The following steps were performed:

1 The patient was placed in the lithotomy position
2 Foley catheter was inserted in order to empty the bladder
3 Local anesthesia was performed: vaginal mucosa was infiltrated with an anesthetic agent and hydrodissection of paraurethral tunnels was performed
4 A 1.5 cm midurethral vaginal mucosa incision was performed
5 Bilateral paraurethral tunnels were prepared with Metzenbaum scissors and dissection carried out toward obturator membranes
6 The sling was mounted on kit needles which were directed toward obturator membranes
7 Sling tension was adjusted by placing Mayo scissors between the sling and the urethra
8 A running colporrhaphy was used to obtain vaginal mucosa closure
9 Foley catheter was removed
10 A cystourethroscopy was performed to exclude unintended bladder/urethra perforation
11 Voiding trial involved an attempt to void the bladder after retrograde or spontaneous filling.
12 Same-day discharge with post-operative instructions.

The featured video showed all surgical steps necessary to achieve a successful SISs placement. According to literature, SISs represent a valid alternative to standard retropubic and transobturator tapes, with similar effectiveness. Their characteristics may theoretically lead to lower complication. However severe complications have been described, including exposure, hematomas, and bladder perforation [5]. Unluckily, up-to-date the availability of educational surgical video dealing with all surgical steps and debated issues is scarce [7]. A comprehensive educational video may be a valid instrument to train physicians, and this is confirmed by the growing interest of gynecology and urology societies in video hosting and publication. Physicians should be offered high-quality medical information for continuing education. This step-by-step video-tutorial may represent an important tool to improve surgical know-how about single-incision sling.

Financial disclaimers/conflict of interest

None.

Consent

Written informed consent was obtained from the patient for publication of this video article and any accompanying images.

Acknowledgment

We thank Falbo Andrea for his help in making the video.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.ejogrb.2019.04.037.

References

[1] Spelzini F, Frigerio M, Regini C, Palmieri S, Manodoro S, Milani R. Learning curve for the single-incision suburethral sling procedure for female stress urinary incontinence. Int J Gynaecol Obstet 2017;139(December (3)):363–7.
[2] Palmieri S, Frigerio M, Spelzini F, Manodoro S, Milani R. Risk factors for stress urinary incontinence recurrence after single-incision sling. Neurourol Urodyn 2018;(January):17.
[3] Frigerio M, Regini C, Manodoro S, Spelzini F, Milani R. Mini-sling efficacy in obese versus non-obese patients for treatment of stress urinary incontinence. Minerva Ginecol 2017;69(December (6)):533–7.
[4] Spelzini F, Cesana MC, Verri D, Polizzi S, Frigerio M, Milani R. Three-dimensional ultrasound assessment and middle term efficacy of a single-incision sling. Int Urogynecol J 2013;24(August (8)):1391–7.
[5] Milani R, Manodoro S, Cola A, Palmieri S, Frigerio M. Management of unrecognized bladder perforation following suburethral tape procedure. Int J Gynaecol Obstet 2018;142(July (1)):118–9.
[6] Rapp AK, Healy MG, Charlton ME, Keith JN, Rosenbaum ME, Kapadia MR. YouTube is the most frequently used educational video source for surgical preparation. J Surg Educ 2016;73(November–December (6)):1072–6.
[7] Larouche M, Geoffrion R, Lazare D, Clancy A, Lee T, Koenig NA, et al. Mid-urethral slings on YouTube: quality information on the internet? Int Urogynecol J 2016;27(June (6)):903–8.

Federico Spelzini
Stefano Manodoro*
AUSL Romagna, Infermi Hospital, Rimini, Italy

Alice Cola
Stefania Palmieri
ASST Monza, San Gerardo Hospital, Monza, Italy

Ferdinando Roselli
Department of Woman, Child and General and Specialized Surgery, University of Campania "Luigi Vanvitelli", Naples, Italy

Matteo Frigerio
ASST Monza, San Gerardo Hospital, Monza, Italy

* Corresponding author at: AUSL della Romagna – Ospedale Infermi, U.O. Ostetricia e Ginecologia, Viale Luigi Settembrini 2, 47923, Rimini, RN, 0541 705211, Italy.
E-mail address: stefano.manodoro@auslromagna.it (S. Manodoro).

