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Case Report

A case report: incidental diagnosis of endometrial tuberculosis in cases of abnormal uterine bleeding

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ABSTRACT

Abnormal uterine bleeding (AUB), including heavy menstrual bleeding (HMB), levy a massive burden on society. Here, we discuss about two patients who came to OPD with AUB symptoms for evaluation, but incidentally diagnosed with endometrial tuberculosis. In Case 1, 45-year-old female came with complains of heavy menstrual bleeding for 6 months for 6 months. USG showed adenomyosis. Patient underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy. But on day 7 she developed serous blood-tinged discharge per vaginum. Incidentally, patient endometrial CBNAAT report came positive for MTB, with no resistance to rifampicin. Patient was started on anti-tubercular treatment for 6 months. In Case 2, 43-year-old female came with complaints of HMB with pain abdomen and irregular menses for 3 years. USG shows early changes of Adenomyosis. Patient underwent therapeutic curettage with MIRENA insertion. Endometrial CBNAAT was negative and liquid culture (LJ) was MDR positive. Sensitivity report s/o of isoniazid and rifampicin resistant. Patient was advised monthly close follow up as symptoms were under control. When a routine screening for FGTB by CBNAAT is done for cases of AUB, there are high chances of reporting more cases in a developing nation like India. Hence sending endometrial samples for TB screening in AUB cases can be useful in finding out more cases of genital TB, where their symptoms can be related to TB infection rather than searching for a structural cause that may be is not the cause for the severe symptoms. Due to which mismanagement or unnecessary surgical interventions can be avoided.

Keywords: AUB, Endometrial tuberculosis, CBNAAT-TB, Dysmenorrhea, Adenomyosis

INTRODUCTION

Abnormal uterine bleeding (AUB), including HMB, levy a massive burden on society. They affect one in four women of reproductive age. AUB in women older than 40 years and especially in postmenopausal women are usually evaluated mainly to exclude the presence of malignant or premalignant lesions of the endometrium.

In 2011, the international federation of gynaecology and obstetrics (FIGO) menstrual disorders group (FMDG) introduced the PALM-COEIN, a new classification system for abnormal bleeding. There are nine chief categories: polyp, adenomyosis, leiomyoma, malignancy and hyperplasia, coagulopathy, ovulatory dysfunction, endometrial, iatrogenic, and not otherwise classified.[1] The components of the PALM group can be discrete (structural) entities that can be identified visually with imaging techniques and or histopathology, whereas the COEIN group is related to entities that are not defined by imaging or histopathology (non-structural).[2]

AUB is caused mainly due to structural (62.6%) and then non-structural causes. (37.4%). Leiomyoma is the most frequent structural cause, whereas ovulatory disorders predominantly polycystic ovarian syndrome is the most common non-structural cause.[3] Among endometrial sampling commonly simple hyperplasia is seen followed by atypical hyperplasia in 8.4% of patients and endometrial carcinoma (1.6%).[4] Endometrial tuberculosis

being a rare finding, most patients with FGTB have quiescent disease with no clinically significant symptoms and are often only diagnosed during evaluation for infertility but not as evaluation for AUB. Female genital tuberculosis (FGTB) is caused by *Mycobacterium tuberculosis* (rarely *Mycobacterium bovis* and/or atypical mycobacteria) usually secondary to TB of the lungs or other organs with infection reaching through haematogenous, lymphatic route or direct spread from abdominal TB.

In FGTB, fallopian tubes are affected in 90% women, whereas uterine endometrium is affected in 70% and ovaries in about 25 per cent women. It causes menstrual dysfunction and infertility through the damage of genital organs.[5] Very rarely it is diagnosed in women after 40 years who come with classic symptoms of AUB. endometrial biopsy which is usually taken for cases of AUB fails to diagnose tuberculosis. The histopathology often doesn't show the typical epitheloid cell granulomas or langherhan cells due to the regular monthly shedding of the endometrium.[6] Here, we discuss about two patients who came to OPD with AUB symptoms for evaluation, but incidentally diagnosed with endometrial tuberculosis.

CASE REPORTS

Case 1

45-year-old female came to OPD with complains of HMB and excessive white discharge per vagina for 6 months. Patient had no history of itching around perineum, burning micturition or abdominal distention. Patient had history of fever on and off for 1 month with loss of appetite.

