CASE REPORT – OPEN ACCESS

International Journal of Surgery Case Reports 26 (2016) 197–198

Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Difficult diagnosis of hemoperitoneum in a patient with a pelvic mass of large size

Emanuele Cerruto, Maria Chiara Sudano*, Carla Ettore, Giorgio La Greca, Michele Giulano La Greca

Department of Obstetrics and Gynecology, ARNAS Garibaldi Nesima, via Palermo 636, 95124 Catania, Italy

ARTICLE INFO

Article history:
Received 28 May 2016
Received in revised form 25 July 2016
Accepted 25 July 2016
Available online 28 July 2016

Keywords:
Uterus
Myoma
Varicous veins rupture
Hemoperitoneum

ABSTRACT

INTRODUCTION: Intraperitoneal hemorrhage caused by a uterine myoma is rare (Tajima et al., 2015).
PRESENTATION OF CASE: A 47-year-old woman was admitted to the emergency room for worsening abdominal pain. Ultrasound revealed fluid filled almost the entire abdominal cavity as well as the presence of a mass of about 20 cm near the uterus. It was not easy to understand the nature of the fluid by ultrasound. It appeared to be ascites with a tumoral pelvic neoformation. On TC there was extravasation of contrast material, but the bleeding site was not identifiable. An emergency operation was performed. Bleeding was from a subserosalmyoma on the anterior wall of the uterus; myoma measured approximately 20 cm in maximum diameter. Pathological assessment of the resected specimen revealed bleeding from ruptured tortuous veins on a serosal-type uterine myoma.
DISCUSSION: Spontaneous rupture of a vein or an artery overlying a myoma has been documented in English literature on the subject, although it is extremely rare (Tajima et al., 2015).
CONCLUSION: The differential diagnosis between ascites and hemoperitoneum is sometimes not easy. Ultrasound is a helpful instrument in expert hands to make a diagnosis of hemoperitoneum. The aid of other diagnostic methods as TC help the clinician to arrive at the correct diagnosis quickly.
© 2016 The Author(s). Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

1. Introduction

Acute abdomen comprises a number of emergencies, but they should be differentiated between surgical and medical emergencies. Some abdominal emergencies can mimic acute gastroenteritis, but the prevalence of gastrointestinal symptoms in acute gynecological emergencies is uncertain [2]. In a gynecological setting, hemoperitoneum is usually a result of an ectopic pregnancy, a ruptured corpus luteum, or adnexal torsion [3–5]. As a cause of hemoperitoneum, spontaneous rupture of a vein or an artery overlying a myoma has been documented in English literature on the subject, although it is extremely rare [6–16]. Even if cases reported in non-English language publications are included, there have been fewer than 100 documented cases to date [11]. In the differential diagnosis of intraperitoneal hemorrhage, rupture of a vessel overlying a myoma should be considered. The diagnosis is often delayed until the time of operation [14]. In the absence of diagnostic certainty, proper risk assessment and the successive and timely intervention are essential in facing a life-threatening situation [17].

2. Case report

A 47-year-old woman, with 3 previous pregnancies, visited our hospital "A.R.N.A.S. Garibaldi Nesima" of Catania with abdominal pain and palpable lower abdominal mass. Ultrasound showed a solid mass of 15,7 × 12 cm near and posterior the uterus with periferic vascularization; in the pelvic cavity, in the perisplenic and periepatic areas, there was a modest amount of anechoic free fluid. Regular ovaries were identified. Her medical history shows no problem with her mestrual period. On examination, the patient was stable, with a normal heart rate of 70 beats/minute, blood pressure of 120/75 mmHg, temperature of 36.6 °C, SO2 100%.

Physical examination revealed negative findings, except for the presence of mild tenderness without rebound pain in the lower abdomen. Laboratory tests on admission indicated relatively minor abnormalities, considering the severity of her condition: hemoglobin (Hb), 12.3 g/dL; Red Blood Cell Count (RBC) 4.17 × 10^6/uL; platelets (Plt), 226 × 10^3/μL;White Blood Cell Count(WBC) 12.20 × 10^3/uL; aspartate transaminase (AST), 13 UI/L; alanine aminotransferase (ALT), 11UI/L. The sensitive urineβ-human chorionic gonadotropin test was negative.

Abbreviation: TC, computed tomography.

