

FEMALE GENITAL TRACT TUBERCULOSIS WITH SPECIAL REFERENCE TO STERILITY IN EASTERN U.P

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SUMMARY

Five thousand and sixteen gynaecological specimens were studied in the department of Pathology, B.R.D. Medical College, Gorakhpur in a period of 1988 to 1992 out of which 162 (3.22%) were of female genital tract tuberculosis. In this study female genital tract tuberculosis showed a declining trend from 4.6% to 2.2%, probably due to increased awareness of its presence, availability of better facilities for its diagnosis and measures taken to improve health standards.

In 60% of these cases main complaint was infertility (37.18%). Tuberculosis involved endometrium (86.42%), cervix (9.26%), fallopian tube (2.47%) and ovaries (1.85%).

No case of vulvovaginal tuberculosis was observed. Granuloma present in the initial biopsy tend to disappear on antitubercular treatment.

INTRODUCTION

Amongst the known causes responsible for infertility in females, tuberculosis of female genital tract ranks next in the list after hormonal disbalance. 5.6 percent of primary infertile patients show tubercular endometritis (Sharman 1952). In spite of availability of specific chemotherapy it is

still a major cause of sterility in the third world (Agarwal & Gupta, 1993). Since tuberculosis of female genital tract is found to be associated with infertility, a higher prevalence of disease observed in eastern part of U.P. might be a significant factor as a cause of infertility in this region (Sharma & Mittal, 1979). Early diagnosis and treatment in young patients with genital tract tuberculosis may improve the prospects

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of cure, before the tubes are damaged beyond recovery. This study reviews our clinicopathological experiences in eastern part of U.P. with 162 cases of female genital tract tuberculosis.

MATERIAL AND METHOD

Five thousand and sixteen gynaecological specimens were studied in the department of Pathology, R.R.D. Medical College, Gorakhpur during a period of 5 years from 1988 to 1992. Out of which 162 cases of female genital tract tuberculosis were observed representing 3.22% of total specimens. In all these cases clinical findings were noted, light microscopic details were reviewed and Zeihl Neilsen staining for acid fast bacilli done along with positive controls. In addition follow up endometrial biopsies in 30 cases after 12 to 18 months antitubercular treatment were also studied.

OBSERVATIONS

INCIDENCE - The annual incidence of female genital tract tuberculosis showed

a peak of 4.6% in 1988 and then declined to a low levels of 2.2% in 1992 (Figure 1).

INCIDENCE OF FEMALE GENITAL TUBERCULOSIS

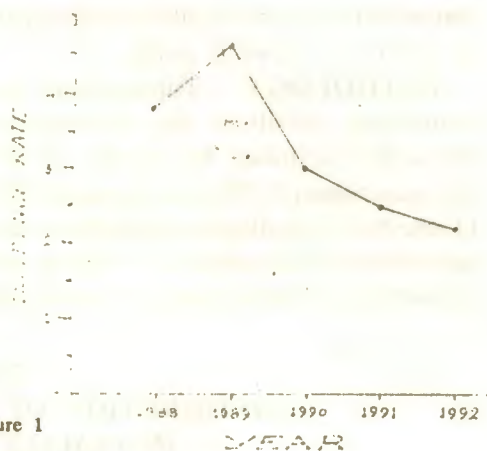


Figure 1

AGE - Age of the patients ranged from 11 years to 70 years and the majority (46.8%) were between 20-30 years of age. The infertile patients were between 17 years to 40 years of age.

SYMPTOMS & SIGNS - Commonest clinical complaint was primary sterility (37.18%) followed by dysfunctional uter-

**TABLE I
CLINICAL DETAILS OF THE PATIENTS**

S.N.	Clinical Presentation	No. of cases	Percentage
1.	Primary sterility	1865	37.18
2.	Uterine bleeding	1335	26.62
3.	Secondary infertility	980	19.54
4.	Prolapse uterus	100	1.99
5.	Lump in abdomen	75	1.49
6.	Missed abortion	100	1.99
7.	Discharge per vagina	560	11.19

ine bleeding (26.62%) and secondary infertility (19.53%) (Table No. 1). A previous history of pulmonary tuberculosis was present in 5% patients. Examination was normal in 90% while the rest had either a lower abdominal mass, an irregular growth, erosion of cervix or cervical polyp.

PATHOLOGY - Tuberculosis most commonly involved the endometrium (86.42%) followed by cervix (9.26%) fallopian tubes (2.47%) and ovaries (1.85%) (Table No. 2). Fallopian tubes showed the involvement of ampullary region with obliteration of tubal lumen. Ovaries were

cystic with thick fibrous wall.

MICROSCOPIC - Out of 2845 patients of sterility histology revealed normal secretory endometrium in 52.65% while 1136 patients (39.92%) showed normal nonsecretory pattern. Tubercular endometritis was recognised in 140 cases (4.92%), while non-specific chronic and acute endometritis was seen in 41 cases (1.44%) and 30 cases (1.07%) respectively (Table No. 3).

Incidence of tubercular endometritis was found to be more in secondary infertility (7.44%), than primary sterility (3.59) (Table No. 4).

