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Pelvic Actinomycosis: A Case Report

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Abstract

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Case Report: We present a case of a 43 year old female G6P6006 with Paragard® intrauterine device (IUD) who presented with purulent umbilical discharge and pelvic pain. Initial imaging was concerned for gastrointestinal or ovarian malignancy. Patient underwent diagnostic laparoscopy with pelvic washings and hysteroscopy D&C. Operative pathology returned with results for actinomyces (IUD likely source).

Conclusion: While it is established IUDs can be associated with actinomyces infection, this case provides an example of how the illness may present clinically, oftentimes mimicking malignancy or tubo-ovarian abscess.

Keywords

infectious disease, pelvic inflammatory disease (PID), actinomyces, intrauterine device

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Cover Page Footnote

JL and RG conceptualized the case report and acquired the case records. JL and RG wrote the manuscript, and NS and EFS edited the manuscript. JL and RG takes responsibility for the contents of this article. There was no funding/financial support for the manuscript.

Pelvic Actinomycosis: A Case Report

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Abstract

Introduction: Actinomycosis is a bacterial infection caused by gram-positive anaerobic bacteria that most commonly infects the cervicofacial region of the body. Rarely, it can infect the pelvis and typically presents in a nonspecific manner.

Case: We present a case of a 43-year-old female G6P6006 with Paragard® intrauterine device (IUD) who presented with purulent umbilical discharge and pelvic pain. Initial imaging was concerned for gastrointestinal or ovarian malignancy. The patient underwent diagnostic laparoscopy with pelvic washings and hysteroscopy D&C. Operative pathology returned with results for actinomycetes (IUD likely source).

Conclusion: While it is established IUDs can be associated with actinomycetes infection, this case provides an example of how the illness may present clinically, often times mimicking malignancy or tubo-ovarian abscess.

Keywords: Infectious disease, pelvic inflammatory disease (PID), actinomycetes, intrauterine device

Introduction

Actinomycetes is a bacteria that can infect multiple sites within the body, with the most common being cervicofacial.^{1,2} In rare cases, actinomycetes can infect the pelvis and typically presents in a nonspecific manner mimicking other more common conditions such as tubo-ovarian abscess or pelvic malignancy.³ Symptoms attributed to actinomycetes pelvic inflammatory disease (PID) are often insidious in onset and can include anorexia, fever, abdominal/pelvic pain, abdominal bloating, distension, vaginal bleeding, or vaginal discharge.^{2,4}

Case

We present a case of a 43-year-old, female G6P6006, with Paragard® intrauterine device (IUD) in place who presented to the emergency department (ED) with purulent discharge from her umbilicus. On initial evaluation, she was afebrile, had a small tender ulcerated region near the umbilicus,

but no peritoneal signs. No laboratory testing was completed, and the patient was given hygiene instructions and discharged to home. One week later, the patient completed routine labs for upcoming scheduled total abdominal hysterectomy and was noted to have a white blood cell (WBC) count of 35 (1000/uL) and was requested to return to the ED for evaluation.

During subsequent ED examination, the patient was afebrile. Physical exam revealed cervical motion tenderness and foul-smelling vaginal discharge. Wet prep was positive for bacterial vaginosis (BV) and sexually transmitted disease (STD) screen was negative. She was admitted for suspected PID and started on intravenous cefoxitin, doxycycline and metronidazole. Computed tomography (CT) scan of the abdomen and pelvis was performed to evaluate for intraabdominal abscess (Figure 1). Results of CT scan showed IUD in place and a large left pelvic mass with extension to the surrounding fat and mesentery. There was extensive peritoneal and omental caking, mild retroperitoneal and common iliac adenopathy, and multiple small hepatic lesions concerning for colon or ovarian malignancy. Of note, pelvic ultrasound one month prior showed normal appearing ovaries.

Due to concern for malignancy, on hospital day 2, the patient underwent diagnostic laparoscopy with pelvic washings and hysteroscopy dilation and curettage (D&C). Intraoperative findings showed purulent cervical discharge and the removed IUD was encased in a thick white exudate. The abdomen had dense adhesions from the omentum to midline abdominal wall without any evidence of ascites or carcinomatosis. The IUD was sent to pathology for gram stain and culture.

While awaiting final surgical pathology, on hospital day 4, sigmoidoscopy was performed to assess for colon cancer and was negative.

On hospital day 5, pelvic washings and endometrial sampling returned with results for actinomycetes species with IUD as the likely source.

Discussion

It is somewhat established that IUDs can be associated with actinomycetes infection. One theory regarding the pathophysiology is that IUDs change the carbohydrate metabolism of endometrial cells which then allow opportunistic organisms, such as actinomycetes, to grow.^{2,5} Additionally, it is known that pelvic actinomycetes can mimic malignancy which was true in this case. However, this case provides an example of how the disease can present in a more nonspecific manner.

Most commonly, PID presents with either cervical, uterine, or adnexal tenderness in addition to any of the following: fever, mucopurulent cervical discharge, abundant WBC on saline microscopy, elevated C reactive protein, or positive gonorrhea/chlamydia infection.² In this case, the patient was afebrile, had negative STD screening, and rather than purulent cervical discharge, presented initially with purulent umbilical discharge.

Conclusion

This case points to the importance of heightened clinical suspicion for infection as well as lower threshold for imaging in patients with nonspecific complaints and known risk factors for PID. Given the rarity of this disease, we hope to add to the current literature with the goal to improve patient care and guide medical decision-making in the approach to the patient with abdominal pain. ■

DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

AUTHOR CONTRIBUTIONS

JL and RG conceptualized the case report and acquired the case records. JL and RG wrote the manuscript, and NS and EFS edited the manuscript. JL and RG takes responsibility for the contents of this article. There was no funding/financial support for the manuscript.



Figure 1: CT scan with pelvic mass (Hospital Day 1)

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