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An Unusual Case Of Acute Endomyometritis With Adenomyosis – A Case Report With Review Of Literature

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Abstract :
Adenomyosis is ectopic endometrial tissue in myometrium and is a common occurrence. Endomyometritis is usually seen in postpartum period. A few cases of abscess formation in adenomyotic foci have been reported in literature, but very few reports of endomyometritis arising within adenomyosis appears in the literature. Here, we present a 50 year old female who was admitted with anemia and heavy menstrual bleeding. The hysterectomy specimen revealed myometrial trabeculations and extruded frank pus on cutting open. Microscopically the myometrium showed areas of adenomyosis with transmural dense neutrophilic cell infiltration. The lumen of the endometrial glands showed neutrophilic exudates. Final report of Acute endomyometritis with adenomyosis was made. The postoperative period of the patient was uneventful.

Key Words: *Adenomyosis; Endometrium, Myometrium, Infection*

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I. Case history

A 50-year-old female who presented with heavy menstrual bleeding underwent Total abdominal hysterectomy with bilateral salpingo-oophorectomy. There was no history of pelvic inflammatory disease, intrauterine device, endometriosis, tubal pathology or diverticular disease. Her pre-operative evaluation included complete blood count which revealed anemia with neutrophilic leucocytosis (haemoglobin 4.7 gm/dL, WBC count 28.59 x 10^3/ cu.mm, Absolute neutrophil count 24.3 x 10^3/cu.mm. Patient was not a known diabetic. Her blood sugar level was 122 gm/dL. Ultrasonogram revealed a large fibroid of size 11x10.8x11.3 cm (vol-700cc). Cystic degeneration noted within. MRI showed a bulky retroverted retroflexed uterus with a large ill-defined T2 heterogenously hyperintense solid lesion epicentered in fundus & posterior body of uterus - suggestive of posterior uterine myoma with background of uterine adenomyosis. Based on clinical and radiographical evaluation, the provisional diagnosis of fibroid uterus was made.

We received the specimen of uterus with bilateral tubes and ovaries in the Department of Pathology. On gross examination, uterus and cervix measured 18x16x8 cm. On cutting open, the myometrium exuded abundant frank pus and revealed endometrial thickness of 0.1 cm with myometrial hypertrophy measuring 10 cm. Myometrium showed trabeculations. Fundus showed multiple pus filled cavities ranging in sizes from 0.3 cm to 2.5 cm which exuded thick yellow pus material [Table/Fig-1]. Cervix measured 3 cm in length and was unremarkable. Cut section of both fallopian tubes were normal. Right ovary measured 4.5x 3.5 x 3 cm with a cyst measuring 3 cm, filled with clear fluid. Left ovary measured 4x2.5x2 cm with unremarkable cut surface. The specimen was fixed in 10% neutral buffered formalin. After fixation, multiple representative sections were taken and processed following routine protocol. Sections from the paraffin embedded tissue blocks were stained with hematoxylin and eosin stains. The DPX mounted slides were then studied under the microscope. Figure 1: Cut surface of the myometrium exuding frank pus. Figure 2 : Cut surface of the myometrium showing myometrial hypertrophy with trabeculations and cystic spaces in the fundus containing pus

On microscopic examination, endometrium showed scattered endometrial glands lined by low cuboidal epithelium. Myometrium showed adenomyosis with endometrial glands surrounded by stroma along with multiple foci of collections of polymorphs, histiocytes and karyorrhectic debris [Table/Fig-2]. Some of the endometrial glands were dilated and filled with neutrophils and histiocytes. [Table/Fig 3] Cervix showed features of chronic ecto-endocervicitis. Right ovary showed benign simple cyst and corpus albicans. Left ovary showed corpus albicans along with foci of endometrial glands. Bilateral tubes showed chronic salpingitis. The final diagnosis was Acute endomyometritis with adenomyosis. Figure 3 : Myometrial section showing adenomyotic foci (x40 magnification, H&E stain). Figure 4 : Myometrial section showing adenomyotic foci with lumen of the endometrial glands filled with exudates containing pus cells and necrotic debris (x40 magnification, H&E stain).

