

# NONOBSTETRIC SPONTANEOUS RUPTURE OF THE UTERINE SUBSEROSAL MYOMA CORONARY ARTERY: A CASE REPORT AND LITERATURE REVIEW

DUBRAVKO HABEK<sup>1</sup>, MARIO CENKOVČAN<sup>1</sup> and GORAN AUGUSTIN<sup>2,3</sup>

<sup>1</sup>*Sveti Duh University Hospital, Croatian Catholic University, Department of Obstetrics and Gynecology, Zagreb, Croatia, <sup>2</sup>Zagreb University Hospital Centre, Department of Surgery, Zagreb, and*

<sup>3</sup>*University of Zagreb, School of Medicine, Zagreb, Croatia*

This is a report of a case of arterial bleeding from spontaneous nonobstetric uterine myoma, with review of the literature. A 38-year-old multipara with myomatous uterus presented with spontaneous abdominal pain, nausea and malaise, free from comorbidities and abdominal trauma. After emergency diagnostic workup, urgent laparotomy with supracervical hysterectomy was performed with uneventful course. Hemoperitoneum resulting from spontaneous nonobstetric rupture of the uterine myoma artery is exceptionally rare. Despite its rarity, it should be included in the differential diagnosis of the known myomatous uterus, acute abdominal pain and nonobstetric hemoperitoneum.

**Key words:** acute abdomen, hemoperitoneum, uterine myoma, coronary artery

**Address for correspondence:** Professor Dubravko Habek, MD, PhD  
 Department of Obstetrics and Gynecology  
 Sveti Duh University Hospital  
 Croatian Catholic University  
 Sveti Duh 64  
 10 000 Zagreb, Croatia  
 Phone / Fax: 00385 1 3745 534  
 E-mail: dubravko.habek@os.t-com.hr

## INTRODUCTION

Although some published cases do not define artery or vein (1), only four cases of spontaneous nontraumatic nonobstetric rupture of uterine myoma artery have been reported in recent literature. Hemoperitoneum caused by acute arterial hemorrhage from the myoma is a very rare but life-threatening condition that requires urgent surgical intervention (2-5).

An extremely rare case of acute abdomen with massive hemoperitoneum caused by rupture of the subserosal myoma base artery is presented.

## CASE PRESENTATION

A 38-year-old multipara (P2, Ab 1) with the known myomatous uterus presented to emergency unit with spontaneous abdominal pain, nausea and malaise, free

from comorbidities and abdominal trauma. On admission, the abdomen was sensitive, very painful on palpation. Ultrasound (US) and multi-slice computed tomography (MSCT) revealed a myomatous uterus, 12x6 cm in size, and hemoperitoneum. On admission to the department ward, the following findings were recorded: blood pressure 110/70, mild tachycardia up to 100/min; E 2.92; Hb 85; Htc 0.24; Plt 246; coagulation profile normal. An urgent exploratory lower midline laparotomy was indicated and revealed hematoses >2000 mL of blood and clots, and myomatous uterus with numerous myomas, with coronary artery rupture and pulsating hemorrhage observed at the base between two subserosal myomas of 6 and 7 cm in size, without torsion (Fig. 1). Considering the findings and the patient's age, supracervical hysterectomy with bilateral salpingectomy, abdominal lavage and drainage were performed. Postoperative findings: E 2.81; Hb 87; Htc 0.25; Plt 160. Intraoperatively, the patient received 900 mL of packed red blood cells (RBC), 250 mL of

fresh frozen plasma (FFP), 2 g tranexamic acid, and 3500 mL colloid and crystalloid solutions. The post-operative course was uneventful, while the pathologic finding showed fibromyoma.

