Pyometra, an Unusual Case of Acute Abdomen

Kyle E. Nielsen, DO
Sarah A. Medeck, DO
Dan B. Brillhart, MD
Kasey J. Mayclin, MD

Carl R. Darnall Army Medical Center, Department of Emergency Medicine, Fort Hood, Texas

INTRODUCTION

Non-traumatic abdominal pain is one of the most common reasons for emergency department (ED) visits. It is also a notoriously difficult complaint to approach in females due to the myriad of abdominal and pelvic etiologies. In female patients, pelvic pathology accounts for approximately 12% of acute abdominal pain presentations. This case report illustrates an otherwise healthy female who, due to a unique series of events, developed an intrauterine infection that progressed to a rare surgical emergency called a pyometra.

CASE REPORT

A 49-year-old female presented to the ED with diffuse abdominal pain, fevers, myalgia and nausea. The patient had an unsuccessful cervical dilation and endometrial biopsy six days prior to presentation. She was seen in gynecology clinic on post-procedure day two and was started on oral metronidazole for suspected bacterial vaginosis due to a foul-smelling discharge, which subsequently resolved. Pertinent surgical history included an endometrial ablation and bilateral tubal ligation.

On arrival, the patient was mildly tachycardic but otherwise hemodynamically stable and afebrile. She was ill-appearing. On physical exam, severe diffuse abdominal tenderness and guarding was noted. A pelvic exam noted uterine tenderness and scant dark blood in the vaginal vault, but without appreciable discharge. Laboratory results were significant for mild leukocytosis with white blood cell count of 12 x 10^3/µL (ref 3.98-10.04) but otherwise unremarkable.

Her contrasted abdominal and pelvis computed tomography demonstrated a 2.8 cm x 4.8 cm intrauterine fluid collection (Image 1). Ampicillin, clindamycin and gentamycin were started. Gynecology was consulted and patient was taken to the operating room for emergent dilation and curettage. The procedure was unsuccessful due to complete cervical stenosis and severe uterine tissue inflammation and edema. Repeated ultrasound-guided attempts failed, and a non-perforating...
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Diagnosis

A 58-year-old woman presented to the emergency department with abdominal pain. She reported a history of prior pelvic surgeries, including a hysterectomy and bilateral tubal ligation. She had also undergone a recent endometrial biopsy.

Clinical course

On examination, the patient was noted to have tenderness to palpation in the lower abdomen. Laboratory tests revealed a white blood cell count of 12,000/mcl and a serum creatinine of 2.0 mg/dl. Imaging studies showed a mass in the uterus.

Management

The patient was started on intravenous antibiotics and underwent an emergency hysterectomy. The surgeon found a fluid-filled uterus and a chronic hematometra, consistent with a pyometra.

Discussion

Pyometra is a serious, life-threatening infection within the uterus. It is typically caused by anaerobic bacteria growth within a poorly draining uterus. Although pyometra is a well-known entity within the veterinary community due to its frequency in dogs and cattle, it is exceptionally rare in humans. A 2014 literature review found only 81 reported cases from 1949-2015, and noted a mortality rate of 31%.

Streptococcus species, Bacteroides fragilis and Escherichia coli are the most common organisms isolated in pyometra. In the few reported human cases, the majority were caused by cervical obstruction due to malignancy.

Our patient developed a hematometra (retention of blood in the uterus) due to her prior uterine ablation and resultant cervical stenosis. Her prior bilateral tubal ligation, which prevented retrograde expulsion of the menses into the abdominal compartment, likely also contributed to her presentation. The chronic collection of stagnant proteinaceous bodily fluid likely served as an excellent medium for bacteria introduced via instrumentation during the patient’s attempted endometrial biopsy six days prior.

CPC-EM Capsule

What do we already know about this clinical entity?
Pyometra is a serious, life-threatening infection within the uterus. It is typically caused by anaerobic bacteria growth within a poorly draining uterus.

What makes this presentation of disease reportable?
Pyometra, although a well-known entity within the veterinary community due to frequency in dogs and cattle, is exceptionally rare in humans.

What is the major learning point?
Early broad spectrum antibiotics to include anaerobic coverage and urgent surgical intervention are important in the treatment of pyometra.

How might this improve emergency medicine practice?
Increased awareness of rare abdominal pathology will allow for future recognition and management.

Although this patient’s intrauterine cultures grew negative, by the time they were obtained the patient had been on ampicillin, gentamicin, and clindamycin for over 24 hours. The patient’s symptoms resolved and she was discharged on hospital day three with gynecology follow-up.

Conclusion

This case was resultant from the culmination of a unique series of events including prior tubal ligation, cervical stenosis with development of a chronic hematometra and ultimately iatrogenic inoculation via recent instrumentation. As emergency physicians, we are often asked to make decisions on incomplete data. Although the ultimate diagnosis of pyometra was made in the operating room over 24 hours later, this patient benefited from early, broad-spectrum antibiotics and fluid resuscitation. Furthermore, this case illustrates the need to maintain a broad differential when evaluating nontraumatic abdominal pain. In summary, we report an exceptionally rare case of a pyometra in a human. To our knowledge, this has not been reported within the emergency medicine literature.
REFERENCES