Figure 5 : Section showing neutrophilic infiltration of the myometrial smooth muscle (x400 magnification, H&E stain)

Figure 1: Cut surface of the myometrium exuding frank pus

Figure 2 : Cut surface of the myometrium showing myometrial hypertrophy with trabeculations and cystic spaces in the fundus containing pus

Figure 3 : Myometrial section showing adenomyotic foci (x40 magnification, H&E stain)

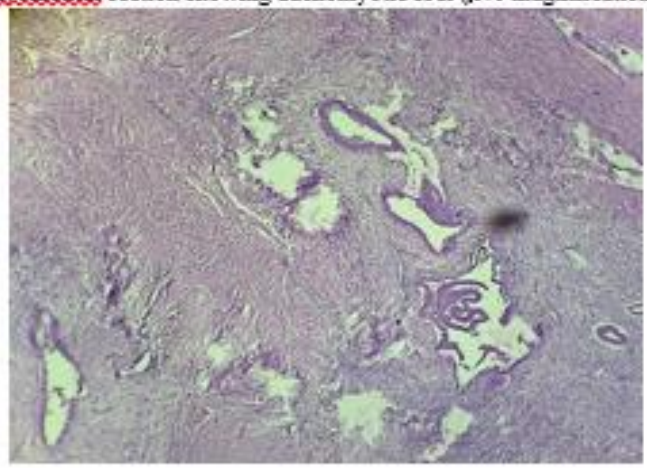


Figure 4 : Myometrial section showing adenomyotic foci (x40 magnification, H&E stain)

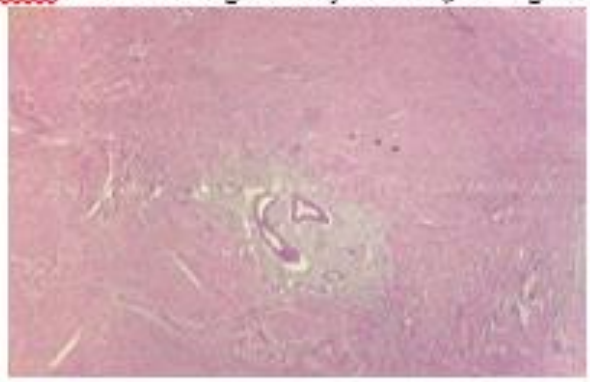


Figure 5 : Myometrial section showing adenomyotic foci with lumen of the endometrial glands filled with exudates containing pus cells and necrotic debris (x40 magnification, H&E stain)

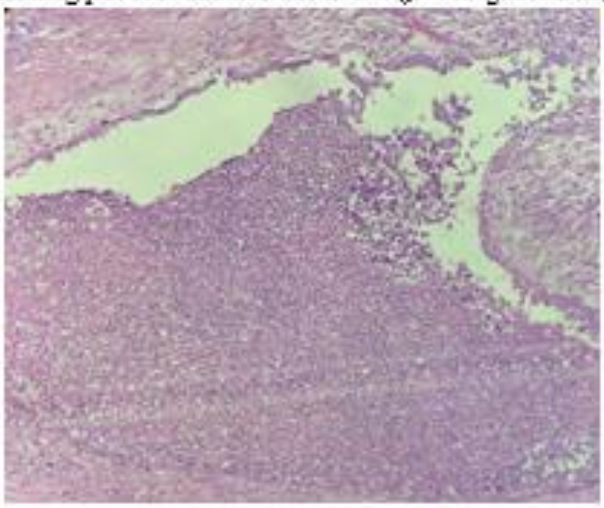


Figure 6 : Myometrial sections showing adenomyotic foci with lumen of the endometrial glands filled with exudates containing pus cells and necrotic debris (x400 magnification, H&E stain)

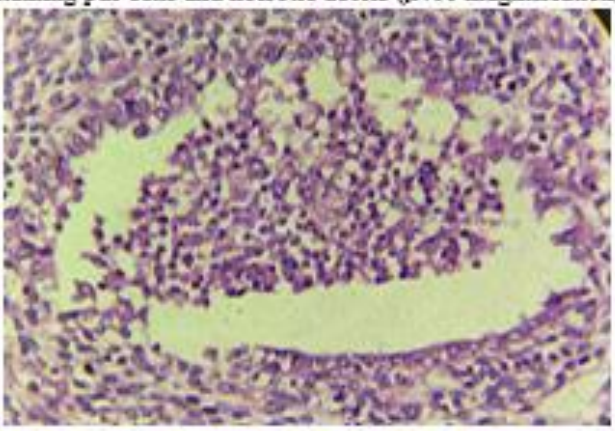


Figure 7: Section showing neutrophilic infiltration of the myometrial smooth muscle (x400 magnification, H&E stain)

