# Genital Tuberculosis – A Diagnostic Dilemma in OPD Patients

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**Summary**

The diagnosis of tuberculosis should be kept in mind while treating patients in OPD with multiple complaints in adolescent, young and old females. High degree of suspicion in patients with chronicity of complaints non-responding to routine medical therapy aided by various laboratories investigation brings the diagnosis of TB in clinician's mind and additional evidence from various invasive or non invasive tests including indirect antibody testing as well as direct DNA testing are becoming popular modalities for confirmation. Retrospective evaluation of patients after therapy reveals good response in allaying generalised symptoms as well as local clinicopathological cure. 100 proven cases of tuberculosis were analysed for clinicopathological presentation, diagnosis and management and were followed up for the outcome.

## Introduction

Tuberculosis is a major health problem in developing countries like India and genital tuberculosis is a major cause of many gynaecological problems. Generally the infection secondarily reaches the genital tract, initially to the tubes in majority of cases through the blood stream from primary lesion which is in the lungs mostly. 5-13% of pulmonary tuberculosis patients develop genital T.B. and tubes are involved in 90-100% cases endometrium in 50-60%, ovaries in 20-30%, cervix in 1-2% and vulva and vagina in 2% cases. Symptomatology varies considerably from asymptomatic patient in which disease is diagnosed during investigations of some gynaecological problem or patient may present with typical systemic signs and symptoms like fever, loss of weight and appetite, malaise or with chronic pelvic pain, menstrual disturbances, infertility or tubo ovarian masses.

Tubal damage is due to endosalpingitis exosalpingitis or interstitial salpingitis. Tubo ovarian masses are due to periopheritis, hydrosalpinx pyosalpinx or massive adhesion formation. Infertility is present in 40-50% patients, menorrhagia in 10% amenorrhoea in 10%, T.O. masses in 25% cases.

The diagnosis of tuberculosis is not easy to make. Good index of suspicion is very essential along with detailed menstrual, obstetrical, family history history of contact, general physical examination P.V. examination along with investigations in diagnosing the disease and sometimes response to empirical therapeutic drug treatment. Recurrent subacute pelvic inflammatory disease refractory to standard antibiotic therapy or secondary amenorrhoea with adnexal masses or persistent vaginal discharge or persistent fistula or abscess formation following surgery raises the suspicion of tuberculosis.

## Material and Methods

One hundred OPD cases of all age groups proved to be tubercular were studied at random in department of Obstetrics and Gynaecology of Govt. Medical College Amritsar from January 1997 to December 1999 who presented with some menstrual problems adnexal masses not responding to usual treatment infertility or chronic pelvic pain or with non healing operative scars. The aim was to evaluate the prevalence of pelvic tuberculosis in gynaec patients the confirmation of diagnosis by non-specific and specific investigations to see the response of extrapulmonary tuberculosis to anti tubercular drugs as symptomatic relief and histopathological response. The non specific tests employed were ESR DLC Montoux, USG X-ray chest and specific tests as endometrial biopsy, HSG, diagnostic laparoscopy HPE of scraping from nonhealing scar and Elisa Testing PCR test (Mycobacto-3 Ranbaxy Lab) was also done sparingly. Anti tubercular drugs used were Rifampicin 150 mg, Isonex 300 mg, Ethambutol 800 mg, Pyrazinamide 1500 mg for two months as intensive treatment and maintenance therapy as Rifampicin and Isonex for 7 months.

## Observations

### Age distribution

The youngest patient was a school going girl of 17 years who came with secondary amenorrhoea and the oldest was of 45 years. Age group of 21-25 years constituted the maximum patients (Table I). Adolescent girls mostly presented with menstrual disturbances while reproductive age group patients had chief complaint of infertility.

