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**CASE REPORT****Pyometra**

Dimas Satria Yolanda

*Affiliations* : Resident of Obstetrics and Gynecology, Faculty of Medicine, Andalas University, Dr. M. Djamil Central General Hospital Padang

*Correspondence*: Dimas Satria Yolanda, email : [dmasyolanda@gmail.com](mailto:dmasyolanda@gmail.com), Hp: 081367598130

**Abstract**

**Background** : Pyometra is a rare condition with an incidence ranging from 0.01 - 0.5% among all gynecological patients.<sup>2</sup> Pyometra is known to be rare in the general population and is more common in elderly women.<sup>3</sup> In postmenopausal elderly patients, the incidence increases to 13.6%.<sup>4</sup> The classic triometry of pyometra is postmenopausal bleeding, purulent vaginal discharge, and lower abdominal pain,

**Objective** : Report the handling of pyometra cases

**Case Report** : reportedly a 73-year-old woman came to the ER of RSUP Dr. M. Djamil on December 10, 2018 at 14.30, a referral from BMC Padang hospital with a diagnosis of abdominal pain susp. intraabdominal tumor. Ultrasound examination showed the uterus in normal size which was not in accordance with the picture of pyometra. Laparotomy with adhesionolysis and aspiration of pus in the patient was performed. This is appropriate for evacuating the pyometra mass in this case.

**Conclusion** : In this case, to overcome the infection and evacuate the masses. The recommended antibiotics are broad-spectrum antibiotics, such as penicillin, piperacillin tazobactam, imipenem, meropenem, metronidazole, and vancomycin. Mass evacuation can be done by laparotomy or curettage accompanied by cervical dilatation.

**Keywords**: Pyometra, pascamenopause

**INTRODUCTION**

Pyometra is defined as a collection of purulent fluid in the uterine cavity. pyometra is a rare case, but it is associated with malignancy and perforation of the uterus<sup>1</sup>. Based on retrospective studies in developing countries, pyometra occurs in 0.038% of gynecological cases.<sup>8</sup> From various studies, reported incidence varies between 0.1% to 0.5% in gynecological patients. However, the incidence increases to 13.6% in elderly women.<sup>2</sup>

The average age of presentation is 65 years and less than one third of cases are associated with underlying malignancy. Based on its etiology, 22.2% of pyometra cases are related to malignancy, 3.7% with genital tract abnormalities and 74.1% idiopathic.<sup>3</sup> Fear of pyometra is perforation.<sup>4-5</sup> It is estimated that spontaneous perforation of pyometra occurs in approximately 18.5% of cases. The emergence of perforation in pyometra will increase mortality significantly.<sup>6</sup> Elderly and postmenopausal are the most dominant risk factors in pyometra due to hormonal changes and uterine wall structure that occur.<sup>7,6</sup> The most common cause of pyometra in postmenopausal patients is the presence of a tumor (malignant or benign) in the uterus or cervix and the appearance of cervicitis due to radiation



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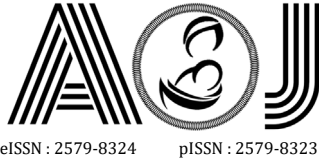
in the underlying tumor. The most common microorganism causing pyometra isolated from pus removal from the uterus is *Escherichia coli*, but anaerobic microorganisms also play a large role, with *Bacteroides fragilis* being the most common anaerobic bacterium.<sup>8</sup> However, there are also several case reports regarding the etiology of other bacteria and it is also known that in 8-17% of cases sterile culture results are encountered.<sup>9,10</sup> Pyometra occurs due to obstruction in the drainage channels of the uterine cavity. Cervical stenosis most often involves the internal os. In postmenopausal women, when the endometrium loses its resistance and is no longer able to optimize gradual drainage, coupled with cervical constriction and atrophy of the myometrium, infection that successfully enters the uterus will settle as senile endometritis. The resulting pus will accumulate in the uterus and form pyometra.<sup>9,10</sup>

It is known that the length of use of IUD is related with the risk of infection. An infection that occurs due to IUD causes the occurrence of endometritis. In the area of IUD that are in contact with endometrium, obtained a local change in a form of inflammation cells accumulation. This inflammation cells accumulation will later cause the occurrence of local necrosis which may become a good area for the growth of bacteria into endometritis. Endometritis that has become worse and accompanied with the presence of exist blockage from the endometrium will cause the occurrence of pyometra.<sup>11,12</sup>

## CASE REPORT

A patient, female, aged 73 years came to the ER of RSUP Dr. M. Djamil on December 10, 2018 at 14.30, a referral from BMC Padang hospital with a diagnosis of abdominal pain ec susp. intraabdominal tumor. The patient felt abdominal pain since 1 week ago periodically. The patient cannot indicate the location of the pain. Bleeding from the vagina (-). The patient has been experiencing menopause since 30 years ago. History of extreme weight loss (-). History of fever, trauma, and fluor albus is (-). History of post coitus (-) bleeding, dyspareunia (-). Urinate and defecate normally. The patient was married and had 7 children. The patient has been using an IUD for about 30 years and has never been extracted. History of smoking habits (-) alcohol (-) drugs (-). On physical examination of the abdomen found, there was no enlargement, tenderness, and muscular defans. On genital examination when inspekulo sondase + 4 cm Af, it appeared that there was a greenish discharge out of OUE and there was a rope that came out of OUE.