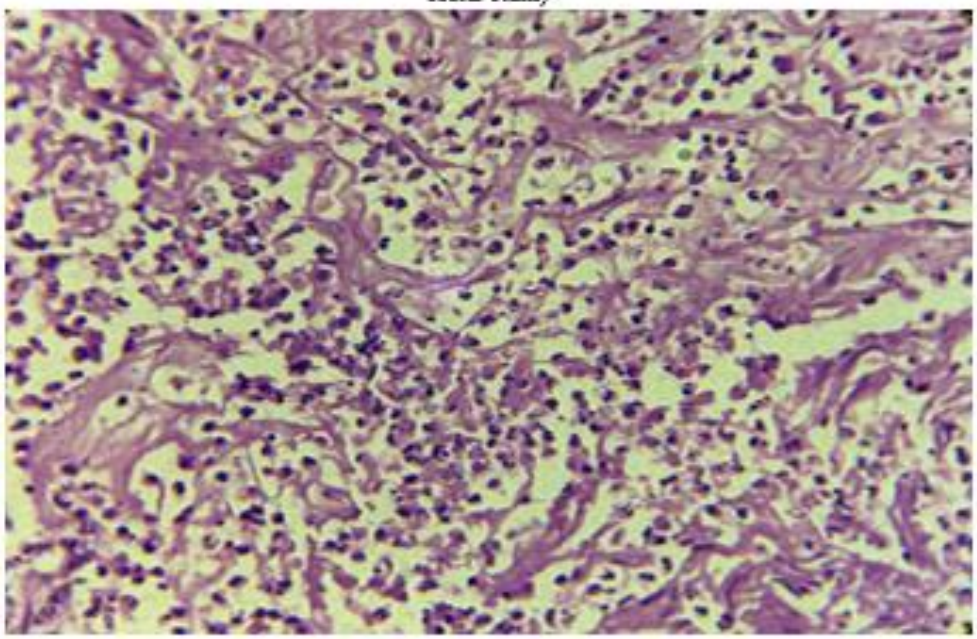
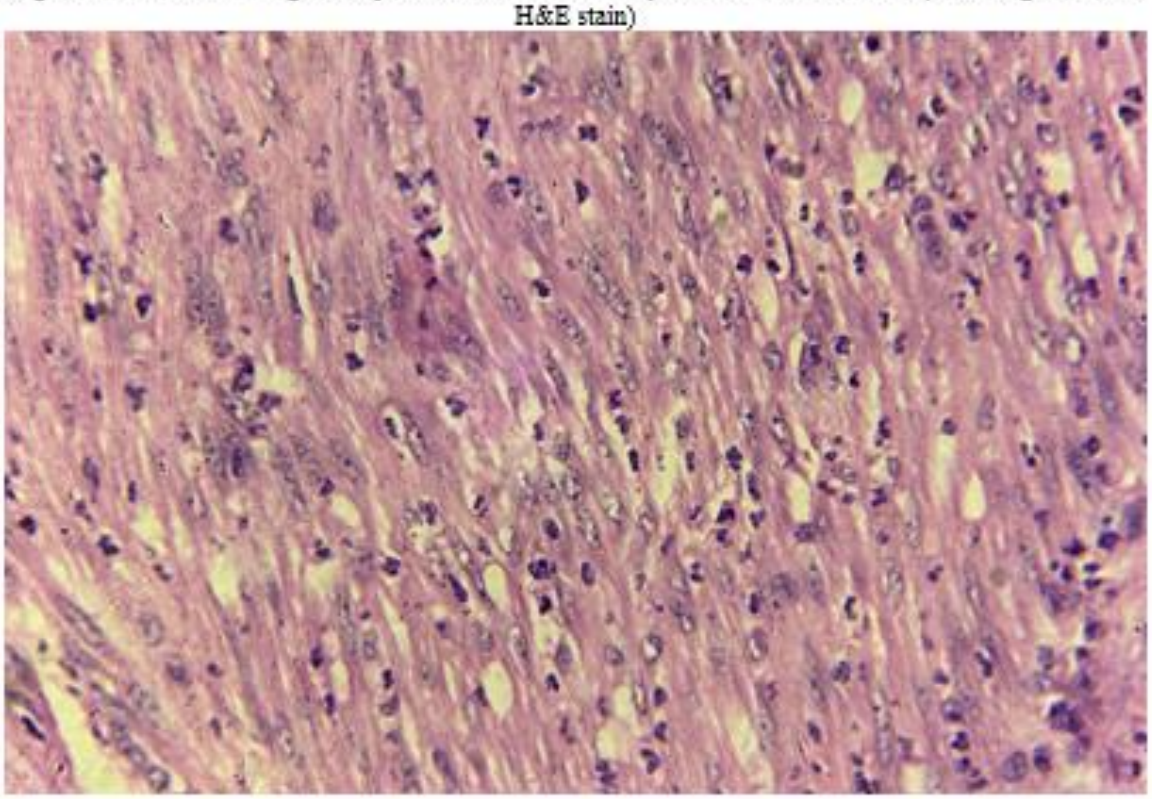