* Corresponding author.
E-mail addresses: ema333@hotmail.it (E. Cerruto), Chiarasudano@hotmail.it (M.C. Sudano), cerrutoemanuele@gmail.com (C. Ettore), giorgiolagreca@gmail.com (G. La Greca), michelegiulianolagreca@gmail.com (M.G. La Greca).

http://dx.doi.org/10.1016/j.ijscr.2016.07.040
2210-2612/© 2016 The Author(s). Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

Ascites with blood was first suspected. During hospitalization, the patient complained of worsening abdominal pain. Follow-up transabdominal ultrasonography revealed hyperechoic fluid filling almost the entire abdominal cavity, suggestive of ascites with an extremely large hemorrhage. We examined the origin of the bleeding using contrast-enhanced computed tomography (CT). This revealed an extremely large hemorrhage with extravasation of contrast material. Although the exact site of bleeding was not identified, vessels in the pelvic cavity were considered potential candidates. After 24 h of observation:Hb, 10.2 g/dL; RBC 3.12×106/uL; Plt, $60 \times 10^4/\mu$L; WBC10.2×103/uL AST, 15 U/L; ALT, 11 U/L.

Suspecting a gynecological cause, an emergency operation was planned, to stabilize the patient and make an exact diagnosis. Emergency median laparotomy was performed under general anesthesia because the mass was solid. On reaching the abdominal cavity, there was evidence of an extremely large hemorrhage, with an estimated blood loss of over 1500 mL. A bleeding site was identified on the surface of a uterine myoma that has maximum diameter of about 18 cm; This bleeding derived from rupture of a superficial and dilated vein. Other abdominal organs were essentially normal. This was followed by drainage of hemoperitoneum and hysterectomy with ovarian conservation. Pathological examination showed ruptured tortuous veins on a serosal-type uterine myoma, approximately 8 mm in diameter, situated on the surface of a fibromyoma without degeneration.

3. Discussion

Intraperitoneal hemorrhage associated with a uterine fibromyoma is rare, in spite of the fact that uterine myomas are one of the most frequently encountered tumors [16]. Well-known acute complications of myomas include torsion of a subserosal pedunculated myoma, urinary retention, venous thromboembolism, and hemorrhage due to degeneration of a myoma [18]. A large hemorrhage as a result of spontaneous rupture of a vessel overlying a myoma is rare [11]. Several factors have been postulated as causes of spontaneous rupture of a vein or an artery overlying a myoma. One of the probable causes of such a venous rupture is increased venous pressure, as occurs during menstruation, when straining to pass stool, or when lifting heavy weights [8]. Alternatively, increased abdominal pressure may cause passive venous congestion, and result in the rupture of a superficial vein [11]. Regarding venous rupture, the size of the myoma appears not to be a direct risk factor [7]. In contrast, in the case of an arterial rupture [11], a large myoma might overstretch the surface artery, resulting in rupture. In addition, it is suspected that increased arterial pressure of a surface artery due to increased abdominal pressure could lead to rupture of the artery. With regard to the present case, we speculate that an increase in blood pressure due to an unknown cause may have played a part in the rupture. Imaging modalities, including ultrasound and CT, may help confirm the differential diagnosis; however, as demonstrated in our case, imaging is unable to detect the site of bleeding [14]. Making an exact diagnosis is often delayed until surgery is performed.

4. Conclusion

The differential diagnosis between ascites and hemoperitoneum is sometimes not easy.

Ultrasound is a helpful instrument in expert hands to make a diagnosis of hemoperitoneum, but in rare situations where even clinical parameters are stable, it is indeed difficult to take a decision.

The aid of other diagnostic methods as TC help the clinician to arrive at the correct diagnosis quickly. In conclusion, massive hemoperitoneum secondary to the spontaneous rupture of a vessel overlying a myoma is rare. It should, however, be kept in mind when reviewing a female patient with an acute abdomen or a hypovolemic shock, especially in a patient with either known or radiologically apparent myomas. While it is a rare event, it may be life-threatening, and needs prompt surgical intervention to stabilize the patient and to establish the diagnosis [1].