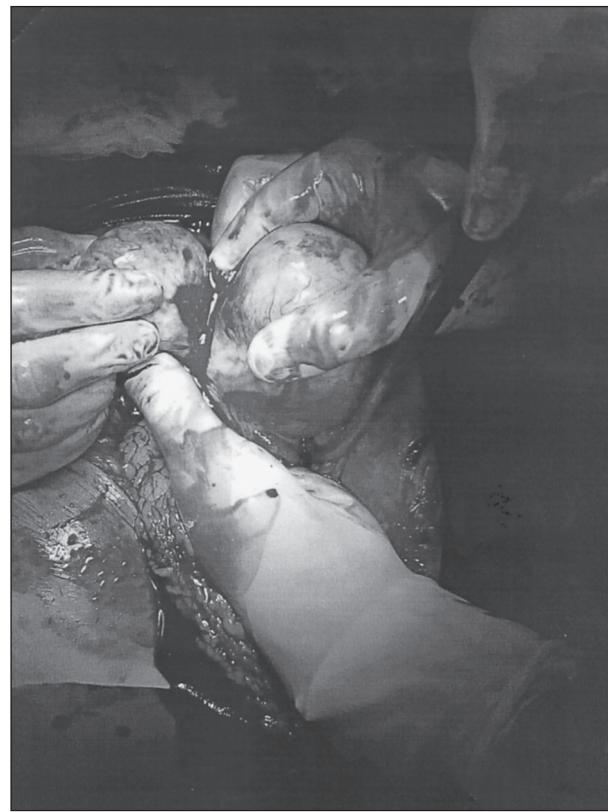


Fig 1. Coronary artery rupture of subserous uterine myoma.

## DISCUSSION

Cases of nonobstetric spontaneous rupture of myoma vessels are clinical rarities. Around 100 cases of spontaneous myoma vein rupture have been described (6). Venous rupture is more frequently reported than arterial rupture (7). Distention induced by the growth of myoma, elevated intravascular or intra-abdominal pressure, and passive venous congestion have been implicated as the possible causes of vascular rupture (8,9). Cases of obstetric hemoperitoneum due to uterine vein or artery rupture during pregnancy have been reported (10).

Akahira *et al.* describe two cases of hemoperitoneum; one due to coronary vein rupture in a 34-year-old woman and another one due to arterial rupture in a 44-year-old woman with the development of hypovolemic shock (4). There are recent reports of rupture of the myoma arterial aneurysm of 6 cm in size with massive hemoperitoneum of 3000 mL in a 54-year-old woman with cardiorespiratory arrest and myomectomy (2) and of multiple myomectomies performed due

to hemoperitoneum caused by spontaneous venous variceal hemorrhage from a myoma in a 40-year-old woman (11). Chen *et al.* report on hemoperitoneum due to rupture of the superficial uterine artery on a subserosal myoma in a 22-year-old woman. The patient underwent laparoscopic myomectomy and received 14 units of packed RBC and 8 units of FFP due to 3000 mL of blood in the abdominal cavity (3). Also, a case of sudden lethal outcome due to hemorrhage from a subserosal node ruptured vein in a 28-year-old woman with tuberous sclerosis is described (8).

In premenopausal women with known leiomyoma, although extremely rare, with no history of trauma, pregnancy, or other findings, spontaneous bleeding from uterine leiomyoma should be included in the differential diagnosis. In cases with spontaneous abdominal pain and hemoperitoneum an ectopic extra-uterine pregnancy, rupture of corpus luteum, adnexal torsion or torsion of a fibroma, and secondly rupture of an ovarian tumor or intracystic hemorrhage should be excluded first. A negative  $\beta$ HCG result and abdominal ultrasound eliminate these diagnoses. Massive hemoperitoneum and hemorrhagic shock are indications for resuscitation and urgent surgical intervention. In a hemodynamically stable patient, urgent diagnostic workup includes the US, MSCT or MRI of the abdomen/pelvis and laboratory testing of hemogram and coagulation profile. Preserving myomectomy or hysterectomy depends on the patient age and reproductive status. None of the studies suggests the potential predisposing risk factors for the occurrence of spontaneous rupture of uterine myoma arteries, since clinical presentation developed from the young age through the menopause (2-5,8). Considering the potential life-threatening state, due attention should be paid to this rare clinical entity in women with known uterine myomas and sudden pelvic pain.

