

## Ruptured pyometra with peritonitis

P Keerthi Bharathi<sup>1</sup>, C Vikas<sup>2</sup>, T Ramesh<sup>3</sup>

<sup>1</sup>Postgraduate student, <sup>2</sup>Professor, <sup>3</sup>Professor and Head, Department of Radiology, Prathima Institute of Medical Sciences, Karimnagar, Telangana, India.

Address for correspondence: Dr.P.Keerthi Bharathi , Postgraduate student, Department of Radiology, Prathima Institute of Medical Sciences, Karimnagar, Telangana, India.

Email : drkeerthipendyala@gmail.com

### ABSTRACT

Pyometra is the accumulation of purulent material (pus) in the uterine cavity, and spontaneous perforation of pyometra resulting in generalized diffuse peritonitis is extremely uncommon. The clinical picture is similar to peritonitis arising from intestinal perforation. In most cases, a correct and definitive diagnosis can be made only by laparotomy. Only a few cases have been recorded in the English medical literature, most of which were associated with gynaecological malignancy. We have recently treated a patient with peritonitis due to ruptured pyometra, in which there was no evidence of malignancy or other cervical disease. This paper reports an additional case of spontaneous uterine rupture in an elderly postmenopausal woman presenting with an acute abdomen.

**Keywords:** Pyometra, peritonitis, postmenopausal

### INTRODUCTION

Pyometra is an uncommon condition with incidence of 0.1 to 0.5% of all gynecological patients and 13.6% of elderly gynecological patients<sup>1</sup>. The most common cause of pyometra is malignant diseases of genital tract and the consequences of their treatment (radiotherapy). Other causes are benign tumors like leiomyoma, endometrial polyps, senile cervicitis, cervical occlusion after surgery, puerperal infections, and congenital cervical anomalies<sup>2</sup>. Spontaneous perforation of uterus is an extremely rare complication of pyometra<sup>3</sup>. Pyometra develops gradually and, as it progresses, may enlarge the uterus, causing degenerative changes that may rarely lead to sloughing of the uterine wall with subsequent spillage of contents into the abdominal cavity<sup>4</sup>.

### CASE REPORT

A 65 year old postmenopausal female came with complaints of lower abdominal pain, distension since 3 days and high grade fever with chills since 5 days. There was no history of vaginal discharge. On examination, diffuse tenderness of abdomen was noted more in hypogastrium with guarding and rigidity. Her vitals were stable except for mild tachycardia (pulse rate-95 beats/min). Blood pressure was 110/80 mmHg and temperature was 99°F.

Laboratory investigations revealed neutrophilic leukocytosis (white cell count of 21,000/cc with 94 neutrophils), elevated ESR of 35 mm/hour, and a low hemoglobin 9.1 gm/dL.

On erect abdomen radiography, multiple air-fluid levels were noted suggesting a generalized ileus [Figure 1]. However, there was no free air under the diaphragm. Ultrasonography demonstrated mild free fluid in pelvis and pelvic organs were poorly visualized. Emergency CECT abdomen and pelvis was performed which showed well defined collection with air pockets in endometrial cavity communicating with the collection in pelvis through a defect in anterior uterine wall [Figure 2] and [Figure 3]. Intense fat stranding was noted surrounding the pelvic collection [Figure 4]. Diagnosis of ruptured pyometra with peritonitis was made.

An emergency exploratory laparotomy was done and the diagnosis of ruptured pyometra with localized peritonitis was confirmed. About 200 cc of pus was drained followed by subtotal abdominal hysterectomy. Histopathology revealed acute suppurative inflammation of the uterus.



Figure 1



Figure 2

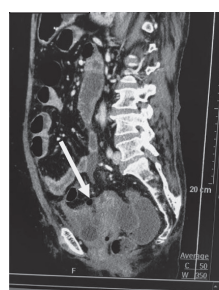


Figure 3

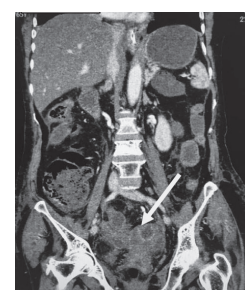


Figure 4

## DISCUSSION

Pyometra is defined as the collection of pus in the uterine cavity. The main cause of pyometra is cervical canal occlusion usually secondary to carcinoma cervix; however, other benign causes are endometrial polyp, leiomyoma, infection especially senile cervicitis, a forgotten intrauterine device, cervical occlusion after surgery, and radiation. The usual presentation of pyometra is a whitish discharge per vaginum. Sometimes the patients may present with the clinical triad of abdominal pain, purulent vaginal discharge, and postmenopausal bleeding. Nearly more than 50% of nonperforated pyometra patients are asymptomatic<sup>4</sup>. The most frequent preoperative diagnosis are generalized peritonitis, pneumoperitoneum and perforated gastrointestinal (GI) tract<sup>5</sup>.

Spontaneously perforated pyometra is difficult to diagnose preoperatively. Clinically it commonly mimics the symptoms of gastrointestinal tract diseases. It is mentioned in prior case reports that, in most cases, a correct and definite diagnosis of spontaneous rupture pyometra was made only by exploratory laparotomy<sup>6</sup>.

Preoperative diagnosis of perforated pyometra on CECT was made in only two cases in which CT suggested the diagnosis and surgical intervention was performed. Abdominal USG has high sensitivity in assessing pyometra, but it plays a limited role in the diagnosis of perforated pyometra because of its inability to demonstrate the uterine breach and the limited sonographic window available due to pneumoperitoneum. However, this limitation can be overcome by TVS for detecting uterine defect and using dynamic TVS for demonstrating the real time movement of the endometrial collection through the defect into peritoneal collection<sup>7</sup>.

In our case, the patient presented with symptoms of peritonitis but no vaginal discharge/bleeding. Plain abdominal radiography revealed multiple air fluid levels and ultrasonography was insensitive due to gaseous distension of abdomen. Emergency CECT demonstrated the pyometra and a defect in the anterior wall of the uterus. The findings were confirmed on subsequent emergency laparotomy, which revealed pyometra, uterine perforation in anterior wall, and localized peritonitis.

The treatment of spontaneously ruptured pyometra is emergency laparotomy, peritoneal lavage and drainage, and hysterectomy. In cases of preserve fertility, irrigation of abdominal cavity after evacuation of the uterine cavity and the repair of uterine perforation should be considered<sup>8</sup>.

## CONCLUSION

Although spontaneous rupture of pyometra is rare, it should be kept in mind as a differential diagnosis in postmenopausal women presenting with acute abdomen. In

cases when USG is insensitive CECT is helpful in diagnosis of ruptured pyometra and will give the accurate diagnosis so as to help with early intervention and proper treatment to reduce the associated morbidity and mortality.

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