had a history of amenorrhea since last 3 years (last child birth). Her recent episode of bleeding was associated with no vaginal discharge or pelvic pain. On presentation, her vital signs included a temperature of 97.6 F, heart rate 92, respiratory rate 16 breath/min, and blood pressure 133/89 mm Hg. Physical examination revealed good appearance with no acute distress, regular heart rate, and clear lung field. Her abdominal wall was soft and non - tender. Pelvic examination revealed normal external genitalia, vulva, vagina, cervix, uterus, and adnexa. Her hemoglobin level was 7.6 g/dL for which she received 2 units PRC's. Pelvic ultrasound demonstrated a 3.5*3.1cm heterogeneous area in myometrium with significant vascularity and low impedance flow on colour doppler, (features suggestive of AVM??). Patient was reluctant for surgical intervention and wanted medical management. So initially 3 doses of injection methotrexate with leucovorin factor rescue 24 hours later (as per multiple dose protocol) was tried but no improvement in symptoms and USG was noted. Patient was planned for CT Angiography. Intravenous (IV) contrast - enhanced computed tomography (CT) angiogram of the abdomen, and pelvis was performed which showed features suggestive of Pseudoaneurysm of arcuate branch of right uterine artery. So interventional radiology consultation was done and patient was planned for uterine artery embolization which was done under all aseptic precautions. Post Op period patient was put on antibiotics. Proper vital monitoring was done which remained stable and patient was doing well overall, so, she was discharged on a good note.

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Uterine artery pseudoaneurysm in a 26 yr. female (A) axial, (b) Sagittal (c) coronal CT arterial phase images showing a saccular outpouching (arrows in a and b) opacified with contrast within the uterine cavity in the middle 1/3 rd. of endometrium extending into posterior myometrium with arrow in (c) showing it to be arising from the arcuate branch of right uterine artery
(D) VR angiogram showing the pseudo aneurysm (arrow) arising from the right uterine artery.

3. Discussion and Conclusion

We report a 27 - year - old woman (P2L2) came with chief complain of heavy uterine bleeding since 3 months following amenorrhea for 3 years, (without any history of DNC) who was found to have a pseudoaneurysm of the right uterine artery. This vascular abnormality resulted from the disruption of the arterial wall. Blood flows around the damaged artery and dissects the adjacent tissue, then forming a sac that communicates with the arterial lumen. A true aneurysm consists of a three - layered wall, which differentiates it from a pseudoaneurysm. [6]

If a pseudoaneurysm is not recognized, its enlargement and rupture can occur through the extraluminal turbulent flow, possibly leading to bleeding. Since the traumatic injury of the uterine artery wall leads to uterine artery pseudoaneurysms, it is crucial to consider it as a differential diagnosis when there is vaginal bleeding, especially in the postoperative setting or postpartum. [7] Pseudoaneurysm of the uterine artery can occur due to dilatation and curettage, myomectomy, after an uncomplicated vaginal delivery, hysterectomy, and cesarean section [8]. Several diagnostics approaches use noninvasive radiological imaging techniques, including CT, magnetic resonance imaging, and ultrasound to identify pseudoaneurysm of the uterine artery [9].

Previously, surgical management, including internal iliac artery ligation and laparotomy, has been performed as a treatment [10]. Recently, image - guided catheter embolization has emerged as a reliable and cutting - edge method to treat uterine artery pseudoaneurysm [11]. Covered stent ultrasound - guided thrombin injection is another possible treatment requiring local expertise and the experience of an operator [12].

Compared to the available case reports in the literature, our patient was unique in terms of having prolonged period of amenorrhea following old caesarean section (with no history of DNC) and the aneurysm didn't respond to medical management. Angiography and UAE were conducted for the patient to decrease the risk of spontaneous bleeding, and she was discharged from the hospital without any complication.

Conflict of Interest: None

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