Received 16 February 2019

http://dx.doi.org/10.1016/j.ejogrb.2019.04.037

Acute abdomen in pregnancy due to synchronous appendicitis and twisted Morgagni hydatid: A case report

Dear Editor,

We found that acute abdomen in pregnancy can be a rare manifestation of synchronous appendicitis and twisted Morgagni hydatid. Although appendicitis is the most common cause of acute abdomen in pregnancy, isolated tubal torsion is an extremely rare occurrence. In this case, to the best of our knowledge, we report the second patient with simultaneous appendicitis and torsion of the fallopian tube.

A 30-year-old G1 P0 healthy female at 30 weeks' gestation presented to the emergency unit with generalized abdominal pain. She reported a 1-day history of generalized abdominal pain without nausea or vomiting, which on admission had localized to her right lower quadrant. Vitals were unremarkable and she was afebrile. Physical assessment revealed local tenderness without guarding or rebound. Pelvic examination could not be performed. Laboratory tests showed mild leukocytosis. Ultrasound examination detected a well-grown fetus with normal biophysical profile. There were no signs of placental abruption or morbid adherent placenta and cervical length was 30 mm.

However, transvaginal scan demonstrated a unilocular, anechoic, avascular cystic lesion without papillations or wall irregularities and a maximal diameter of 40 mm in the right adnexal region. The ovaries appeared normal in terms of size, structure and vascularity.

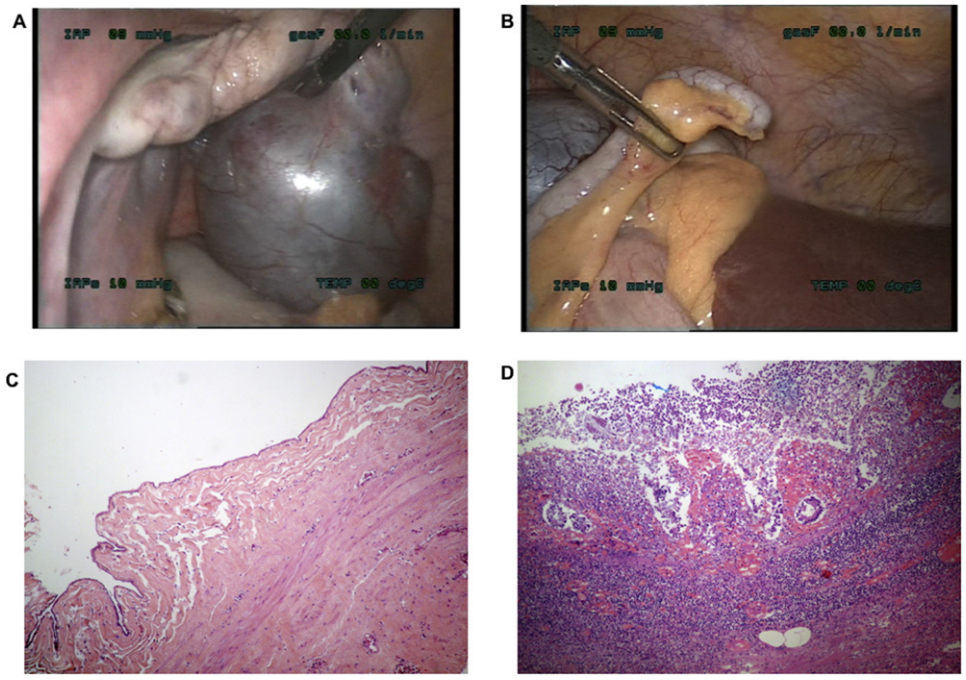

Fig. 1. Intraoperative image of adnexal torsion (A) and appendix (B) respectively. Histological confirmation of Morgagni hydatid torsion (C) and acute appendicitis (D) respectively.

