

Genital Tuberculosis : Present Scenario

Madhu Nagpal, Davinder Pal.

Abstract

Two hundred and thirty cases of tuberculosis were analysed at random in O.P.D. of Obstetrics and Gynaecology, Government Medical college, Amritsar from January 1997 to March 2001. The aim was to evaluate the clinicopathological presentation of the disease and the mode of diagnosis by formulating some suspicion criteria, inclusion criteria, exclusion criteria and conclusion criteria and to see the response of anti-tubercular therapy. Maximum patients (43.47%) were in 20-25 years age group. Infertility was present in 78.69% patients, menstrual disturbances in 33.91%, chronic pain lower abdomen in 53.91% and adnexal masses in 32.60% patients, 1.73% cases reported with pregnancy with tuberculosis. Although neutropenia and lymphocytosis were also considered to be supporting tests, yet ESR was found to be raised in 90% patients. Mantoux was positive in 93.91% and Elisa testing in 78.69% patients. Positive value of HSG was found to be 69.06% and that of diagnostic laparoscopy was 94.16%. However, positive HPE of endometrium was observed in 3.31% patients only. The diagnostic conclusion criteria was taken as two non-specific positive and one specific positive investigations. 17.6% patients conceived during or after the treatment while 96.77% patients were relieved from chronic lower abdomen pain, 89.79% from menstrual disturbances and T. O. masses disappeared in 89.33% patients after the anti-tubercular therapy.

Key Words

Genital tuberculosis, Infertility, Adnexal mass

Introduction

There is growing national and global burden of tuberculosis. In daily practice, the patients are coming with such varied symptomatology that only alert mind can suspect and diagnose the disease. The cost effective investigation protocol can give maximum benefit to the patient by early and correct diagnosis.

Tuberculosis may affect all age groups and all socioeconomic classes. Primary focus may be quiescent and almost forgotten but secondary lesions may appear in genital tract years later and the sequelae may be devastating especially if infertility results. 5-13% of the pulmonary tuberculosis patients develop genital

tuberculosis. Primary lesion may be in lungs (50%), lymphnodes (40%), urinary tract (5%), bones and joints (5%) or abdomen (25%). However, 1-2% cases may be due to direct contact with infected semen. Tubes are involved in 90-100% cases, endometrium in 50-60%, ovaries in 20-30%, pelvic and abdominal mesothelium in 10%, cervix in 2% and vulva vagina in 2% cases. Symptomatology varies considerably from asymptomatic to typical signs and symptoms like low grade fever, loss of weight and appetite, malaise or chronic pelvic pain, menstrual disturbances, tubo-ovarian (T.O.) masses and infertility. Tuberculosis is one of the major aetiological

Department of Obstetrics and Gynaecology, Government Medical College, Amritsar (Punjab) India.

Correspondence to Dr. Madhu Nagpal 1, Radha Soami Satsang Road, The Mall, Amritsar - 143 001 (Punjab) India.

factors of female infertility especially in the Indian subcontinent. Infertility is seen in 40-50% of the genital TB patients, menorrhagia in 40%, amenorrhoea in 10% and T.O. masses in 25% patients of the genital T.B. patients.

The present study was undertaken to evaluate the clinicopathological presentation of tuberculosis.

Material and Methods

Two hundred and thirty tuberculosis cases of all age groups were analysed at random in OPD of Obstetrics and Gynaecology Department of Government Medical College, Amritsar from January, 1997 to March, 2001. They presented with infertility or chronic pelvic pain or menstrual problems or adnexal masses not responding to treatment or with non healing operative scars. The study was designed :

- (a) To identify suspicion criteria from detailed history and clinical examination. Past history of disease, positive family history, history of contact, poor socio-economic status, generalised weakness, loss of appetite and weight, night sweats or chronicity of the symptomatology inspite of usual treatment.
- (b) To evaluate inclusion criteria like non-specific tests e.g. lymphocytosis, raised ESR, positive Mantoux or X-ray chest and some specific tests like HPE of tissue like endometrium or scar scrapings, typical HSG, laproscopic and hysteroscopic findings, ELISA (1gG & 1gM) testing, polymerase chain reaction (PCR) testing, mycogenes testing and AFB (acid fast bacilli) testing. The investigation profile had to be modified according to patient's symptomatology.
- (c) To look for exclusion criteria like confirmation of some other disease e.g. malignancy on FNAC, tissue biopsy, lymphnode biopsy, transvaginal sonography (TVS), Trucut biopsy or raised CA-125 levels.
- (d) To evolve simple conclusion criteria for early and correct diagnosis which are cost effective and matches the needs and acceptability of the patients.

Typical histopathology of the tissues like endometrium, lymph node, hysteroscopic or laparoscopic biopsy, ascitic fluid cytology are some of conclusive evidence. However, two non-specific and one specific test is taken as conclusive criteria.

Antitubercular drugs used were mostly first line i.e. Rifampicin 450 mg, Isonex 300 mg, Ethambutol 800 mg, Pyrazinamide 1500 mg for 2 months and Isonex and Rifampicin for another 6-7 months. Second line and third line antitubercular drugs were not used in our patients.