References

[1] S. Tajima, I. Yonezawa, M. Waki, S. Hoshi, Massive hemoperitoneum following spontaneous rupture of an arterial aneurysm overlying a uterine myoma, Int. J. Clin. Exp. Med. 8 (February (2)) (2015) 3002–3005, eCollection 2015.
[2] R. Stalnikowicz, Hemorrhagic corpus luteum presenting as acute gastroenteritis, Am. J. Emerg. (2002) 120–133, ed2002.
[3] C.H. Chen, W.L. Lee, L.H. Chiu, H.D. Sun, W.M. Liu, P.H. Wang, A cohort study to evaluate the effectiveness of laparoscopic-guided local injection of etoposide in the management of women with unruptured tubal pregnancy, Fertil. Steril. 96 (2011) 654–658.
[4] H.J. Choi, S.H. Kim, S.H. Kim, H.C. Kim, C.M. Park, H.J. Lee, M.H. Moon, J.Y. Jeong, Ruptured corpus luteal cyst: CT findings, Korean J. Radiol. 4 (2003) 42–45.
[5] B.S. Huang, P.H. Wang, Ovarian torsion during pregnancy, Taiwan. J. Obstet. Gynecol. 50 (2011) 409–410.
[6] W.H. Su, S.M. Cheung, S.P. Chang, W.L. Lee, Internal bleeding from a ruptured serosal vein covering the myoma surface mimicking upper gastrointestinal bleeding, Taiwan. J. Obstet. Gynecol. 47 (2008) 352–354.
[7] P. Jain, P. Pradhan, K.A. Cietak, L. Anyanwu, Acute abdomen following spontaneous variceal rupture overlying terine leiomyoma, J. Obstet. Gynaecol. 24 (2004) 589.
[8] B.W. Buttery, Spontaneous haemoperitoneum complicating uterine fibromyoma, Aust. N. Z. J. Obstet. Gynaecol. 12 (1972) 210–213.
[9] D.R. Mattison, S.Y. Yeh, Hemoperitoneum from rupture of a uterine vein overlying a leiomyoma, Am. J. Obstet. Gynecol. 136 (1980) 415–416.
[10] M.H. Dahan, R. Ahmadi, Spontaneous subserosal venous rupture overlying a uterine leiomyoma. A case report, J. Reprod. Med. 47 (2002) 419–420.
[11] D. Danikas, S.J. Theodorou, J. Kotrotsios, C. Sills, P.E. Cordero, Hemoperitoneum from spontaneous bleeding of a uterine leiomyoma: a case report, Am. Surg. 65 (1999) 1180–1182.
[12] A.H. Badawy, Diffuse intraperitoneal haemorrhage from surface vein of a fibromyoma, Br. Med. J. 1 (1961) 717–718.
[13] J. Akahira, K. Ito, R. Nakamura, Massive intraperitoneal hemorrhage and hypovolemic shock due to rupture of a coronary vessel of a uterine leiomyoma: a report of two cases, Tohoku J. Exp. Med. 185 (1998) 217–222.
[14] C.H. Chen, J.Y. Lin, C.R. Tzeng, L.H. Chiu, W.M. Liu, Hemoperitoneum secondary to rupture of a superficial uterine artery overlying a subserousmyoma with no predisposing factors in a young woman, Taiwan. J. Obstet. Gynecol. 52 (2013) 133–134.
[15] E. Horowitz, A. Dekel, D. Feldberg, D. Rabinerson, Massive hemoperitoneum due to rupture of an artery overlying a uterine leiomyoma: a case report, Acta Obstet. Gynecol. Scand. 84 (2005) 408–409.
[16] W.H. Su, W.L. Lee, M.H. Cheng, M.S. Yen, K.C. Chao, P.H. Wang, Typical and atypical clinical presentation of uterine myomas, J. Chin. Med. Assoc. 75 (2012) 487–493.
[17] Y. Ihama, T. Miyazaki, C. Fuke, Hemoperitoneum due to rupture of a subserosal vein overlying a uterine leiomyoma, Am. J. Forensic Med. Pathol. 29 (2) (2008) 177–180, http://dx.doi.org/10.1097/PAF.0b013e3181744091.
[18] S. Gupta, I.T. Manyonda, Acute complications of fibroids, Best Pract. Res. Clin. Obstet. Gynaecol. 23 (2009) 609–617.

Open Access
This article is published Open Access at sciencedirect.com. It is distributed under the IJSCR Supplemental terms and conditions, which permits unrestricted non commercial use, distribution, and reproduction in any medium, provided the original authors and source are credited.