**Table I**
**Showing the age distribution**

| Age group (years) | No. of patients | Percentage |
|---|---|---|
| 15-20 | 07 | 03.00 |
| 21-25 | 44 | 44.00 |
| 26-30 | 28 | 28.00 |
| 31-35 | 12 | 12.00 |
| 36-40 | 08 | 08.00 |
| >40 | 05 | 05.00 |

### Clinical presentations

Many patient had multiple complaints (Table II). The chief complaint of pelvic tuberculosis was infertility seen in 79 patients. However 34 patients presented with chronic pelvic pain, 34 patients with menstrual problems and 36 patients had typical signs and symptoms like low grade fever, loss of appetite and weight. 9 patients reported with non healing operative scars.

**Table II**
**Showing signs and symptoms**

| Signs and symptoms | No. of patients | Percentage |
|---|---|---|
| Infertility | 79 | 79.00 |
| Chronic pelvic pain | 34 | 34.00 |
| Menstrual problems | 34 | 34.00 |
| Generalised signs and symptoms | 36 | 36.00 |
| Adnexal masses | 33 | 33.00 |
| Non healing operative scars (retrospective diagnosis) | 09 | 09 |
| Pregnancy with EB | 01 | 02.00 |

Adnexal masses were present in 33 patient non healing operative scars in 9 patients and 2 patient presented with pregnancy with tuberculosis.

Menorrhagia was present in 16 patient oligomenorrhoea in 9 patients secondary amenorrhoea in 6 patients while 3 patients presented with irregular periods. 66 patients had normal menses (Table III).

**Table III**
**Showing details of menstrual problems**

| Menstrual complaint | No. of Patients | Percentage |
|---|---|---|
| Menorrhagia | 16 | 16.00 |
| Oligomenorrhoea | 09 | 09.00 |
| Secondary amenorrhoea | 06 | 06.00 |
| Irregular periods | 03 | 03.00 |
| Normal periods | 66 | 66.00 |

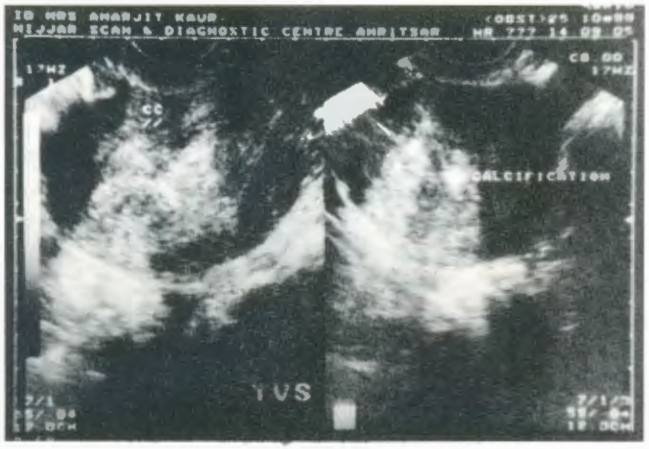
**Table IV**
**Showing non-specific and specific investigations helping in diagnosis**

| Investigations | Done in patients (n) | Positive value | %age of positivity |
|---|---|---|---|
| ESR | 100 | 89 | 89.00 |
| Lymphocytosis | 100 | 31 | 31.00 |
| Montoux | 100 | 93 | 93.00 |
| X-ray chest | 100 | 01 | 01.00 |
| Endometrial biopsy | 79 | 03 | 03.80 |
| Hysterosalpingography | 79 | 57 | 72.10 |
| Diagnostic laparoscopy | 62 | 60 | 96.10 |
| Elisa test | 100 | 8 | 78.00 |
| Non healing scar scraping HPE | 9 | 9 | 100.00 |

### Diagnostic aids

As shown in (Table IV) ESR was found to be raised in 89 cases, in 61 cases the rise was moderate to

severe. Lymphocytosis was seen only in 31 patients. Montoux was positive in 93 patients which raised high degree of suspicion. X-ray chest was positive in only one case who was also having generalised signs and symptoms. Endometrial biopsy and hysterosalpingography was done in every case of infertility. Endometrial biopsy was positive in three cases only and one case out of these was having calcification in endometrium on ultrasound (Photograph I). Guinea pig inocculation and culture is no longer used for diagnosis (Sheth, 1990).




