

Fallopian tube torsion caused by extremely large Morgagni hydatid: A very rare cause of acute abdomen in a virgin adolescent

Case Report

Milan M. Terzic^{1,2}, Nebojsa N. Arsenovic³, Sanja B. Maricic⁴, Ivana R. Babovic^{2*}, Igor Z. Pilic², Jovan S. Bila²

¹ University of Belgrade, School of Medicine,
11000 Belgrade, Serbia

² Institute for Gynecology and Obstetrics, Clinical Center of Serbia,
11000 Belgrade, Serbia

³ PathLinks Pathology Services, Lincoln County Hospital,
Cellular Pathology Department, Greetwell Road, Lincoln LN2 5QY, UK

⁴ General Health Center "Savski Venac",
11000 Belgrade, Serbia

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Abstract: Torsion of the fallopian tube is rare and generally isolated and unilateral. We report a case of acute abdominal pain in an adolescent virgin female caused by a complete torsion that resulted in an infarction of the left fallopian tube. On surgery, extremely large hydatid of Morgagni was found, that caused torsion of the fallopian tube threefold. Case: An 18-year-old virgin presented with severe abdominal pain in the left lower quadrant accompanied by vomiting for three hours. Abdominal examination revealed tenderness and guarding in the left lower abdominal part while on rectal examination there was a palpable mass in the left adnexal region, but no mass or tenderness in the cul-de-sac. Blood (CBC, ESR, CA -125, and serum β -human chorionic gonadotrophin) and urine tests were all within a normal range. Ultrasound scan showed a left adnexal unilocular cyst approximately 10 cm in diameter with no solid areas or ascites. At laparotomy performed due to acute abdomen, the left fallopian tube was twisted threefold, distended and turned into a black colored cyst. The left salpingectomy was performed, electrosurgically, using Ligasure®. Microscopic examination showed a hemorrhagic and necrotic tube and fimbrial cyst lined with flat cuboidal epithelium indicating origin from the hydatid of Morgagni. The postoperative course was uneventful, and she was discharged on the 3rd postoperative day. Conclusion: Large Morgagni hydatid is an extremely rare cause of tubal torsion that is usually detected at surgery. Surgical treatment should not be delayed, although a majority of adolescent females lose function of the twisted oviduct at the time of surgery.

Keywords: Abdominal pain • Acute abdomen • Fallopian tube torsion • Hydatid of Morgagni

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1. Introduction

Torsion of the normal or cystic ovary is a well-known complication that usually involves the fallopian tube and ancillary structures [1]. Torsion of the fallopian tube does not occur frequently and is generally isolated and unilateral [2]. Twisting of the tube around its vascular pedicle leads to obstruction of venous blood flow. Initially this causes engorgement and thrombosis followed by

arterial occlusion, if the torsion is complete. This condition causes thrombosis, ischemia, and necrosis of the fallopian tube. Occasionally, the presence of Morgagni hydatid may be the cause of infertility [3]. Morgagni hydatid is one of the small pedunculated structures attached to the uterine tubes near their fimbriated end represents remnants of the mesonephric ducts.

The clinical findings of tubal torsion are nonspecific and comprise acute and severe lower abdominal pain,

* E-mail: ivana.r.babovic@gmail.com

Figure 1. Left fallopian tube twisted threefold on its vascular pedicle.

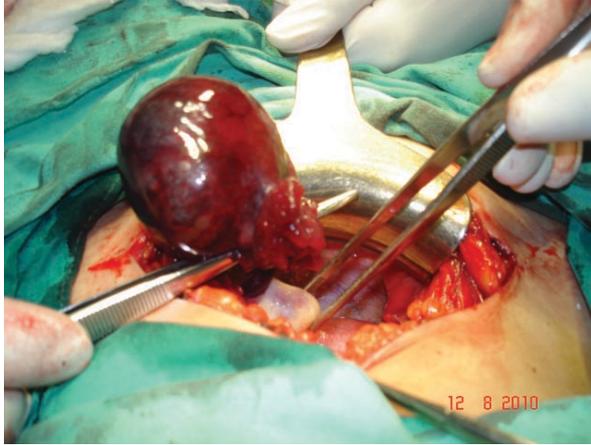


Figure 2. Left salpingectomy performed using Ligasure®.



often accompanied by nausea and vomiting but without specific symptoms [4]. We report a case of acute abdominal pain in an adolescent virgin female caused by a complete torsion that resulted in an infraction of the left fallopian tube. At surgery, we found extremely large hydatid of Morgagni, which caused torsion of the fallopian tube threefold.