Menstrual history

She had regular cycles every month with 10-15 days bleeding, used 7-8 sanitary pads per day, associated with passage of clots and dysmenorrhea. She had taken medical treatment, but her symptoms did not improve.

Obstetric history

Married life of 30 years. No history of infertility.

P1L1 (LSCS)

Tubectomy not done

Past history

Operated for anal fissure.

On admission

Patient vitals stable. Routine blood investigations-complete blood count, random blood sugar, urine routine and microscopy, serum urea, creatinine and electrolytes were sent. ECG and chest X-ray were taken. All reports were within normal limits. Per speculum examination showed curdy white discharge for which she was treated with clindamycin vaginal pessary.

USG-abdomen and pelvis

uterus- retroflexed, bulky in size. Echotexture slightly heterogenous- Adenomyosis. Endometrial thickness normal (6 mm). Cervix appears bulky. Right ovary normal. Left ovary enlarged with 25 mm size follicle. No evidence of free fluid / lymphadenopathy.

Patient underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy. Specimen was sent for Histopathological examination and Endometrial sample sent for CBNAAT test. Post-operatively patient was stable. But on day 7 she developed serous blood-tinged discharge per vaginum, for which she was started on oral ofloxacin.

Incidentally, patient endometrial CBNAAT report came positive for MTB, with no resistance to rifampicin. Patient was evaluated at the NTEP centre. LPA1 and LPA2 both negative.

Histopathology report

Cervix-leiomyoma; endometrium-secretory phase; myometrium-unremarkable; fallopian tubes-unremarkable; One side ovary- luteal cyst; other side ovary: xanthogranulomatous oophoritis.

Treatment

Patient was started on anti-tubercular treatment for 6 months. First 2 months of intensive phase four medications rifampicin (R), isoniazid (H), pyrazinamide (Z), and ethambutol (E) are administered per oral. In the continuation phase, a three-drug regimen (instead of the prior two) administered daily for the next four months: rifampicin (R), isoniazid (I), and ethambutol (E).

Case 2

A 43-year-old female came to OPD with complaints of HMB associated with increased pain abdomen and irregular menstrual cycles for 3 years. She had history of white discharge per vagina on and off for 10 years. No history of fever, abdominal distention, cough or weight loss.

Menstrual history

She had irregular cycles for 3 years (every 2-3 months) with 15 days bleeding, used 6-7 sanitary pads per day, associated with passage of clots and dysmenorrhea. She had taken medical hormonal treatment (oral norethisterone and micronized progesterone) for 3 months, but her symptoms did not improve.

Obstetric history

P2L2A1- previous both vaginal deliveries following which laparoscopic tubal ligation was done. No history of infertility.

Past history

History of open appendicectomy 25 years back. No history of tuberculosis.

On admission

Patient vitals stable. Routine blood investigations – complete blood count, random blood sugar, urine routine and microscopy, serum urea, creatinine and electrolytes were sent. ECG and chest X-ray were taken. All reports were within normal limits.

USG-abdomen and pelvis

uterus-ante-verted, bulky (7.5×6.5×5.3 cm). Endometrial thickness-7.4 mm uterus shows early changes of adenomyosis.

Patient underwent therapeutic curettage with MIRENA (Levonorgestrel releasing intra-uterine system) insertion. Endometrial sample was sent for histopathological reporting and CBNAAT TB test. Post-operative period was uneventful, and patient was discharged.

Incidentally, patient endometrial CBNAAT TB test came out to be negative and liquid culture (LJ) was MDR-positive. After which patient was evaluated at the NTEP centre. Sensitivity report suggested of Isoniazid and rifampicin resistant. Further reporting stated fluroquinolones and second line injectable antibiotic drug resistant. Complete blood count, ESR, HIV, blood sugar, tuberculin skin test, sputum TrueNat test, chest X-ray and vaginal swab for CBNAAT were sent, all of which came negative for tuberculosis. CT and MRI were done for detailed evaluation.

Ct-abdomen and pelvis

Uterus: Normal is mildly enlarged in size measuring 8×6.5 cm. Anteverted. IUCD seen in situ. Mild thickening of junctional zone is seen - measuring-11 mm. Endometrial thickness is normal. No fluid in cavity. Cervix appears normal. Fluid intensity lesion measuring 11 mm is seen along the anterosuperior vaginal wall-likely-Gartner's duct cyst. Otherwise, vaginal walls reveal normal thickness and signal intensities. Both ovaries normal. No evidence of any ovarian or adnexal mass.

