

## Case Report

# Acute abdomen after hysterosalpingography-flare up of subclinical abdominal Kochs or endometriosis, a diagnostic dilemma

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### ABSTRACT

Here we present the case report of a patient of infertility with endometriosis and undiagnosed underlying abdominal Kochs that exacerbated after hysterosalpingography (HSG), presenting as acute abdomen and causing a diagnostic dilemma. (HSG) is a diagnostic test used to evaluate the fallopian tubes and uterus. HSG is contraindicated in FG TB as it can result in flare-up of subclinical infection. However, it is often performed as part of infertility workup in unsuspected cases. In our patient the unsuspected preexisting abdominal Kochs got flared up after extravasation of the contrast material during HSG resulting in formation of pus and diffuse peritonitis. Explorative laparotomy was taken after 1 week of conservative management and pus drained along with ovarian cystectomy. The patient was started on antitubercular treatment postoperatively and recovered well.

**Keywords:** Abdominal Kochs, HSG, Tubercular abscess, FG TB

### INTRODUCTION

Tuberculosis is a major health problem in developing countries. Tuberculosis can affect any organ in the body, can exist without any clinical manifestation, and can recur even if its treated once. While tuberculosis primarily affects the lungs, the extra-pulmonary disease contributes to around 15-20% of the burden of the disease.<sup>1</sup> Endometriosis, the presence of endometrial tissue outside the uterine cavity, affects 10% of women in reproductive age and has immunological aspects conferring the disease an indubitable inflammatory trace.<sup>2</sup> The endometrial implants are most commonly seen in the pelvis. The common clinical features and complications from endometriosis include dysmenorrhea, infertility, dyspareunia and chronic pelvic pain.

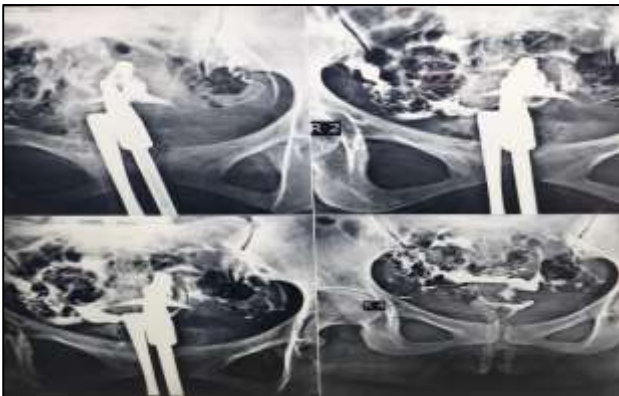
Here we present the case report of a patient of infertility with endometriosis and undiagnosed underlying abdominal Kochs that exacerbated after HSG, presenting as acute abdomen and causing a diagnostic dilemma.

### CASE REPORT

A 27-year-old female presented to gynecology OPD with married life of 4 years, primary infertility and anxious to conceive. She had history of dysmenorrhea and no other significant past or family history. She was advised all the workup for evaluation of infertility which included HSG for tubal patency and advised to follow up with reports. HSG was suggestive of normal patency of bilateral fallopian tubes (Figure 1). Ultrasonography was indicative of left ovarian endometrioma of 9.5×6.5×8.8 cm and right ovarian endometrioma of 3.7×3.5×2.8 cm. She had mild abdominal pain and fever for 2-3 days after HSG. Then she had sudden onset abdominal distension and acute pain in abdomen for which she was admitted in department of obstetrics and gynaecology in AIIMS Raipur. Patient was put on analgesics; IV fluids and an urgent ultrasonography was done. USG was s/o a thick-walled abdominopelvic collection in infra-umbilical region with internal fluid-fluid levels (Figure 2). Also, hypoechoic collection was observed in non-dependent

parts of abdomen wall. Patient had progressive abdominal distension and fever of 101 F. Her CRP was 331.9 mg/l and procalcitonin was 1.13 ng/ml. Tests for malaria, dengue, scrub typhus and Widal came out to be negative. Blood culture showed no bacterial growth after 5 days of incubation. Her D dimer was 6.92 mcg/ml and fibrinogen levels were 537.6 mg/dl. Her liver function tests, renal function tests and coagulation profile were normal.

MRI pelvis was done which revealed a loculated collection beneath anterior abdominal wall (? abscess) which had no connection with uterus and ovary. To confirm the findings, abdominal wall collection was aspirated under ultrasound guidance on same day which showed purulent material and sent for microscopy and culture. Biochemical examination of pus showed protein of 2.7 mg/dl, glucose 32 mg/dl and ADA 389.87 IU/l. ZN stain of pus was negative for acid fast bacilli and gram stain showed 15-20 pus cells/LPF, few gram-positive cocci pairs and occasional gram-negative coccobacilli. Rapid liquid mycobacterial culture was negative for acid fast bacilli. Pus culture and sensitivity showed no bacterial growth after 48 hrs of incubation. As the patient's condition was not improving with antibiotics, decision for Explorative Laparotomy was taken after 1 week of conservative management.



