Case Report

Spontaneous uterine perforation complicating pyometra – A case report

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Abstract

A 60 year old post menopausal woman para 11+2, was brought to emergency with acute abdomen, abdominal distension with history of fever and bleeding per vagina. On examination she was afebrile with stable vitals, abdomen distended with guarding and rigidity. Cervix was pulled up, hard and irregular. Uterus size could not be ascertained and had fullness in the fornices. Paracentesis showed foul smelling pus. Laparotomy revealed spontaneous perforation of pyometra, complicating cervical malignancy. Spontaneous perforation of pyometra is an exceptionally rare entity, with only about 50 case reports being documented as per recent review of literature. Pyometra, accumulation of pus in the uterine cavity resulting from interference with its natural drainage owing to either benign or malignant aetiology, has a reported incidence of 0.1% to 0.5%. Spontaneous perforation of pyometra and subsequent diffuse peritonitis are even rare, with the incidence being 0.01%–0.05%. Though peritonitis due to pyometra can be clinically diagnosed, spontaneous perforation of pyometra is usually beyond clinical suspicion. Multi – detector CT with sagittal and coronal reformatted images could play an important role in the diagnosis of ruptured pyometra.

Key Word: pyometra, spontaneous uterine perforation.

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INTRODUCTION

Pyometra or pyometrium, is defined as the accumulation of pus in the uterine cavity resulting from interference with its natural drainage, owing to either benign or malignant aetiology. Its reported incidence is 0.1% to 0.5% in gynaecologic patients. However, the incidence increases to 13.6% in elderly women. A spontaneous perforation of pyometra and subsequent diffuse peritonitis are rare, with the incidence being about 0.01%–0.05% [1]. Here we present a case of an elderly postmenopausal woman presenting with acute abdomen, diagnosed to be a case of pyoperitoneum secondary to pyometra with suspected cervical growth. On laparotomy, spontaneous perforation of pyometra was detected along with pyoperitoneum and HPE showed keratinising squamous cell carcinoma of cervix.

CASE REPORT

A 60 year old woman, para 11+2, post menopausal (since12 years), was brought to emergency with the complaints of severe pain abdomen and distension since two days. On further eliciting the history, she had an episode of bleeding per vagina 25 days back lasting for 6-7 days, moderate in amount, for which she did not approach for any medical advice. Patient also complained of watery discharge per vagina since 1 month which turned out to be foul smelling since last 1 week, accompanied by episodes of on and off fever. There was history of sudden loss of weight observed in the past two months. She was a known case of spinal tuberculosis, completed 6 months of ATT and was confirmed to be disease free one and a half year back. On examination patient was thin built, ill looking, afebrile with stable vitals. Abdominal examination revealed mild distension, tenderness with guarding and rigidity. On per speculum, cervix was difficult to visualise and was pulled up. Foul smelling discharge was present. On per vaginal examination, cervix felt firm and irregular with fullness in the fornices and pouch of Douglas. However, size of the uterus could not be assessed. Per rectal examination ruled

out parametrium and rectal mucosal involvement. Paracentesis revealed foul smelling pus. On further investigating, Hb: 11.9%, total leucocyte count : 6100/dl, differential count had 88% of neutrophils and 5% of lymphocytes.USG revealed hetero echoic collection in the uterine cavity, measuring approximately 5.3 x 2.3 cm with central hyperechoic areas and moderate echogenic free fluid collection with multiple air foci in the peritoneal cavity suggestive of hollow viscous perforation. The case was diagnosed as pyoperitoneum due to pyometra secondary to suspected cervical growth. Initial management included Ryles tube aspiration, IV fluids and broad spectrum antibiotics. Patient was taken up for emergency exploratory laparotomy after taking high risk consent. On laparotomy pyoperitoneum was confirmed and 1500ml of pus was drained. Peritoneal irrigation with normal saline was done. Uterus around 10 weeks sized, with a rent in the anterior wall of the body, from which oozing of pus was noted. The rent had a blackish necrotic area surrounding the margin. Both fallopian tubes were congested and ovaries were atrophic. Panhysterectomy was done as uterus was full of pus. Exploration of the bowel revealed no other perforation or adhesion. Cut section of the uterus revealed blackish necrotic tissue filling the entire uterine cavity. Cervix had irregular surface with stenosed canal.