Observations

Age Distribution

The present study included patients of all age groups, from adolescence to postmenopausal as shown in Table 1. The youngest was 15 year old school going girl (reporting with secondary amenorrhoea) and the oldest was 47 year old. Our maximum patients were in the age group of 21-25 years followed by 26-30 years and infertility was the chief complaint in this age group. Adolescent girls presented with menstrual disturbances.

Symptomatology

Many patients had multiple complaints. As shown in Table 2 infertility was present in 181 patients, menstrual problems in 78 patients chronic pelvic pain in 124 patients and adnexal masses in 75 patients. However, 82 patients had typical generalised signs and symptoms like low grade fever, loss of weight and loss of appetite and 17 patients presented with non-healing operative scars. Four patients had pregnancy with tuberculosis.

Out of different menstrual disturbances, 33 patients had menorrhagia, 22 had oligomenorrhoea, 11 had secondary amenorrhoea and 12 patients had irregular periods, while 152 patients were having regular periods as shown in Table 3.

Investigation Profile

This was tailored according to patients symptomatology. As illustrated in Table 4, ESR was found to be raised in 207 patients, significant lymphocytosis was

seen in 69 patients, and positive Mantoux in 216 patients. However, only 5 patients with typical signs and symptoms had typical x-ray findings.

Amongst specific tests, ELISA test (1gG and 1gM-antibodies) was positive in 181 patients and it proved to be an important diagnostic aid in suspicious cases. Endometrial biopsy (E.B.) and hysterosalpingography (HSG) were done in all cases of infertility. Positive histopathological examination (HPE) of endometrial biopsy (EB) was seen in 6 patients only. However, HSG revealed abnormal findings in 125 patients. Cornual block was seen in 50 cases, fimbrial block in 27 cases, beaded tubes in 8, localised spill in 24, hydrosalpinx in 11, extra or intravasation of dye 31 and filling defect in uterine cavity in 10 patients as shown in Table 5. Some HSG revealed more than one type of defect. Normal HSG was observed in 56 patients.

Laparoscopy being an invasive procedure, was acceptable to only 120 patients who had T.O. masses on clinical as well as ultrasound examination and abnormal HSG. 113 patients revealed findings suggestive of tuberculosis. Miliary caseous tubercles, intraluminal caseation, peritoneal congestion, microvascularisation with reddened swollen serosa of tubes and uterus were some of evidences of acute disease, while thickened tubes, terminal hydrosalpinx, T.O. masses, flimsy pelvic adhesions, tubes plastered with parities or blocked tubes with obliterated pouch of Douglas with intravasation or extravasation of dye were taken as evidences of chronic infection.

Tissue scrapings HPE from non-healing scars revealed tubercular granulation tissue in all such cases and the suspicion of tuberculosis had come from the persistent sinuses inspite of usual treatment. PCR testing (Myco-3) for tuberculosis was acceptable to only 3 cases as the test is very costly.

Outcome of A.T.T.

As Table 6 reveals, thirty two patients with infertility conceived during or after the antitubercular therapy while

chronic pelvic pain was relieved in 120 patients. T.O. masses either significantly decreased in size or disappeared in 67 patients. Seventy patients experienced relief from menstrual disturbances. However, non healing scars healed in all such cases.

Table 1
Showing the Age distribution

Age group (years)	No. of Patients	%tage
15-20	8	3.47
21-25	100	43.47
26-30	62	26.95
31-35	30	13.04
36-40	18	7.82
>40	12	5.25
Total	230	100.00

Table 2
Showing Various signs and symptoms

Signs and Symptoms	No. of patients	%tage
Infertility	181	78.69
Chronic pelvic pain	124	53.91
Menstrual problems	78	33.91
Generalized sign and symptoms	82	35.65
Adnexal meases	75	32.60
Non healing operative scars	17	7.39
Pregnancy with tuberculosis	4	1.73

Table 3
Showing details of the menstrual problems

Menstrual problems	No. of Patients	%tage
Menorrhagia	33	14.34
Oligomenorrhoea	22	9.56
Secondary amenorrhoea	11	4.78
Irregular periods	12	5.24
Normal periods	152	66.08
Total	230	100.00

Table 4
Showing non-specific and specific investigations

Investigation	Patients (n)	Positive value	Positivity percentage
ESR	230	207	90.00
Lymphocytosis	230	69	30.00
Mantoux	230	216	93.91
X-ray chest	230	5	2.17
Elisa test	230	181	78.69
Endometrial biopsy	181	6	3.31
Hysterosalpingography	181	125	69.06
Diagnostic laparoscopy	120	113	94.16
HPE of tissue scraping	17	17	100.00

Table 5
Showing abnormalities in hysterosalpingography (n=125)

Abnormalities	No. of Patients	Percentage
Cornual block	50	40.0
Fimbrial block	27	21.6
Beaded tubes	8	6.4
Localised spill	24	19.2
Hydrosalpinx	11	8.8
Extra/Intravasation or dye	31	24.8
Filling defect	10	8.0
56 patients had normal HSG		