MRI-abdomen and pelvis

Bulky uterus and cervix. Mild thickening of junctional zone is seen - measuring - 11 mm.? early changes of adenomyosis. IUD in situ. Bilateral fallopian tube ligation clips noted. Bilateral ovaries are normal. No significant abdominal lymphadenopathy seen. No e/o free fluid is noted in abdomen and pelvis.

Histopathology report

Tiny fragment showing scanty endometrial glands. The glands are oval, lined by tall columnar epithelium with pseudo stratification. The stroma is cellular and compact. No evidence of endometritis, hyperplasia, atypia or malignancy notes.

Impression was proliferative endometrium.

Treatment

Since all other investigations except liquid culture report were negative and patient had no constitutional symptoms, patient was not started on ATT for XDR-TB. But was advised monthly close follow up and if any complaints occur patient must be treated extensively for 18 months.

DISCUSSION

One kind of extrapulmonary presentation of TB is female genital TB (FGTB), which accounts for 5% of all female pelvic infections and 10% of pulmonary TB cases.[7] FGTB is usually observed after the development of primary pulmonary TB or extrapulmonary lesion, for example, kidneys, meningeal area, skeletal system, and GI system through four routes: blood (in this, the pulmonary area will be the primary focus), direct spread, outspread through lymph nodes, and in rare cases, the reproductive tract through sexual transmission.[3] Most cases of genital TB have been seen in fertile people between the ages of 20 and 45 years. Although genital TB may show a variety of clinical signs, the condition is typically asymptomatic and is initially detected during investigations for infertility.[5]

Table 1: Summary of case 1 and case 2.

Variables	Case 1	Case 2
Chief complaint	HMB and white discharge per vaginum	HMB, irregular cycles and dysmenorrhea
Imaging findings	Adenomyosis with bulky cervix	Early changes of adenomyosis
Procedure	Total abdominal hysterectomy with B/L salpingectomy	MIRENA insertion
Detection	CBNAAT positive	Liquid culture MDR positive
Treatment	Anti-tubercular treatment for 6 months	Close follow up for symptoms. If present, start treatment for 18 months

Additional symptoms are irregular changes in the menstrual cycle (such as hypomenorrhea, HMB, dysmenorrhoea, and metrorrhagia), pain in the pelvis area, and discharge from the vagina that is not normal. Sometimes it can be asymptomatic also (10%).[6] Many patients present with symptoms such as pyrexia, anorexia, weight loss, feeling unwell and malaise. Predisposing factors include interaction with a pulmonary TB patient with a positive smear test, prior TB infection, past history of TB infestation, fresh travel to the endemic region, poor socio-economic status, and residing in a population that has HIV and drug abusers.[8] WHO defines that extrapulmonary TB diagnosis is confirmed by one specimen with a positive culture, a positive histology result, or significant clinical evidence of active extrapulmonary TB.[9] These patients had no symptoms of primary pulmonary TB or definitive symptoms of genital tuberculosis only an incidental positive TB test. Identification of the organism by MALDI-TOF was not done due to unavailability.

These patients were unresponsive to oral medical treatment in the initial days. The possibility that FGTB could worsen all the symptoms and present as AUB to OPD is to be considered. These patients can be benefited with anti-tubercular treatment by reducing the infection that can cause inflammation and menstrual irregularities.

CONCLUSION

Hence, when a patient comes to OPD with clinical symptoms suggestive of AUB, one must keep the possible diagnosis of FGTB in mind, especially in a developing nation. The exact incidence of FGTB is not known due to underreporting of cases, asymptomatic cases, vague symptoms and the lack of reliable diagnostics with high sensitivity. When a routine screening for FGTB by CBNAAT is done for cases of AUB, there are high chances of reporting more cases in a developing nation like India.[6] Hence sending endometrial samples for TB screening in AUB cases can be useful in finding out more cases of genital TB, where their symptoms can be related to TB infection rather than searching for a structural cause that may be is not the cause for the severe symptoms. Further studies in AUB patients for genital TB screening is needed to confirm the possibility of higher incidence of unidentified cases. Thereby, specific treatment can treat the severe symptoms of the patient. Due to which mismanagement or unnecessary surgical interventions can be avoided.

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