TABLE II
DISTRIBUTION OF TUBERCULOUS LESIONS
IN FEMALE GENITAL TRACT

S.No.	Organ	No. of cases	Percentage
1.	Endometrium	140	86.42
2.	Fallopian tubes	4	2.47
3.	Cervix	15	9.26
4.	Ovaries	03	1.85

TABLE III
VARIOUS HISTOLOGICAL PATTERNS IN PREMENSTRUAL
ENDOMETRIUM IN STERILITY CASES

S.N.	Histological pattern	No. of cases	Percentage
1.	Secretory phase	1498	52.65
2.	Non secretory phase	1136	39.92
3.	Tubercular endometritis	140	4.92
4.	Chronic endometritis	41	1.44
5.	Acute endometritis	30	1.07

TABLE IV
INCIDENCE OF TUBERCULAR ENDOMETRITIS IN STERILITY CASES

S.N.	Type of sterility	No. of cases	No. of tub. endometritis	Percentage of tub. endometritis
1.	Primary sterility	1865	67	3.59
2.	Secondary infertility	980	73	7.44

In the endometrium, epitheloid cell granuloma with occasional necrosis (3.07%), coalescent at times were seen, distributed in the entire thickness of endometrium. Granulomatous lesions of both ecto and endo cervix were seen with scanty necrosis. Fallopian tubes showed hyperplastic adenomatous appearance of the tubal mucosa, epitheloid cell granulomas and occasional caseation. Ovaries showed thick fibrous wall with multiple granulomas. With Zeihl Nielsen staining A.F.B. were demonstrated in 2 cases of tubercular salpingitis (1.23%).

DISCUSSION

In our study, female genital tract tuberculosis showed a steady decline from 4.6% to 2.2%. Female genital tract tuberculosis is seen in 0.65% of all hospital admissions (Sutherland A.M., 1960). The declining trend is probably due to increasing awareness of its presence, availability of better facilities for diagnosis and measures taken to improve health standards (Agarwal et al, 1993). In India bacteriologically confirmed pulmonary disease is 4 cases per 1000 population (W.H.O Bulletin, 1974).

Majority of the patients of female genital tract tuberculosis were in their thirties (Agarwal et al, 1993; Sharma & Mittal, 1979).

Commonest overall clinical presentation was sterility (56.72%). Out of 162 patients of female genital tract tuberculosis 90.12% patients had infertility as a chief complaint 47.9% had primary and 52.1% had secondary infertility. In cases of tuberculosis of female genital tract infertility is due to end organ failure because of caseation (Sutherland, 1960).

Involvement of endometrium has been reported from 60% (Sutherland 1960) to 99.5% (Agarwal et al, 1993) in cases of female genital tract tuberculosis. Our study reveals 86.42% of tubercular endometritis in cases of female genital tract tuberculosis. Higher incidence of tubercular endometritis in sterility cases could be attributed to higher prevalence of tuberculosis due to poor socioeconomic status in this region. Our findings are in accordance with others (Sharma et al, 1979).

In present study endometrial tuberculosis was noted more in secondary sterility

cases (7.44%) than primary sterility (3.59%) (Sharma et al, 1979) but Abbasi et al 1979 found endometrial tuberculosis to be more in primary sterility.

Cervical tuberculosis was observed in 9.26% cases. Our findings are similar to Sutherland 1960. However much higher incidence has been reported by Agarwal et al (1993). Endocervix was involved in greater number of our cases than ectocervix, a finding contrary to Agarwal et al (1993) who observed it vice-versa. The lower incidence of cervical tuberculosis could be because the cervical mucus membrane, squamous epithelium of portio vaginalis and increased vascularity make the cervix comparatively resistant to tubercular bacilli infection (Sutherland, 1960).

Ovarian tuberculosis was noted in 1.85% cases. Variable incidence of ovarian tuberculosis from 0 to 62.5% is available in literature (Schaefer G., 1970; Agarwal et al, 1993). It is usually secondary to tubal disease but rarely results from hematogenous spread. Sarcoidosis (Winslow & Punk Trausor) 1968), Crohn's disease (Schaefer G., 1970; Brooks., 1977), actinomycetes (particularly after introduction of intrauterine devices) can produce granulomatous lesions in female genital tract but they are very rare and of no clinical significance (Woll et al, 1948).

Bilateral involvement of fallopian tubes observed in 2.17% of our cases is in accordance with others (Agarwal et al, 1993; Sutherland A.M., 1960).

No case of vulvovaginal tuberculosis was observed by us. A very low incidence less than 0.07% was reported by different workers (Agarwal et al, 1993; Bhattacharya P. 1978;)

There is universal agreement that tubercular bacilli are very rarely found in endometrial and cervical granulomas even with the use of fluorescent technique (Agarwal et al, 1993). Although demonstration of A.F.B. was possible in only 1.23% of our cases in fallopian tubes, follow up of endometrial biopsies in 30 patients on antitubercular therapy showed complete disappearance of granulomas. Use of polymerase chain reaction (PCR) for rapid diagnosis of female genital tract tuberculosis could be a promising future approach.

In conclusion, this study carried out in the females of eastern part of U.P., most of which are of low socioeconomic status and poor hygienic living standards, shows although a higher incidence of female genital tract tuberculosis, but a declining trend in recent years. Majority (46.87%) were in third decade and sterility was the most common clinical presentation (56.72%). Endometrium and cervix were involved in most of the cases and incidence of secondary sterility was more than primary sterility. Absence of A.F.B. does not exclude the diagnosis of female genital tract tuberculosis. Granulomas present in the initial biopsy tend to disappear after antitubercular treatment.

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DISCUSSION

Infertility is a common and important problem which affects many women. In the past, the only hope for many infertile women was to go through an exhaustive list of tests and procedures. The more extensive endometrial biopsy, endometrial aspiration and other procedures which are reported to be of considerable value are indicated in the present study. The aim of this study is to evaluate the value of biopsy and of endometrial aspiration in the diagnosis of tuberculous endometritis. The present study was conducted in the tertiary phase and during the postoperative phase. The aim of endometrial biopsy and aspiration was to detect the tubercle bacilli.

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