Table 6
Showing outcome of antitubercular treatment

Complaint	No. of Patients	Relief of complaint	Percentage
Infertility	181	32	17.67
Chronic Pelvic pain	124	120	96.77
Tubo-ovarian masses	75	67	89.33
Menstrual problems	78	70	89.74
Non-healing operative scars	17	17	100.0

Discussion

It is very difficult to find the primary focus of genital tuberculosis as the interval between primary and genital tract infection may be ten years or more (1). 5-13% patients of pulmonary tuberculosis develop genital

tuberculosis. Though tuberculosis is prevalent in all age groups, our maximum patients (43.47%) were in 20-25 years age group as reported by Alwani *et. al.* also (2). Infertility was the chief complaint in our study (78.69%). 33.91% patients presented with different menstrual complaints, comparable (37.5%) to those reported by Alwani *et. al.* (2) Menorrhagia being the most common i.e. 14.34%. The reason may be the early suspicion and diagnosis of the disease because initial congestion causes menorrhagia and later on oligomenorrhoea or amenorrhoea results. However, oligomenorrhoea was found in 9.56% patients. Amenorrhoea was observed in 4.78% cases which is lesser as compared to that of Klein *et. al.* (3). WHO reported the incidence to be as high as 20%. Lower abdominal pain was complained by 53.91% of patients and adnexal masses were seen in 32.60% patients. Adnexal masses in young age group raised a strong suspicion of pelvic tuberculosis.

ESR was found to be raised in 90% cases though Wadia (4) observed it in 98% cases. The result is higher than those of Alwani *et. al.* (2). Mantoux was found positive in 93.91% which is close to the result of Dalal *et. al.* (5). ELISA test for IgG & IgM was positive in 78.69% in our patients which in concordance with that of Munshi *et. al.* (6). This test is an important adjuvant to other diagnostic aids along with history and clinical examination. Guinea pig inoculation is not used now a days (7) Positive x-ray chest was seen only in 2.17% of patients, results being lower than that of Alwani *et. al.* (2).

Positive HPE of EB was seen in only 3.31% patients as observed by Manjari *et. al.* also (8). The lower rate may be due to cyclical shedding of endometrium and absence of reinfection in every cycle.

Abnormal HSG was seen in 69.06%. The results are comparable to those of Klien *et. al.* (3) but higher as compared to those of Alwani *et. al.* (2).

Endometrial calcification, caseous pyometra, T.O. masses/abscess, cysts, hydrosalpinx, lymphadenopathy, ascites on ultrasound suggest tubercular pathology.



Ultrasound guided fine needle aspiration is safe and highly specific and sensitive in diagnosing the tubercular and malignant lymphadenopathy.

Laproscopy once thought to be contraindicated in tubercular abdomen is now fairly accurate in diagnosing the pelvic tuberculosis and guided biopsy confirms the diagnosis of tuberculosis and rules out malignancy. Sheth (9) did laproscopy in ascities of unknown origin to differentiate acute pelvic tuberculous from ovarian malignancy. In our patients, laparoscopy was positive in 94.16% cases. The role of diagnostic laparoscopy is undebated as documented by Deshmukh *et. al.* (10).

Hysteroscopy can reveal a normal uterine cavity with obliterated tubal ostia or intracavity adhesions, fibrosed tubular cavity with atrophic endometrium or complete obliteration of cavity or caseous pyometra.

After ATT, conception rate in our study was 17.67% which is consistent with that of Dalal *et. al.* (5) but slightly higher than that of Deshmukh *et. al.* (10).

However, chronic pelvic pain subsided in 96.77% patients though Alwani *et. al.* (2) observed relief in 84% patients. T. O. masses disappeared in 89.33% cases and menstrual problems were relieved in 89.74%. Non healing operative wounds healed in 100% cases with anti-tubercular treatment.

No major surgery was required in our cases. Surgery has limited role in tuberculosis except in big T.O. masses not responding to anti-tubercular treatment or if infertility demands.

Conclusions

While treating the patients in OPD strong clinical suspicion along with tailored investigation profile with simple cost effective laboratory support in patients with multiple complaints like recurrent subacute pelvic infection, secondary amenorrhoea with adnexal masses, a persistent vaginal discharge or persistent fistula or abscess formation following surgery non-responding to routine

medical treatment in adolescent, young or old females bring the diagnosis to tuberculosis in clinician's mind. Positivity of two non-specific and one specific test is conclusive evidence. Myco-3 (PCR) testing, ABS test and Mycogenes study are latest modalities for diagnosing and treatment of tuberculosis. Vigorous therapy for 6-9 months is needed especially to prevent MDR tuberculosis. Retrospective evaluation of patients after treatment is invaluable. Keeping in mind the increasing world wide incidence of HIV infection, every tubercular patient is to be screened for HIV infection and in all patients with HIV infections, we should have high index of suspicion for tubercular infection.

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