Laboratory examination of leukocytes was 18,120. Ultrasound results obtained uterine size, within normal limits, there was a hypoechoic picture in the uterus, left and right adnexa was difficult to assess with the impression of Susp. Intra uterine fluid.



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**Figure 1.** USG results 10/12/2018

Then a CT scan was examined with the conclusion of suggestive pyometra with low obstructive partial ileus and bilateral hydronephrosis ec ureterolithiasis and vesica hydrops ec susp sludge.



**Figure 2.** CT scan results at BM hospital

This patient was diagnosed with an observation of abdominal pain ex susp. tumor

**Figure 3.** Intra uterine IUD after extraction

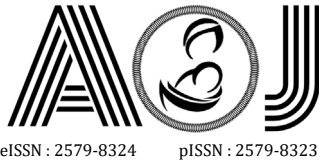
## DISCUSSION

Epidemiologically, pyometra is more commonly found in women who have gone through menopause. This is consistent with intra-abdominal dd/ pyometra + hypokalemia + hypoalbuminemia + IUD in situ. Therapy given: GA Control, VS, General improvement, Informed consent, Consult with internal medicine, USG gynecology, Culture, IUD Extraction, pronalges supp and ceftriaxone 2x gr (IV). On December 18, 2018 at 08.00 in the morning a laparotomy was done with an intraabdominal mass adhesive case, where the patient was 73 years old. In the patient, one of the predisposing factors for pyometra was the presence of an IUD that has not been removed 30 years ago. Prolonged use of an IUD increased the risk of endometritis. Progressive endometritis accompanied by obstruction of the endometrial outlet can cause pyometra. Endometrial outlet obstruction in the patient may be due to anatomic changes after menopause that cause narrowing of the cervix and myometrial atrophy, coupled with decreased endometrial resistance, therefore pus drainage cannot be optimally performed.

In the literature it is mentioned that the bacteria that cause pyometra are commonly *E. coli* and *B. fragilis*. In line with the literature, in this case *E. coli* was found as a cause of pyometra.

During anamnesis, the patient complained of stomach hurting. Whereas in the physical examination, obtained a green vaginal discharge. Three of the four typical symptoms of pyometra have been fulfilled, namely post-menopause, thick vaginal fluid, and lower abdominal pain. Only postmenopausal bleeding that was not met.

Ultrasound examination shows the uterus in normal size which is not in accordance with the description of pyometra. However, there are intrauterine hypoechoic lesions that correspond to pyometra. Meanwhile, a CT scan of the patient's abdomen showed a picture



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of an enlarged uterus accompanied by a large hypodense lesion with fluid density and pneumatization. This picture is in accordance with the description of pyometra.

The results of the patient's laboratory examination showed the presence of leukocytosis, which was 18,120/ mm<sup>3</sup>. Although leukocytosis did not show the characteristics of pyometra, these results indicated that the patient had an infection.

**Table 1.** The diagnosis of pyometra

Predisposing factors	Menopause There is an IUD that hasn't been revoked since 30 years ago
Anamnesis	Stomach ache
Pyhysical examination	Green vaginal discharge
USG	Intrauterine hyperechoic lesions
CT-scan	The uterus enlarges with large hypodense lesions with fluid density and pneumatization
Laboratory	Leukocytosis
Culture	E. coli

The patient obtained broad-spectrum antibiotics, namely Ceftazidim. Although not an antibiotic of choice in pyometra, Ceftazidim has proven to be sensitive in examining antibiotic resistance testing in the patient. Therefore Ceftazidim was the right choice in this case.

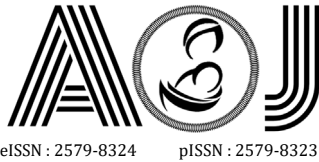
In addition, laparotomy was performed with adhesionolysis and aspiration of pus in the patient. This is appropriate for evacuating the pyometra mass in this case. Another less invasive method is cervical dilatation followed by drainage using a foley catheter and curettage.

**CONCLUSION**

Pyometra is a very rare case, usually occurs in women who have experienced menopause. Predisposing factors for pyometra are the presence of a uterine or cervical tumor, cervicitis due to radiotherapy, stenosis serviks, congenital abnormalities, and IUDs that have not been removed. The most common bacteria that cause pyometra are E.coli and B.fragilis.

On anamnese and physical examination, lower abdominal pain, postmenopausal bleeding, viscous vaginal fluid, and postmenopausal patients can be found. These four things are typical signs of pyometra. Nevertheless, about 50% of patients do not show any symptoms. Therefore, the diagnosis requires investigations. Investigations in pyometra include intravaginal ultrasound and abdominal CT-scan.

The management of pyometra aims to overcome infections and evacuate the masses. The recommended antibiotics are broad-spectrum antibiotics, such as penicillin, piperacillin tazobactam, imipenem, meropenem, metronidazole, and vancomycin. Mass evacuation can be done by laparotomy or curettage accompanied by cervical dilatation.



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Pyometra has a poor mortality rate due to sepsis and uterine rupture. In addition, pyometra is often undiagnosed because this case is very rare. Therefore, proper diagnosis is needed to improve the patient's prognosis.

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