**Figure 1: HSG Showing bilateral free spill.**



**Figure 2: Ultrasonography showing ovarian endometrioma.**

The abdomen was opened in layers and once the abdominal cavity was entered about 300 ml of pus got drained and it was sent for culture and sensitivity (Figure 3). There were multiple loculated collections of pus adhered to bowel (Figure 3). Each locule was broken separately and pus drained. Flakes of pus was seen adhered to the bowel all over. After draining pus collections, bowel was also seen densely adhered to a cystic mass of 9×10 cm arising from pelvis with kissing ovaries adherent to posterior surface of uterus (Figure 4 and 5). General surgeon was called for intraoperative assistance. During process of adhesiolysis, cystic mass was punctured and chocolate colored fluid was seen coming out of cyst. Fluid was drained out. The cyst wall was removed saving as much of the ovary as possible and sent for histopathology. Thorough lavage of abdomen was done with hot saline and abdomen closed. Histopathology of cyst wall was suggestive of endometriotic cyst. Pus was sterile after 48 hrs of incubation. Patient was started on antitubercular treatment for abdominal Kochs on the grounds of strong clinical suspicion. Patient recovered well postoperatively and was discharged after 1 week. Pus culture was positive for mycobacterium tuberculosis after 3 weeks of incubation.



**Figure 3: Pus draining from abdominal cavity.**



**Figure 4: Intra-abdominal adhesions and pus flakes.**



**Figure 5: Dense adhesions between bowel and cystic collection in the abdominal cavity.**

## DISCUSSION

HSG is a diagnostic test used to evaluate the fallopian tubes and uterus. It involves the injection of a contrast material into the uterus through the cervix, followed by imaging using X-rays or ultrasound. HSG is generally a safe and effective procedure. HSG is contraindicated in FG TB as it can result in flare-up of subclinical infection. However, it is often performed as part of infertility workup in unsuspected cases.<sup>3</sup>

In our patient the preexisting abdominal Kochs got flared up after extravasation of the contrast material during HSG resulting in formation of pus and diffuse peritonitis. The peritoneal cavity is the space surrounding the organs in the abdominal cavity and contains a small amount of fluid that helps to lubricate the organs and facilitate movement. When foreign material, such as the contrast material used in HSG, enters the peritoneal cavity, an inflammatory response is triggered in a preexisting dormant genital TB.

In developing countries like India, tuberculosis is an endemic disease and may remain undetected. The association of infertility with genital tuberculosis is so high, that the latter should always remain one of the differential diagnosis in case of the former, irrespective of the presence or absence of constitutional symptoms like night sweats and loss of appetite.<sup>4</sup>

Female genital TB is typically understood as a disease of young women, with 80% to 90% of cases diagnosed in patients 20-40 years old, often during workup for infertility.<sup>5</sup>

It is an important cause of infertility in India through tubal blockage, peritubal adhesions, endometrial atrophy and adhesions and ovarian involvement.<sup>6</sup>

Tuberculous peritonitis is seen in combination with female genital tract TB approximately 45% of the time and is thought to be responsible for the often-extensive adhesions seen in patients with pelvic TB.<sup>7</sup>

Infertility for which no obvious cause can be found, chronic pelvic inflammatory disease refractory to standard antibiotic therapy, or adnexal disease with ascitis in virgin females should alert the clinician to look for TB of the genital tract.

In our patient there was an endometrioma which also added to the confusion as endometriosis can also cause pain in abdomen. The coexistence of ovarian endometrioma and preexisting genital TB can further increase the risk of abdominal pus collection after HSG. Endometriomas can be surrounded by dense fibrous tissue, which can make them difficult to distinguish from other structures during the procedure. TB can cause adhesions and scarring, which can increase the risk of perforation or injury to the reproductive organs during the procedure. Coexisting endometriosis and tuberculosis affecting both tubes and ovaries is very rare. One case was reported by Himabindue et al where the combined pathology caused difficulty in diagnosis and treatment due to its unusual presentation.<sup>8</sup>

The clinical diagnosis of genital TB requires a high index of suspicion. About 20% of patients with genital TB give a history of TB in their immediate family. The advent of anti-tuberculous drugs has revolutionized the management of this disease. When TB is first diagnosed postoperatively after histologic examination, anti-tuberculous treatment is given immediately and continued for 6-12 months.

## CONCLUSION

Preventative measures can be taken to reduce the risk of abdominal pus collection after HSG in patients with ovarian endometrioma and preexisting genital TB. Prior to the procedure, a thorough medical history should be obtained, including any history of TB or pelvic infections. The procedure should be performed by an experienced practitioner who is familiar with the potential complications and techniques for avoiding them. Antibiotic prophylaxis may also be recommended in certain high-risk patients.

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## REFERENCES

1. Lee JY. Diagnosis and treatment of extrapulmonary tuberculosis. *Tuberc Respir Dis*. 2015;78:47-55.
2. Bellelis P, Dias JA, Podgaec S, Gonzales M, Baracat EC, Abrao MS. Epidemiological and clinical aspects

- of pelvicoendometriosis: series of cases. *Rev Assoc Med Bras.* 2010;56(4):467-71.
3. Sharma JB, Sharma E, Sharma S, Dharmendra S. Female genital tuberculosis: Revisited. *Indian J Med Res.* 2018;148(1):S71-83.
  4. Namavar JB, Parsanezhad ME, Ghaneshirazi R. Female genital tuberculosis and infertility. *Int J Gynaecol Obstet.* 2001;75:269-72.
  5. Schaefer G. Female genital tuberculosis. *Clin Obstet Gynecol.* 1976;19:223.
  6. Parikh FR, Nadkarni SG, Kamat SA. Genital tuberculosis-a major pelvic factor causing infertility in Indian women. *Fertil Steril.* 1997;67(3):497-500.
  7. Schaefer G. Tuberculosis of the female genital tract. *Clin Obstet Gynecol.* 1970;13(4):965.
  8. Ghosh SB, Mala YM, Tripathi R, Tyagi S. Coexisting genital tuberculosis and endometriosis presenting as abdominal mass in an infertile woman: a report of a rare case. *Fertil Steril.* 2008;90(2):443.

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