Photograph I: USG showing calcification in the endometrium in case of pelvic tuberculosis

Ultrasonography was done as a routine in adolescent patients with menstrual problems, young infertile patients under investigations, patients with adnexal masses and with history of chronic pelvic pain.

FNAC or tissue scraping histopathology was done in cases of non healing scars from the site of wound, or a sinus or an adjacent lymphnode in case of inguinal lymphadenopathy. The diagnosis of tubercular granulation tissue or tubercular lymphadenitis was confirmed before antitubercular therapy was given.

However in all these cases preoperatively no investigation indicative of tubercular infection was done and suspicion of the disease came from the non healing of the incision line or from the persistent stitch abscesses or sinuses at the wound site.

Hysterosalpingography report was normal in 22 patients, while 57 patients had abnormality in the form of cornual block (18 patients), fimbrial block (12 patients), beaded tubes (2 patients), hydrosalpinx (9 patients), localised spill (11 patients), extravasation or intravasation of dye (12 patients) and filling defect in uterine cavity (4 patients) as shown in table V.

**Table V**
**Shows different hysterosalpingographic findings.**

| Hysterosalpingographic | No. of patients (n=76) | Percentage findings |
|---|---|---|
| Normal finding | 22 | 27.80 |
| Cornual block | 18 | 22.80 |
| Fimbrial block | 12 | 15.20 |
| Beaded tubes | 02 | 02.50 |
| Hydrosalpinx | 09 | 11.40 |
| Localised spill | 11 | 13.90 |
| Extra or intravasation | 12 | 15.10 |
| Filling defect in uterine cavity | 04 | 05.10 |

Laparoscopy was not acceptable to all the patients. So it was done in 62 patients having abnormal hysterosalpingography, abnormal ultrasound or patients having T.O. masses on bimanual pelvic examination. Evidences of acute infection were seen as small miliary tubercles, peritoneal congestion, swollen and reddened serosa of uterus and tubes.

Thickened tubes, terminal hydrosalpinx with retort shaped tubes, T.O. masses especially terminal part of tubes matted to ovary, flimsy adhesions in the pouch of Douglas were the evidences of chronic infection. Intravasation or extravassation on chromotubation was also seen in some patients.

Elisa test (IgG and IgM antibodies) either or both for tuberculosis was positive in 78 patients and it proved to be an important diagnostic aid in suspicious cases.

**Outcome of antitubercular treatment**

Photograph II: Hysterosalpingography showing filling defect to uterine cavity with tubes not outlined and no spill on either side.

With anti-tubercular treatment, 14 patients conceived. In 32 patients, out of 33, T.O. masses disappeared, 52 patients out of 54 were relieved of chronic pelvic pain, Photograph (III) showing patent tubes on hysterosalpingography after the antitubercular treatment in which both tubes were blocked previously (Photo II). In all patients with non healing operative scars, healing occurred within 3-4 weeks of treatment.

Photograph III: Hysterosalpingography showing normal uterine cavity with tubes outined with localized spill.

Myco-3 testing (direct PCR testing for tubercular antigen) being very expensive was undertaken by two patients in our study where diagnosis of TB was not acceptable to patients on clinical grounds, Elisa testing and other lab tests. Myco-3 detection was surest to diagnose the disease and patient responded to treatment.

