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Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

Title
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Permalink
https://escholarship.org/uc/item/5px3q5hj

Journal
Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 14(6)

ISSN
1936-9018

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Publication Date
2013-01-01

DOI
10.5811/westjem.2013.7.18487

Supplemental Material
https://escholarship.org/uc/item/5px3q5hj#supplemental

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Ultrasound Diagnosis of Bilateral Tubo-ovarian Abscesses in the Emergency Department

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Supervising Section Editor: Sean Henderson, MD
Submission history: Submitted June 5, 2013; Revision received July 8, 2013; Accepted July 15, 2013
Electronically published November 5, 2013
Full text available through open access at http://escholarship.org/uc/uciem_westjem
DOI: 10.5811/westjem.2013.7.18487

CASE REPORT
A previously healthy 30-year-old woman (gravida 1 para 1) presented to the emergency department (ED) with 5 days of lower abdominal pain, fever, and nausea. On examination, she had a temperature of 37.6°C, pulse 116 beats/minute, blood pressure 123/65 mmHg, respiratory rate 18 breaths/minute, and oxygen saturation 98% on room air. On bimanual examination, the patient exhibited bilateral adnexal tenderness, but no cervical motion tenderness. Relevant laboratory studies included negative urine beta-hCG, white blood cell count 17.4x10^3/µL and lactate 2.4 mmol/L.

A bedside transabdominal pelvic ultrasound demonstrated bilateral complex adnexal masses suspicious for tubo-ovarian abscesses (Video). The patient received intravenous piperacillin/tazobactam, doxycycline, and clindamycin and was admitted to the gynecology service. Surgery was initially deferred and she was managed conservatively with intravenous antibiotics. By the third day of hospitalization, her symptoms had not resolved and an exploratory laparotomy demonstrated purulent ascites and necrotic uterus, ovaries, and fallopian tubes, necessitating a total abdominal hysterectomy and bilateral salpingo-oophorectomy. The patient was discharged home 3 days following the surgery without further complications.

DISCUSSION
Tubo-ovarian abscess (TOA) is the most common form of intra-abdominal abscess in premenopausal women, occurring in up to 30% of women hospitalized with pelvic inflammatory disease. Ultrasound is the preferred diagnostic study for TOA, with moderate sensitivity (56–93%) and high specificity (86–98%) among radiology-performed studies. The increasing availability of ultrasound in the ED can aid in the early diagnosis of this common and potentially life-threatening condition. Ultrasound findings suggestive of TOA include loss of tissue boundaries between pelvic organs; thick, dilated fallopian tubes; and complex adnexal masses with irregular margins. TOAs should be treated with intravenous broad-spectrum antibiotics. Surgery should be considered in patients with signs of rupture, abscess > 9 cm, and who do not improve with antibiotics.

Video. Transverse transabdominal ultrasound of the pelvis performed with a 5-2MHz curvilinear probe demonstrates bilateral complex septated adnexal masses.

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Conflicts of Interest: By the WestJEM article submission agreement, all authors are required to disclose all affiliations, funding sources and financial or management relationships that could be perceived as potential sources of bias. The authors disclosed none. The opinions or assertions contained herein are the private views of the author and are not to be construed as official or as reflecting the views of the United States Army, Department of Defense, or the United States government

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