

## Ectopic Pregnancy Complicating Tuberculous Salpingitis

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**Abstract:** Genital tuberculosis contributes to infertility in a significant proportion of females in developing countries. Although tuberculous salpingitis is not infrequent, it is rarely associated with pregnancy. We present here a case of special interest and rarity of a 27 year old female presenting with ruptured tubal ectopic pregnancy complicating tuberculous salpingitis. [ Ramraje S NJIRM 2014; 5(4) :124-127]

**Key Words:** Ruptured, Tubal, Ectopic, Tuberculous Salpingitis.

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**Introduction:** Genital tuberculosis plays a major etiological role in female infertility with 5-10% of infertile women the world over having genital tuberculosis<sup>1</sup>. Ectopic pregnancy has been discussed as a great masquerade and continues to be a significant cause of maternal mortality, morbidity and early fetal wastage in the first trimester of pregnancy. It could pose a diagnostic dilemma where diagnostic facilities are not available. Association of tuberculous salpingitis with extrauterine pregnancy is a rare combination in gynaecology practice<sup>2</sup>.

**Case Report:** A 27 year old female, second gravida came with complaints of colicky abdominal pain and spotting per vaginum of three days and one day duration respectively . She had a past history of pulmonary tuberculosis one year back for which she had taken anti-tubercular treatment for 6 months.

On general examination, she had mild pallor. Chest was clinically clear. Her pulse rate was 100 beats per minute, while blood pressure was 120/70 mmHg. Abdominal examination revealed suprapubic region and right iliac fossa tenderness. On vaginal examination, uterus was bulky and soft and a mass of size 3x3x2 cm was seen in the right adnexa along with cervical motion tenderness. Abdominal ultrasound showed an anteverted, bulky uterus and a right adnexal mass of 3x3x2 cm with non visualization of right ovary. There was minimal fluid in the pouch of douglas. Complete blood count and urine analysis were normal. Serum beta human chorionic gonadotrophin was 4000 mIU/ml. screening for chlamydia and gonorrhoea were negative. Montoux test was positive. Clinical

diagnosis was ruptured right ampullary ectopic pregnancy.

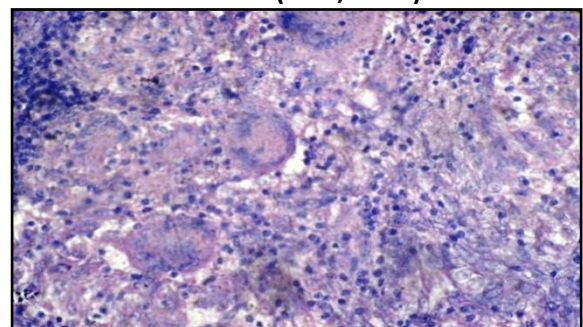
Patient underwent exploratory laparotomy with partial right salpingectomy. We received a dilated and congested partial right salpingectomy specimen measuring 3.5 cm in length. On cut surface, its lumen was filled with a mass 1.5 x 1.5 cm in size and completely obliterating it.

**Figure 1: Partial Right Salpingectomy Specimen**

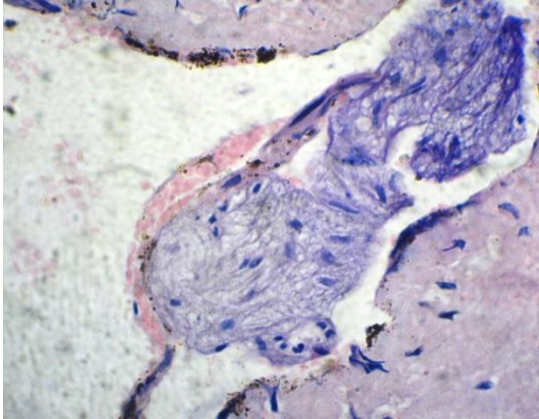


Microscopic examination showed multiple non-caseating epithelioid cell granulomas and occasional degenerated chorionic villous along with decidual tissue, thus confirming tubal ectopic pregnancy with tuberculous salpingitis.

**Figure 2: Granulomas with Langhans Type of Giant Cells (H&E, 100X)**



**Figure 3: Degenerated Chorionic Villous (H&E, 400X)**



**Discussion:** Tuberculosis is as old as mankind and has a place of mention in the Rig Veda. Morgagni (the famous morbid anatomist) first reported the signs of female genital tuberculosis in the middle of 18th century when manifestations of gynaecologic tuberculosis received attention. In 1744, on making a post-mortem examination on a woman aged 20 years, he found the uterus and both tubes filled with caseous material<sup>3</sup>.

The first case of tuberculous cervicitis was reported by Ramymond. In 1847, Kiwish first described a case of uterine tuberculosis. Hagar in 1886 published a monograph on the manifestations of gynaecologic tuberculosis<sup>3</sup>.

Gynaecologists became interested when Sutherland in 1943<sup>3</sup> accidentally found tuberculous lesions in endometrial specimens submitted for histopathologic examination in cases of sterility and menstrual disorders.

Estimation of the prevalence of genital tuberculosis, in general, is not practicable due to the silent nature of the disease. Female genital tuberculosis is found in 0.75 to 1% of gynaecological admissions in India. On an average the incidence of genital tuberculosis worldwide is 5-10%, and varies from 0.69% in Australia to 17.4% in India<sup>1</sup>.

Primary genital tuberculosis is a rarity with genital tuberculosis being mostly secondary to tuberculosis elsewhere. The spread is usually by hematogenous or lymphatic route and occasionally by direct contiguity with an intra-abdominal or

peritoneal focus<sup>1</sup>. Almost all patients of active genital tuberculosis show fallopian tube involvement although its incidence is gradually decreasing in developing countries.