Figure 8 : Section showing neutrophilic infiltration of the myometrial smooth muscle (x400 magnification, H&E stain)



II. Discussion

Adenomyosis is a common gynecological condition affecting 15% of multiparous women in their late 30s and early 40s of life. There is diffuse enlargement of the uterus with histological invasion of benign endometrial glands and stroma deep into the myometrium. It is postulated that adenomyosis forms as a result of growth and invagination of endometrial glands into the myometrium. Literature shows associated endometritis in 15% of women. Usually the uterine enlargement appears globoid in diffuse adenomyosis with posterior wall involvement. Focal adenomyosis can mimic a leiomyoma. Preoperative diagnosis of adenomyosis is usually

difficult as the presenting symptoms are non-specific. The usual symptoms are menorrhagia, dysmenorrhea, dispareunia and pelvic pain. Ultra sonography (USG) is very valuable in diagnosis; and magnetic resonance imaging (MRI) forms the gold standard. [1] These adenomyotic foci may be affected by other diseases such as hyperplasia or malignant changes which affect the orthotopic endometrium. It is necessary not to misinterpret such condition as a deeply invasive malignancy. [2] Our patient has presented at the age of 50 years. Heavy menstrual bleeding was the only symptom in our patient. The adenomyotic area mimicked a fibroid with degenerative changes in our case.

Endomyometritis is usually a condition of postpartum period. These patients usually present with fever, pain abdomen, vomiting and sometimes shock. Extension of the infection from endomyometritis into the peritoneal cavity usually results in peritonitis, intra-abdominal abscess, and generalised sepsis. [3] Our patient had no such symptoms except for fever. She presented with fatigue and heavy menstrual bleeding for past one year. During her pre-operative period she had spikes of fever for 3 days. On investigation, she was found to be anemic and her blood count showed neutrophilic leucocytosis.

The pathophysiology is attributed to weakened host defense mechanism/compromised immune status or any trauma involving destruction of the normal barriers. It can also be an ascending infection from the lower uterine segment which is contaminated by the cervico-vaginal flora progressing to the uterine fundus and perhaps the peritoneal cavity. In the untraumatized uterus, the denuded implantation site can be the site of infection. Formation of abscess or tuberculous infection in the adenomyotic foci can be a part of immuno-compromised state. Very few reports of abscess formation in endometriotic foci have been published in the literature, but abscess formation de novo within adenomyosis appears to be rarer. [4,5]

Erguvan et al. reported an abscessed adenomyosis in 2003, [6] followed by Weng et al in 2013. In both these cases, the patient developed post operative sepsis [7]. Our patient is doing well post-operatively. Bulut et al reported a case of Abscessed uterine and extrauterine adenomyomas with uterus-like features in a 56-year-old woman. [8] Sahin et al reported a rare case of micro abscess formation in adenomyotic focus in 2014. [9] Both these cases showed multiple islands of micro abscess formation with polymorpho nuclear cell infiltration in the adenomyotic foci, similar to our case. The latest reported case in literature was by Doddagowda SM et al in 2020. They reported a rare case of acute endomyometritis with adenomyosis of uterus. The myometrium showed areas of adenomyosis with transmural dense neutrophilic cell infiltration with the lumen of the glands showing organised exudate with focal areas of necrosis. [10] Our case also showed similar histology.

Acute endomyometritis with adenomyosis may not present with specific symptoms. The patients are at increased risk of developing sepsis. Complete blood count will provide a clue for the underlying infection and radiology helps in localising the infection. There should be thorough evaluation of the patients with timely intervention and postoperative follow up to minimize the risk of sepsis.

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