CASE REPORT

Salmonella Tuboovarian Abscess

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SUMMARY

A 38 year old lady with a previous history of an ovarian cyst, presented with a one week history of fever, diarrhoea and intense localized pain in the left iliac fossa. Laparotomy revealed a left tuboovarian abscess with adherent bowels. Pus from the ruptured cyst grew Salmonella enteritidis. Histologically the cyst wall showed haemorrhagic and degenerate endometriotic features. Recovery was uneventful with cefotaxime and metronidazole.

KEY WORDS:
Salmonella, Tuboovarian abscess

INTRODUCTION

Pelvic infection could be due to gonococcal or non-gonococcal on the basis of endocervical or intraperitoneal bacterial cultures. Neisseria gonorrhoea and Chlamydia trachomatis alone are the common aetiological agents in 10-40% of women with these infections, but a wide variety of bacteria have been isolated from the upper genital tract of women with acute PID, including anaerobes, gram negative rods, streptococci and mycoplasmas[1].

Non-typhoidal Salmonella are important foodborne pathogens that cause gastroenteritis which is usually a self limiting condition localized to the gut. Rarely, especially in extremes of age, salmonellae may be invasive and produce bacteraemia by escaping into the blood stream. Rarer still is the incidence of focal infections in distant organs due to these salmonellae and occurs especially in immuno-compromised individuals.

CASE REPORT

A 38 year old housewife presented to the Emergency Department of the University Hospital with a one week history of fever and progressively worsening diarrhoea associated with intense localized pain in the left iliac fossa. The pain was intermittent and colicky in nature and the watery stools were not bloody. She also gave a history of a foul smelling vaginal discharge of two months' duration, which had not been investigated. Her menstrual history was unremarkable and last menstrual period was one month ago. A cesarean section was performed three years prior to admission for a placenta previa. She was known to have a small endometrioma (< 5 cm) for the past three years. She was advised surgery but had declined and remained asymptomatic. There was deep dyspareunia. She did not use IUCD or steroids.

On examination she was toxic looking, febrile with a temperature of 40°C, tachycardia and a blood pressure of 110/70 mm Hg. The lower abdomen was guarded and tenderness was noted at the suprapubic area and in the left iliac fossa. No masses were palpable. Bowel sounds were audible. A vaginal examination revealed a healthy but tender cervix with purulent discharge which was sent for bacteriological culture. The uterus was enlarged and tender and a mass was palpable in the left adnexae.

Preliminary investigation revealed haemoglobin of 11.3 g/dL, a white cell count of 19.5 x 109/L with 93% polymorphs and a random blood sugar of 7.7 mmol/L. Bacteriological cultures of urine and high vaginal swab grew Klebsiella and blood cultures had no growth. Ultrasound of the lower abdomen revealed a tubular cystic lesion at the left adnexa with echogenic debris and layering within it measuring about 8.3 x 3cm. The uterus was normal and there was no free fluid. A provisional diagnosis of left tuboovarian abscess was made.

She was initially given one stat dose of Azithromycin and intravenous Cefoperazone and Metronidazole eight hourly. Two days later as her temperature was still spiking, intravenous gentamicin 80mg 12 hourly was added. After commencement of antimirobial therapy her fever began to settle but remained persistent and low grade.

Because the temperature never quite settled and there were recurrent spikes of fever, it appeared that the patient was not responding adequately to the intravenous antibiotics and thus a laparotomy was performed a week after admission.

At laparotomy the left ovary was enlarged measuring 8x4cm. The left Fallopian tube was swollen, thickened and adherent to the pouch of Douglas (POD). The right ovary was normal in appearance but the right tube was adherent to the POD. The small bowel was adherent to the uterus and the omentum was found to be red and inflamed. There was no gut perforation. During mobilization of the left ovary, the cyst ruptured and fifty mls of pus was drained and sent for bacteriology. A cystectomy and adhesionolysis were performed on the left ovary and resected material was sent for histology. Peritoneal washout was carried out and a latex drain inserted. In view of the pelvic sepsis, she was given a combination of cefuroxime and metronidazole post operatively for next seven days (sensitive to the Salmonella enteridis). She became afebrile on the second post-operative day and remained so until discharge from hospital a week later.

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The pus from the tuboovarian abscess yielded a heavy growth of Salmonella enteritidis. Histologically the cyst in the left ovary confirmed endometriosis with features compatible with haemorrhage and degeneration. No evidence of malignancy was seen. Post-operative stool cultures were negative for Salmonella. She recovered without event.

DISCUSSION

Salmonella typhi is a well known human pathogen giving rise to systemic disease but non-typhoidal salmonellae or "minor salmonellae" has a tendency to localize to the sites of pre-existing disease and in gynaecological patients the target have especially been endometriotic ovaries[2]. The patient described here presented with a history of an endometrioma for three years and a recent history of fever and diarrhoea. It is noteworthy that our patient's resected ovarian cyst was described histologically as endometriotic, which may have predisposed the patient to a tuboovarian abscess by the salmonella organism.

In the female genital tract, organisms may reach the ovaries by the ascending route, through direct contact with the inflamed bowel wall or by haematogenous spread. In our patient the haematogenous route was highly likely as she had a definite history of diarrhoea and fever which suggests a transient and undetected bacteraemic phase during which the salmonellae may have reached the cystic left ovary. The endometriotic ovary with a collection of stagnant blood would have been a likely site for the salmonellae to establish themselves. Unfortunately no stool cultures were processed during the diarrhoeic period or before surgery. In our hospital Salmonella enteritidis is the most common species isolated from non-typhoidal bacteraemic patients[3].

The microbiology of pelvic abscess guides treatment. Initial therapy must include drugs effective against the major putative pathogens, and since the cause in any case will not be known initially, a broad spectrum regimen active for gonococcal and non-gonococcal PID including anaerobic organisms should be selected. Although ciprofloxacin is reported to be the preferred antimicrobial for PID caused by salmonellae[2], we treated our patient successfully with cefuroxime, as the organism was exquisitely sensitive to this antibiotic, together with metronidazole. This report of a gastrointestinal pathogen causing a pelvic infection suggests that these agents should be considered as potential etiologic organisms in patients presenting with PID and gastroenteritis[1].

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