2. Case Report

An 18-year-old virgin presented with severe abdominal pain in the left lower quadrant accompanied by vomiting. The pain was localized since its onset and colic in nature, with no history of similar episodes. Emesis was frequent, watery, short lasting, small in amount, and colorless. There was neither bowel nor urinary symptoms. Her menstrual cycle was irregular, 30-90/5 days, while the last menstrual period was 30 days ago. She was a virgin

and had no previous gynecological problems. There was also no history of prior abdominal trauma. In the past medical history she reported appendicitis without surgical therapy and tonsillectomy in her childhood. Family and drug history was unremarkable.

On physical examination, she was exhausted, pale, blood pressure was 90/60 mmHg, while pulse was around 90 b/min. Her axillar temperature was 36.6°C, and rectal 37.0°C. Abdominal examination revealed tenderness and guarding in the left lower abdominal part with no rebound tenderness. Bowel sounds were normal. There was tenderness on the left side of the pelvis on rectal examination, with a mass in the left adnexal region, but no mass or tenderness in the cul-de-sac. The uterus was normal. Ultrasound scan showed a left adnexal unilocular cyst approximately 10 cm in diameter with no solid areas or ascites. The appendix, right ovary, and uterus were normal. Blood (CBC, ESR, CA -125 and serum β -human chorionic gonadotrophin) and urine tests were within a normal range.

Due to clinical signs of acute abdomen that the patient developed in the following few hours, an emergency laparotomy was performed through low transverse abdominal incision. Left ovary was normal, and the left fallopian tube was twisted threefold on its vascular pedicle, almost black colored, distended, smooth-surfaced, with extremely large cyst within the pedicle, measuring approximately 10 cm in diameter (Figure 1). Appendix, right fallopian tube and ovary, and uterus were normal. There was a small amount of free fluid in the pelvic cavity. Left salpingectomy was performed, using Ligasure® (Figure 2). The postoperative course was uneventful, and she was discharged on the 3rd postoperative day. One month later, she remained well, and returned to her everyday activities.

The left fallopian tube measured 5 cm x 3 cm x 1 cm with a hemorrhagic cyst at the fimbrial end measuring 13 cm in diameter with areas of hemorrhage and necrosis. Microscopic examination showed a hemorrhagic and necrotic tube and fimbrial cyst lined with flat cuboidal epithelium indicating origin from the hydatid of Morgagni.

3. Discussion

Fallopian tube torsion in adolescents is usually difficult to diagnose clinically and sonographically, and precise evaluation is essentially made on surgery, performed for acute abdominal pain [5]. Moreover, despite the acute nature of torsion, abdominal manifestations are sometimes infrequent or may not be specific to this complication. Acute appendicitis is, therefore, the most

frequent misdiagnosis in adolescent females presenting with torsion of the fallopian tube. In the literature, there are reported cases of fallopian tube torsion in pregnancy [2,5].

The clinical picture of torsion in adnexal region usually presents with an abrupt onset of severe lower abdominal pain, often accompanied by nausea and vomiting in the absence of a palpable pelvic mass and without gastrointestinal, urinary, or gynecologic symptoms, as observed in our patient [2,6]. If the initial torsion is complete and sufficient to obstruct the vascular supply of the tube, acute pain is synchronous with nausea and vomiting and is localized to the affected side where it began, like in this case. In acute appendicitis, vomiting develops several hours after the onset of abdominal pain that characteristically shifts from the midline to the right lower quadrant. The tenderness of the left lower abdominal part and a palpable mass by rectal examination in our patient excluded appendicitis. White blood cell count is often normal, as observed in our case [6]. Radiographic findings, including conventional ultrasound scan, are imprecise and might increase the management dilemma. Color Doppler ultrasonography may be beneficial in suspected cases and may detect unilateral absence of blood flow to the twisted adnexa, although the presence of normal flow does not always rule out torsion [7].

