

A Case of Postmenopausal Pyometra Caused By Endometrial Tuberculosis

Usha R Patel¹, Ranjana Sharma², Deep shikha Arora³

¹Post Graduate Student, Department of Obstetrics & Gynaecology, Indraprastha Apollo Hospitals, New Delhi.

²Senior Consultant, Department of Obstetrics & Gynaecology, Indraprastha Apollo Hospitals, New Delhi.

³Senior Consultant, Department of Pathology, Indraprastha Apollo Hospitals, New Delhi.

Abstract: A postmenopausal pyometra caused by *Mycobacterium tuberculosis* is an extremely rare disease. Here, we present a case of a postmenopausal woman with pyometra caused by endometrial tuberculosis. Patient was given empirical antibiotic therapy but she did not respond to it and there was persistence of symptoms. Pus was drained through stenotic canal after cervical dilatation. On endometrial curettage, endometrial tissue was obtained and sent for histopathological examination. The diagnosis of endometrial tuberculosis was made on histopathological examination. The patient was put on antitubercular treatment. She is recovering well without further development of pyometra.

Keywords: Postmenopausal; Pyometra; Endometrial tuberculosis

I. Introduction:

Pyometra, an accumulation of pus in the uterine cavity, is an uncommon condition that has a reported incidence of 0.01%-0.5% in gynecologic patients¹. Apart from its association with malignant disease, spontaneous rupture of pyometra can result in significant morbidity and mortality. If pyometra is diagnosed before rupture, dilatation of the cervix and drainage of pus is the treatment of choice. The most common organisms isolated through the bacteriologic study are *Escherichia coli* and *Bacteroides fragilis*². Rarely, *Mycobacterium tuberculosis* may also be isolated in women of reproductive age group however, it is rare in postmenopausal women.

II. Case Report

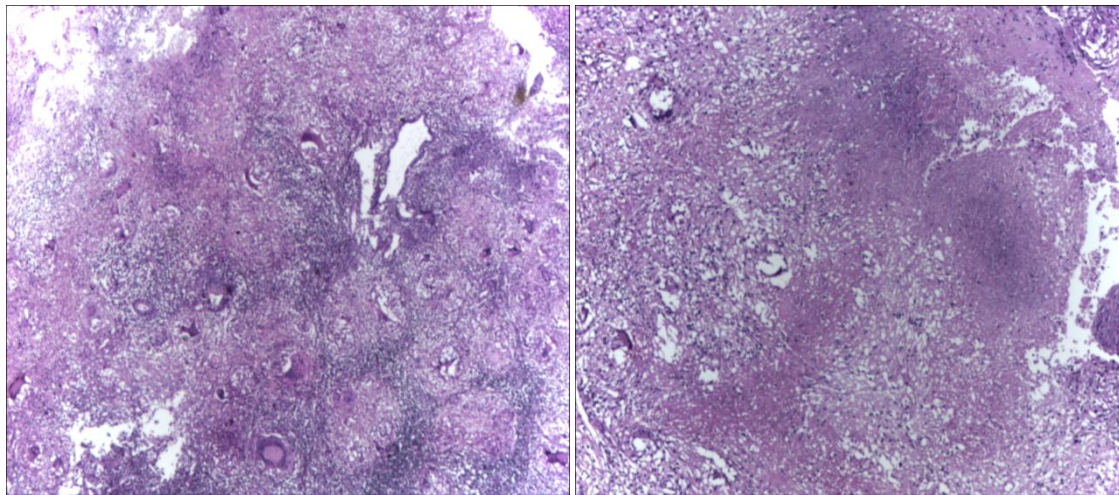
A 68-year-old woman, who presented with a vague lower abdominal pain for nine months and low grade, on and off fever for 8 months. She attained menopause at 50 years of age and never took hormone replacement therapy. There was no history of Diabetes, Hypertension, Tuberculosis in the past and also in her family. On pelvic examination the uterus was soft bulky and boggy. There was an atrophic lesion with desquamation at the vaginal introitus. The patient was given an antibiotic treatment for 14 days but her symptoms were not relieved. Her Pap test result was normal. The basic laboratory tests screening, including a complete blood count, serum electrolytes, hepatic function tests, urinalysis, human immunodeficiency virus (HIV) antibody test, thyroid function test, chest X ray and electrocardiogram were done and found to be normal.



Fig. 1. A 68-year-old postmenopausal woman diagnosed with pyometra, (A) Transvaginal pelvic ultrasound shows a dilated fluid filled endometrial cavity.