## R E F E R E N C E S

1. Gulati N, Raman S, Srinivasan M, Bakour S. Rare gynaecological emergency: massive intraperitoneal haemorrhage from spontaneous rupture of a superficial vessel on a large leiomyoma. BMJ Case Rep 2016; 2016. pii: bcr2015212576. doi: 10.1136/bcr-2015-212576.
2. Tajima S, Yonezawa I, Waki M, Hoshi S. Massive hemoperitoneum following spontaneous rupture of an arterial aneurysm overlying a uterine myoma. Int J Clin Exp Med 2015; 8: 3002-5.
3. Chen CH, Lin JY, Tzeng CR, Chiu LH, Liu WM. Hemoperitoneum secondary to rupture of a superficial uterine artery overlying a subserous myoma with no predisposing factors in a young woman. Taiwan J Obstet Gynecol 2013; 52: 133-4.

4. Akahira J, Ito K, Nakamura R, Yajima A. Massive intra-peritoneal hemorrhage and hypovolemic shock due to rupture of a coronary vessel of a uterine leiomyoma: a report of two cases. *Tohoku J Exp Med* 1998; 185: 217-22.
5. Horowitz E, Dekel A, Feldberg D, Rabinerson D. Massive hemoperitoneum due to rupture of an artery overlying uterine leiomyoma: a case report. *Acta Obstet Gynecol Scand* 2005; 84: 408-9.
6. Danikas D, Theodorou SJ, Kotrotsios J, Sills C, Cordero PE. Hemoperitoneum from spontaneous bleeding of a uterine leiomyoma: a case report. *Am Surg* 1999; 65: 1180-2.
7. Fontarensky M, Cassagnes L, Bouchet P *et al*. Acute complications of benign uterine leiomyomas: treatment of intraperitoneal haemorrhage by embolisation of the uterine arteries.
8. Ihama Y, Miyazaki T, Fuke C. Hemoperitoneum due to rupture of a subserosal vein overlying a uterine leiomyoma. *Am J Forensic Med Pathol* 2008; 29: 177-80.
9. Jain P, Pradhan P, Cietak KA, Anyanwu L. Acute abdomen following spontaneous variceal rupture overlying uterine leiomyoma. *J Obstet Gynaecol* 2004; 24: 589.
10. Habek D. Intraoperative spontaneous rupture of uterine varicose vein. *Acta Clin Croat* 2017; 56: 821-2.
11. Kassegne I, Kolani K, Tchangai B, Kanassoua K, Adabara K, Alassani F. Myomectomies for massive hemoperitoneum from spontaneous bleeding of a uterine myoma. *J Surg Case Rep* 2017; 2017(7): rjx127. doi: 10.1093/jscr/rjx127.

## S A Ž E T A K

### NEOPSTETRIČKI SPONTANI RAZDOR KORONARNE ARTERIJE MATERNIČNOG SUBSEROZNOG MIOMA: PRIKAZ BOLESNICE I PREGLED LITERATURE

D. HABEK<sup>1</sup>, M. CENKOVČAN<sup>1</sup> and G. AUGUSTIN<sup>2,3</sup>

<sup>1</sup>Klinička bolnica Sveti Duh, Hrvatsko katoličko sveučilište, Klinika za opstetriciju i ginekologiju, Zagreb,

<sup>2</sup>Klinički bolnički centar Zagreb, Klinika za kirurgiju, Zagreb i <sup>3</sup>Sveučilište u Zagrebu, Medicinski fakultet, Zagreb, Hrvatska

Prikazan je slučaj i literaturni pregled spontanih neopstetričkih arterijskih krvarenja materničnih mioma. Bolesnica, 38-godišnja višerotkinja s miomatoznom maternicom u anamnezi, zaprimljena je sa spontanim bolovima, mučninom i slabošću, bez podataka o trbušnoj traumi, bez komorbiditeta. Nakon hitne obrade učinjena je hitna laparotomija sa supracervikalnom histerektomijom. Kako je hemoperitonej zbog spontanoga neopstetričkog razdora arterije materničnih mioma iznimno rjeđak, akutna trbušna bol s neopstetričkim hemoperitonejem može upraviti dijagnozu u tom smjeru.

**Ključne riječi:** akutni trbušni bol, hemoperitonej, miom maternice, koronarna arterija