The etiology of tubal torsion is still uncertain, especially when this is not associated with torsion of the ovary. Suggested mechanisms include anatomic malformations, such as long mesosalpinx, hydatid of Morgagni, hydrosalpinx, abnormalities in adjacent organs (ovarian and paraovarian masses, uterine enlargement by pregnancy or tumor and peri-tubal adhesions) physiologic disturbances in the normal peristalsis of the tube, hemodynamic alterations causing congestion and tortuosity of the mesosalpingeal veins, trauma or accidents, or previous tubal surgeries [3-5,7].

The presence of an ovarian cyst, or cyst of the Morgagni hydatid at the fimbrial end, is probably responsible for tubal torsion since the free end of the tube becomes heavier, excessively mobile, and more

susceptible to rotation [2]. Torsion occurs often at the time of ovulation and frequently involves the right fallopian tube [5]. Adolescent patients with tubal torsion should be followed up after conservative treatment and advised to seek medical advice immediately if they experience similar symptoms in the future [3].

The surgical approach to torsion of the fallopian tube depends on the operative findings, patient's age and reproductive demands. Available procedures include either traditional salpingectomy when the tube cannot be preserved, as performed in our patient, or untwisting and fixation of the tube if torsion is incomplete or recent, and the tubal tissues remain viable, primarily in younger patients in order to preserve fertility. These operations could be performed via either laparotomy or laparoscopy, depending on patient's clinical signs and condition, technical skills and equipment availability, although the latter may be preferred in young patients because of reduced recovery time and hospital stay [3]. The conservative maneuver in our case was also not possible because torsion was complete, with obvious necrosis of the tube. The differentiation between necrosis and strangulation of the twisted tube with potential viability is, nevertheless, extremely challenging, and there is an additional theoretical risk of a pulmonary embolism if untwisting is performed after thrombosis of the vascular supply of the tube [2].

In conclusion, torsion of the fallopian tube is a rare condition in adolescent females, but must always be considered in the differential diagnosis of acute lower abdominal pain. Large Morgagni hydatid is an extremely rare cause of tubal torsion. Surgical treatment should not be delayed if the diagnosis is suspected, although the majority of adolescent females had already lost the function of the twisted oviduct at the time of surgery.

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References

- [1] Cunnion KM, Dolan MA, Sonnino RE. Case records of the Medical College of Virginia: a 10 -year-old girl presenting with an acute onset of abdominal pain. *Pediatr Emerg Care* 1996;12: 52-5
- [2] Rizk DE, Lakshminarasimha B, Joshi S. Torsion of the Fallopian tube in an adolescent female: a case report. *J. Pediatr Adolesc Gynecol* 2002; 15: 159-61
- [3] Cebesoy FB, Kutlar I, Dickensoy E, Yazicoglu C, Kalayci H. Morgagni hydatids: a new factor in infertility? *Arch Gynecol Obstet* 2010; 281: 1015-7
- [4] Pansky M, Smorgick N, Lotan G, Herman A, Schneider D, Halperin R. Adnexal torsion involving hydatids of Morgagni: a rare cause of acute abdominal pain in adolescents. *Obstet Gynecol* 2006; 108: 100-2
- [5] Origoni M, Cavoretto P, Ferrari A. Acute isolated

tubal torsion in pregnancy due to twisted Morgagni hydatid. *Minerva Ginecol* 2008; 60: 95-6

- [6] Van Voorhis BJ, Schwaiger J, Syrop CH, Chapler FK. Early diagnosis of ovarian torsion by Color Doppler ultrasonography. *Fertil Steril* 1992; 58: 215-7
- [7] Pena JE, Ufberg D, Cooney N, Denis AL. Usefulness of Doppler ultrasonography in the diagnosis of ovarian torsion. *Fertil Steril* 2000; 73: 1041-2