Endometrial and ovarian involvement is seen in 50-60% and 20%-30% of all patients respectively. Cervical, vulval and vaginal diseases are rare, but after thorough work up, tuberculous involvement of these sites looks under diagnosed.

Previous diagnosis of or treatment for extra-genital tuberculosis is seen in 25-50% patients. Inactive pulmonary lesions are present in one-third of patients having genital tuberculosis<sup>1</sup>. Our patient had a past history of pulmonary tuberculosis one year back for which anti-tubercular treatment was taken.

Fallopian tubes form the initial focus of genital tuberculosis in a large majority of cases and the disease probably starts in the ampullae, from where it spreads down to the isthmus and thence to the endometrium. Here it remains in the basal layer, which is not shed during menstruation, or gets reinfected from the tubes following menstruation. Hence, the endometrium always shows young tubercles. Retrograde spread of infection to the ovaries and peritoneum may occur.

Tubercular salpingitis may or may not be associated with tuberculous endometritis. The mode of infection plays a significant role in tubal pathology. Surface tubercles with adhesions all around are seen if infection is lymphatic borne. Tubercles are deep and look red, oedematous and swollen in the acute infection phase and fibrosed in the chronic cases in case of haematogenous spread. Half the cases show blocked tubes; blockages being multiple and the tubes thickened and shotty. Hydrosalpinx or pyosalpinx with thick fibrous walls which may become calcified or even ossified result from localised blockage at the outer end<sup>3</sup>.

On microscopy the presence of giant cells in association with granulomatous inflammation and caseation make the diagnosis obvious. Numerous sections of the tube and careful microscopic

examination is important if there is sparsity of obvious microscopic features.

Female genital tuberculosis is a disease of young women. 80-90% of patients are seen in 20-40 years of age<sup>1</sup>. Genital tract tuberculosis usually shows no symptoms and it is diagnosed as such incidentally during infertility investigations. Some patients have complaints like menstrual disorders, pelvic pain and adnexal mass.

Increased incidence of ectopic tubal pregnancy (ETP) seen today is probably due to increased awareness, advanced diagnostic modalities e.g transvaginal ultrasonography and estimation of beta subunit of human chorionic gonadotrophin in serum. Contributing factors are tubal pathology due to more occurrence of silent or manifested pelvic inflammatory disease secondary to increased sexual freedom. Ampulla is the commonest site for implantation of ETP.

Presence of adnexal mass with or without free fluid in the pouch of douglas with pelvic pain & tenderness & sometimes with minimal vaginal bleeding requires immediate attention where biochemical pregnancy tests are positive. Positive pregnancy test with empty uterus raises strong suspicion of ETP.

Female genital tuberculosis usually causes infertility. However, there have been a small number of case reports where an intra-uterine or ectopic pregnancy co-exists with female genital tuberculosis.

Van Veen reported a total of 48 cases with addition of two of his cases in a survey in 1953. Prior to 1950, three more case reports not included by Van Veen were mentioned. Kovacs reported one case in 1943 and Haifetz and Bevis reported one case each in 1948. A small number of cases were added by Geisendorf, Kistner, Hertig, Rock, Stoddard, Fitzgibbon, Weddess, Southerland, Garry, Cope, Sharman, Burns and many more authors amounting to a total of 68 cases till the year 1957<sup>2</sup>.

Association of tuberculous salpingitis with intra or extra-uterine pregnancy is extremely rare with only isolated case reports. Several investigators have

reported infertility as the presenting complaint in as high as 60% of patients in view of the bilateral nature of the disease, destruction of tubal mucosa and luminal obliteration<sup>2</sup>. Pregnancy in tuberculous salpingitis is seen occasionally.

Although etiology of tubal gestation is not completely settled, the census is that tubal physiology is upset by inflammation which partially occludes the tubal lumen and/or inhibits mucosal ciliary action. While the upward migration of sperm may be permitted, the narrowed lumen and absence of ciliary motion hampers the downward progress of the ovum, thus facilitating tubal implantation. In advanced cases of tuberculous salpingitis, the abdominal ostia are closed, but the tubal lumen may be slightly patent (upto 30%) in the early part of the disease, although a considerable proportion of these may have infertility due to impaired tubal physiology. Abdominal pregnancy in association with tuberculous salpingitis is also seen, attributed by inability of the fertilised ovum to pass downward resulting in expulsion into the abdominal cavity. Majority of the reported cases were early ectopic gestations<sup>2</sup>.

The diagnostic work-up of infertile women should include a hysterosalpingogram and/or hysteroscopy and laparoscopy to exclude/ confirm endometrial involvement.

Treatment consists of multidrug medical therapy for a period of six months to a year. In-vitro fertilisation is a useful treatment for tubal and possibly endometrial tubercular infertility.

**Conclusion:** Incidence of ectopic pregnancy increases in subsequent pregnancy in known cases of pulmonary tuberculosis. Genital tuberculosis should therefore always be considered as a probable cause in the diagnostic work-up of infertile couples, especially in populations with a high prevalence of tuberculosis even in the absence of a previous history of tuberculosis.

Ectopic pregnancy is a life-threatening situation when it is disturbed or ruptured. Early diagnosis allows options for treatment by minimal invasive surgery or medical treatment under care of skilled

personnel. Patients should be extensively counselled regarding their risk of recurrent ETP and necessity for early medical attention for subsequent pregnancies.

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