Figure 1

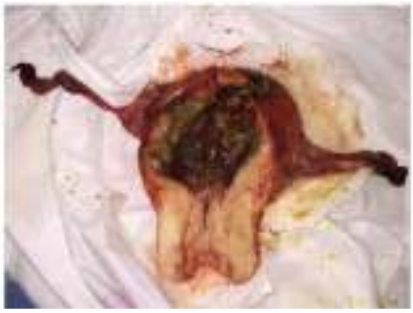

Figure 2

Figure 3

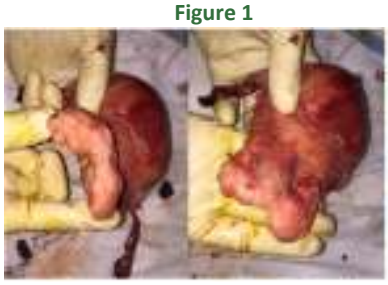

Figure 4

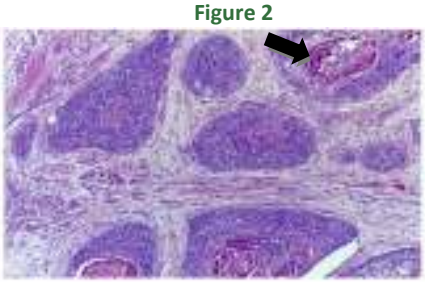

Figure 5

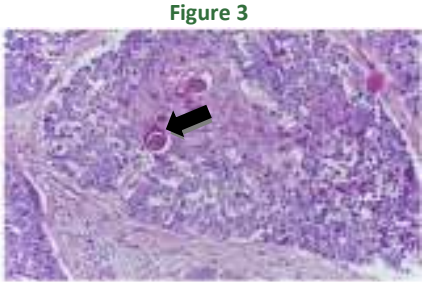

Figure 6

Legend

Figure 1: Picture showing rent in the uterus with pus oozing out

Figure 2: Cut section of the uterus showing blackish necrotic tissue filling the entire uterine cavity and stenosed cervical canal

Figure 3: cut section showing cervical stenosis more clearly

Figure 4: Cervix : lips and the posterior surface showing irregular surface.

Figure 5: Photomicrograph from the tumour shows infiltrating islands of malignant squamous cells with central keratin pearls(arrow) (HandE, 100X).

Figure 6: Photomicrograph of the tumor showing keratinising squamous cell carcinoma with keratin pearls(arrow) (HandE, 30x)

Following laparotomy, patient was shifted to ICU. She further deteriorated and expired after 10 hours, due to septicaemia.HPE of the specimen confirmed keratinising squamous cell carcinoma infiltrating the entire thickness of the cervical wall, totally occluding the cervical canal. Entire endometrium is sloughed off with cavity filled with purulent material with no tumour infiltration in the myometrium.

DISCUSSION

Pyometra usually occurs in postmenopausal females due to impaired drainage of uterine cavity, resulting from benign or malignant lesions or surgical complications[2]. Stenosis of cervical canal and degenerative or necrotic processes in the uterine wall leads to spontaneous perforation of pyometra[3]. Perforation can occur in the presence of cervical or endometrial carcinoma or forgotten IUCD [2]. Malignancy may be associated in 35% of cases.[2] Aung C *et al*[4], have stated that cervical malignancy is the most common cause a spontaneous

uterine perforation. The classic triad of pyometra is lower abdominal pain, purulent vaginal discharge and postmenopausal bleeding. However, more than 50% of all cases are asymptomatic.[2] In our case, laparotomy was done for pyoperitoneum and spontaneous perforation was detected intraoperatively, which is difficult to detect clinically. Sonography has limited role, but Multi – detecter CT may detect ruptured pyometra.[5] Kitai *et al*[6], reported that diagnosis of spontaneous perforation of pyometra is rarely made preoperatively. Treatment of ruptured pyometra in patients with cervical cancer depends on the clinical condition of the patient and the preoperative diagnosis. The best approach for ruptured pyometra is emergency laparotomy, irrigation of the peritoneal cavity and then simple hysterectomy.[6] Kitai *et al* [6] reported, to date, about 50 cases of spontaneous perforation of pyometra have been documented in the English literature. In an extensive review of literature conducted by them from 2004 to 2013, around 42 cases were found documented and the median age was 75 years (range, 40–93). The common clinical symptoms were abdominal pain (41 cases, 97.6%), fever (23 cases, 54.8%), and vomiting (13 cases, 31.0%). No case had genital bleeding and five cases (11.9%) were in shock at the time of admission.In their review, 11 cases (26.2%) were associated with malignant tumour, of which eight (72.7%) had cervical cancer and three (27.3%) had sigmoid colon cancer. An accurate preoperative diagnosis was made in only 13 cases (30.9%). The other preoperative diagnoses included perforation of the gastrointestinal tract in 20 cases (47.6%), generalized peritonitis in five cases (11.9%), appendicitis in one case (2.4%), pneumo- peritoneum in one case (2.4%), mesenteric artery ischemia in one case (2.4%), and incarcerated hernia in one case (2.4%). The study suggested a low preoperative diagnostic rate as experienced in our case. Laparotomy was performed in all 42 cases as an initial treatment. Total, subtotal, or supravaginal hysterectomies were performed in 37 cases (88.1%), drainage in four cases (9.5%), and surgical closure of perforated uterine wall in one case (2.4%). Data regarding the perforation site were available in 35 cases. The sites of uterine perforation were, the fundus in 27 cases (77.1%), anterior in five cases (14.3%), and posterior in three cases (8.6%). Prognoses were documented in 33 cases. The total number of patients who died was five (15.2%), of which 4 were immunocompromised. This suggests that immunocompromised hosts represent a group at high risk for spontaneous perforation of pyometra.[6] In our case, patient's poor immune status can be explained by the underlying malignancy. Takahiro Yamada *et al* [7] have stated that, mortality from spontaneously perforated pyometra exceeds 40%. Saha *et al*, reported that 73% of the nonmalignant cases and 33% of malignant cases had favourable prognoses.[2]

CONCLUSION

Although rare, spontaneous perforation of pyometra should be kept as a differential diagnosis in postmenopausal women presenting with pyoperitoneum. Laparotomy is confirmatory, USG has limitations, CT may be helpful. Correct diagnosis, early intervention, intensive pre- and postoperative care and proper antibiotic coverage can reduce morbidity and mortality. However, this condition can be life threatening for immunocompromised hosts or those with underlying malignancy, due to septicaemia.

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