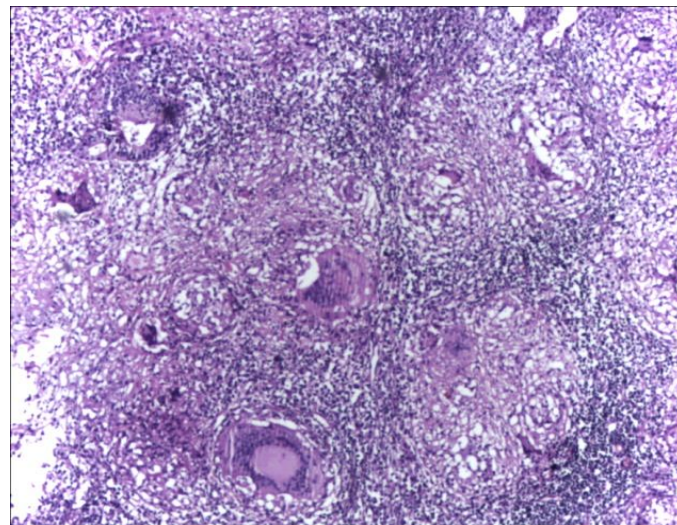
Examination under anaesthesia, drainage of suspected pyometra and endometrial curettage was planned. Intra-operatively the cervical os found to be stenosed and the uterus was boggy and soft in consistency.

With the help of Hegar's dilators serial dilatation of the stenotic os was performed and about 300 cc of thick yellowish, non foul smelling purulent fluid was drained using a suction cannula. Endometrial curettage was performed and the curetted material sent for Histopathological Examination.

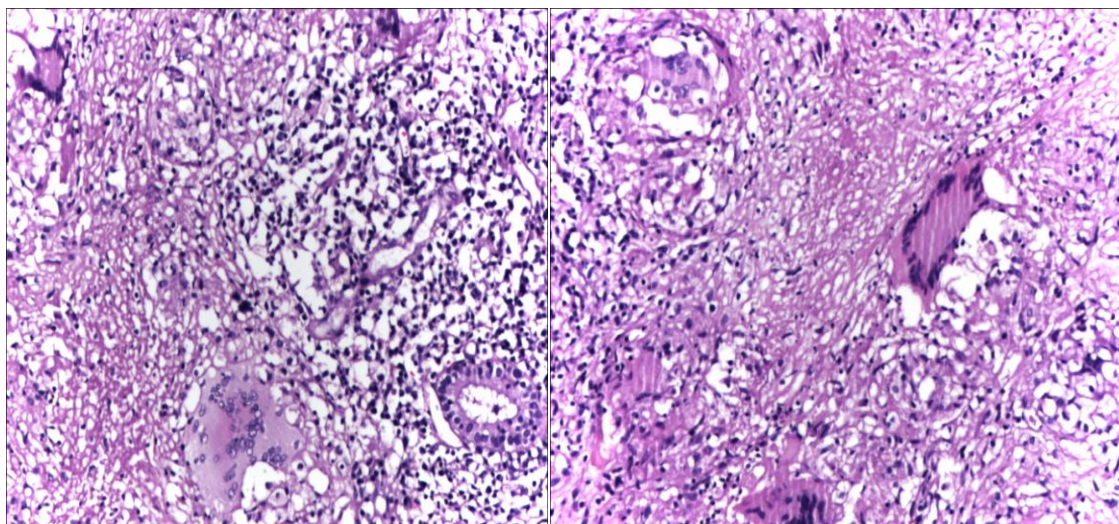


(A)

(B)



(C)



(D)

(E)

Fig. 2. Endometrial tissue in (A) & (B): H&E: 4X - shows severe chronic granulomatous inflammatory cell infiltrate with many poorly formed granulations large areas of Caseous necrosis. In (C): H&E: 20X – shows many poorly formed epitheloid cell granulations with presence of Langerhans type giant cells. In (D) & (E): H&E: 40X – shows Caseous necrosis and Langerhans type giant cells.

No acid-fast bacilli were identified on histopathological examination(HPE). Based on HPE report showing a caseous necrosis with epitheloid cell granulations with Langerhans type giant cells, four drug antitubercular treatment (Isoniazid, Rifampicin, Pyrazinamide, Ethambutol) was started for 2 months followed by 2 drugs (Isoniazid and Rifampicin) for 4 months. On follow up after 1 month, 3 months and 5 months , she was generally well with no history of fever or any abdominal complaints.

III. Discussion

Pyometra is a purulent fluid accumulation within the uterine cavity. Most common cause in postmenopausal women is cervical stenosis at the level of internal os. The causes of cervical stenosis are infection, malignancy, and iatrogenic (i.e. surgery radiation therapy)¹. Pyometra is an important gynecological condition because it is frequently associated with malignancy, though it is a rare entity. If it remains undiagnosed, it leads to rupture causing significant morbidity and mortality. Cervical dilatation, drainage of pus with histopathological examination of the curetted material is the treatment of choice to rule out the possibility of malignancy.