**Discussion**

Tuberculosis is prevalent in all age groups. In our study maximum patients of pelvic tuberculosis were of 20-25 years i.e. 44% and the results are comparable to those of Alwani et al (1995) and Kamal Deshmukh (1987). In our study infertility was the chief complaint i.e. 79%. The incidence is higher than that of Sutherland 1983 (44.1%), Alwani et al (1995) (30%) and Samuel (1967) (54.4%). 34% patients presented with different menstrual problems as observed by Alwani et al (1995) i.e. 37.5%. Menorrhagia being the most common i.e. in 16% patients. That may be due to early suspicion and diagnosis of the disease because initially pelvic congestion causes menorrhagia and later on oligomenorrhoea or amenorrhoea results. However oligomenorrhoea was found in 9% patients with amenorrhoea in 6% patients in our study. The incidence of 20% was observed by

**Table VI**
**Showing outcome of anti-tubercular treatment**

| Complaint | No. of patients | Relief of complaints | Percentage |
|---|---|---|---|
| Infertility | 79 | 14 (became pregnant) | 17.70 |
| Non-healing scar | 9 | 9 | 100.00 |
| T.O. masses | 33 | 32 | 96.96 |
| Chronic pelvic pain | 54 | 52 | 96.30 |

**Table VII**
**Showing various results of our study in comparison with those of other authors**

| Observations | Present study | Previous studies | |
|---|---|---|---|
| Patients in 21-25 Years age group | 44% | Alwani et al, 1995 (40%)<br>Deshmukh et al 1987 (57.7%) | Albert et al, 1953 (39%) |
| Infertility | 79% | Sutherland, 1985 (44.1%)<br>Alwani et al, 1995 (30%) | Tripathy & Tripathy 1999 (58%)<br>Samuel and Prem Gupta, 1966 (54.45%) |
| Menstrual disturbances | 34% | Alwani et al, 1995 (37.5)<br>Deshmukh et al 1987 (26.7%) | Albert et al, 1953 (57%)<br>Tripathy and Tripathy 1999 (43%) |
| Chronic pelvic pain | 54% | Albert et al, 1953 (69%)<br>Deshmukh et al 1987 (24.4%) | Klein et al, 1976 (30%)<br>Alwani et al, 1995 (17.5%) |
| Adnexal masses | 33% | Albert et al, 1953 (53%) | Tripathy et al, 1999 (21%) |
| ESR | 89% | Wadia, 1996 (98%) | Alwani et al, 1995 (52.5%) |
| Mantoux | 93% | Dalal et al, 1999 (90%) | Alwani et al, 1995 (45%) |
| X-ray chest | 1% | Alwani et al, 1999 (90%) | Albert et al, 1953 (27%) |
| Pregnancy rate | 17.7% | Deshmukh et al 1987, (13.3%) | Dalal et al, 1999 (16%) |

Klein et al (1976). Lower abdominal pain was found in 54% patients and adnexal masses were observed in 33% though results are lower as compared to given by Albert et al (1953) (69%, and 53%) respectively. Adnexal masses in young age group raised a strong suspicion of pelvic tuberculosis

ESR was found to be raised in 89% cases though Wadia (1996) reported 98% positively provided the test was done very accurately. The results are higher than those of Alwani et al (1995) (52.5%). In 93% patients Mantoux was positive and similar results were observed by Dalal (1999) who gave the report 90%. Hysterosalpingography showed abnormalities in 72% patients and the results were comparable to those of Klein et al (1976) but higher as compared to Alwani et al (1995) (40%). Positive histopathology of endometrial biopsy was observed in only 3.8% cases, the present report bieng close to that given by Manjari (1995) i.e. 2.05%. The lower rate of positive histopathology report may be due to cyclical shedding of endometrium and absence of re-infection of endometrium in every cycle.

Role of diagnostic laparoscopy in diagnosing the pelvic tuberculosis is undebated as documented by Deshmukh (1987) and others.

Elisa testing for tubercular infection was found positive in 78% patients of our study whichis in concurrance with that of Munshi et al (1993) i.e. 80%. This test is an important adjuvant to other diagnostic aids along with history and clinical examination.

Conception rate in our study (after anti TB treatment) was 17.6% which is consistent with that of Dalal (1999) who observed 16% conception rate which is slightly higher as compared to those of Deshmukh (1987) (13.3%). However chronic pelvic pain subsided in 96.6% cases. Alwani et al (1995) observed relief in 84% cases while T.O. masses disappeared in 96.4 patients.

Non-healing operative wounds healed in 100% such cases.

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