Clinical and ultrasound findings were suggestive of paraovarian cyst torsion. In view of the acute abdomen an exploratory laparoscopy was performed and the intraoperative diagnosis was: 1) acute appendicitis, and 2) right-sided tubal torsion due to paraovarian cyst twisting. Appendectomy and right-sided salpingectomy were carried out. The histological diagnosis was acute suppurative appendicitis with synchronous tubal torsion and necrosis due to Morgagni hydatid twisting (Fig. 1). Findings indicate that tubal torsion caused inflammation of the appendix and subsequent appendicitis. The fetus was delivered by elective caesarian section due to breech presentation at 39 weeks' gestation.

Acute appendicitis is suspected in 1/600–1/1,000 and confirmed in 1/500 – 1/800 of pregnancies [1]. The diagnosis is challenging due to higher prevalence of abdominal discomfort and normal anatomic changes resulting in atypical manifestations of acute abdomen. Taking into account the physiological leukocytosis, no laboratory finding has been found to be diagnostic.

Isolated tubal torsion has an incidence of 1/1,500,000 [2]. Predisposing factors such as the presence of a Morgagni hydatid have been proposed. The latter is either penduculated or sessile and thus can undergo torsion on its axis or predispose towards ipsilateral tubal torsion respectively [3].

The differential diagnosis of right lower abdominal quadrant pain in pregnancy includes acute appendicitis, ectopic pregnancy, tubal torsion, ovarian torsion, torsion of Morgagni hydatid, salpingitis, tuboovarian abscess, urolithiasis, ruptured ovarian cyst, degenerated leiomyoma and abruption placenta. Both appendicitis and torsion of Morgagni hydatid are presented with abdominal pain which may be accompanied by nausea, vomiting and abdominal tenderness [4].

Raised awareness and timely intervention is crucial to prevent fetal loss with respect to acute abdomen in pregnancy. Although pregnancy is not an independent risk factor for appendicitis, it is associated with higher rates of perforation. Pregnant women with suspected acute appendicitis should be operated upon as soon as possible, irrespective of gestational age. On the other hand, Morgagni hydatids are common incidental findings in operative specimens with other pelvic pathology as primary indication for surgery. They are usually non-significant clinically and isolated torsion is extremely rare in occurrence. In cases of acute abdomen in pregnancy with ultrasound detection of normal ovaries and a pelvic cyst, tubal torsion due to Morgagni hydatid must be suspected [5].

Conflict of interest

None.

Contributions to authorship

All authors participated and contributed to data collecting, literature review and editing the paper.

Details of ethics approval

A signed confirmation of permission form is available from the patient.

Funding

None.

Acknowledgments

None.

References

[1] Abbasi N, Patenaude V, Abenhaim HA. Management and outcomes of acute appendicitis in pregnancy-population-based study of over 7000 cases. BJOG 2014;121:1509.
[2] Ferrera PC, Kass LE, Verdile VP. Torsion of the fallopian tube. Am J Emerg Med 1995;13(3):312–4.
[3] Origoni M, Cavoretto P, Conti E, Ferrari A. Isolated tubal torsion in pregnancy. Eur J Obstet Gynecol Reprod Biol 2009;146(October (2)):116–20.
[4] Origoni M, Cavoretto P, Ferrari A. Acute isolated tubal torsion in pregnancy due to twisted Morgagni hydatid. Minerva Ginecol 2008;60:95–6.
[5] Macedo M, Kim B, Khoury R, Narkiewicz L. A rare case of right lower quadrant abdominal pain. Am J Emerg Med 2017;35(April (4)):668.e1–2.

Eirini Iordanidou
Christos Anthoulakis*
Soumela Kotsailidou
Maria Malandri
Kyriakos Ioannidis
Theodoros Theodoridis
First Department of Obstetrics and Gynecology, Papageorgiou General Hospital of Thessaloniki, Aristotle University of Thessaloniki, Thessaloniki, Greece

* Corresponding author at: Sevasteias 23-25, 62100 Serres, Greece.
E-mail addresses: christos.anthoulakis@hotmail.com, christosanthoulakis@hotmail.com (C. Anthoulakis).

Received 17 April 2019

http://dx.doi.org/10.1016/j.ejogrb.2019.04.040