Tuberculosis is a chronic infectious disease and still a serious health problem worldwide. About 8 million people develop active TB, with 1.6 million dying each year because of TB according to the World Health Organization³. In Africa and Asia, more than 95% of new TB cases and deaths occur mainly due to co-infection with HIV and multidrug resistant-TB, including extensively drug resistant-TB^{3,4}. Primarily, Tuberculosis affects the lungs, but extrapulmonary organs involvement such as meninges, bones, skin, joints, genitourinary tract, and abdominal cavity have been seen in about 30 to 33% cases with pulmonary TB.

The incidence of genital TB is increasing in developing countries and is about 15-17%. In genital TB, endosalpinx is the primary site of involvement in 90-100% of cases and then it can spread to the peritoneum, endometrium , ovaries, cervix, and vagina⁵. In all cases of genital TB, the endometrium and the ovary are affected in 50%- 60% and 20%-30%, respectively. Most common presentation in postmenopausal women with endometrial TB is postmenopausal bleeding.

Tubercular pyometra in postmenopausal women is extremely rare. An atrophic endometrium which has poor vascular support to the growth of Mycobacterium could be a possible explanation, though exact reason is not known⁶. In most of the affected women genital TB remains undiagnosed because it is either asymptomatic or associated with some vague symptoms like lower abdominal discomfort and abnormal vaginal discharge.

The Mantoux test has a specificity of 80% and sensitivity of 55% in diagnosis of female genital TB⁷. The white blood cell count, C-reactive protein and erythrocyte sedimentation rate may be raised in genital TB. An ultrasound of the pelvis may be helpful to demonstrate evidence of endometrial thickening or pyometra, as well as ascites and pelvic mass in case of significant peritoneal disease, although imaging study is not a confirmative test for genital TB. In most of the cases of genital TB, a chest X-ray is normal however, it is still mandatory to perform a chest X ray to identify the primary focus as genital TB occurs from reactivation of primary focus and its hematogenous spread. The confirmatory test is histopathological examination of the affected tissue showing a caseating granuloma with or without Langerhans' cells. Molecular biological testing by PCR also helps in the presumptive diagnosis of endometrial TB⁷. But the detection of tuberculosis bacilli in endometrial specimen cultures is the only definite diagnostic modalities. In a symptomatic patients, a negative biopsy must be followed by a fractional curettage as there is 10% chance of false negative rate.

To reduce disease and treatment related morbidity and mortality, early diagnosis of TB both pulmonary and extrapulmonary is important. A six- to nine-month regimen (two months of isoniazid [INH], rifampin, pyrazinamide, and ethambutol, followed by four to seven months of isoniazid and rifampin) is recommended as initial therapy for all forms of pulmonary and extrapulmonary tuberculosis unless the organisms are known or strongly suspected to be resistant to the first-line drugs⁸.

The surgical therapy in the form of endometrial sampling and drainage of pyometra may be considered if patient does not respond to the empirical antibiotic therapy or there is persistence of mass or recurrence of pyometra after 6 months of medical therapy.

References

- [1]. Chan LY, Lau TK, Wong SF, Yuen PM. Pyometra. What is its clinical significance? *J Reprod Med* 2001;46:952-6.
- [2]. Chan LY, Lam MH, Yuen PM. Sonographic appearance of Mycobacterium pyometra mimicking carcinoma of uterine corpus. *Acta Obstet Gynecol Scand* 2005;84:1124-5.
- [3]. Sharma JB, Roy KK, Pushparaj M, Gupta N, Jain SK, Malhotra N, et al. Genital tuberculosis: an important cause of Asherman's syndrome in India. *Arch Gynecol Obstet* 2008;277:37-41.
- [4]. Güngördükb K, Ulker V, Sahbaz A, Ark C, Tekirdag AI. Postmenopausal tuberculosis endometritis. *Infect Dis Obstet Gynecol* 2007;2007:27028.
- [5]. Simon HB, Weinstein AJ, Pasternak MS, Swartz MN, Kunz LJ. Genitourinary tuberculosis. Clinical features in a general hospital population. *Am J Med* 1977;63:410-20.
- [6]. Maestre MA, Manzano CD, López RM. Postmenopausal endometrial tuberculosis. *Int J Gynaecol Obstet* 2004;86:405-6.
- [7]. Gatongi DK, Kay V. Endometrial tuberculosis presenting with postmenopausal pyometra. *J Obstet Gynaecol* 2005;25:518-20.
- [8]. American Thoracic Society; CDC; Infectious Diseases Society Of America. Treatment of tuberculosis. *MMWR Recomm Rep* 2003;52:1-77.