Female Genital Tuberculosis : Clinical Features and Trend

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Abstract

A retrospective study of genital tuberculosis in women attending the Department of Obstetrics and Gynecology between January 1986 and December 1997 revealed 11 patients with a mean age of 38 years (range 23-77). Two patients had genital tuberculosis and tuberculous peritonitis. The incidence was 0.01 per cent of outpatients and 0.05 per cent of inpatients. Eight cases occurred during the last six years. Although the incidence was quite low, a rising trend was observed. Of the clinical features, infertility was the commonest initial symptom (3 cases). The most common site of infection was the endometrium (5 cases) followed by fallopian tube and ovary (3 cases). Chest X-ray of all patients showed no lung infiltration while AFB staining and PCR for tuberculosis were positive in two out of five and one out of two respectively. Six patients received medical treatment only, and three were treated with antituberculous drugs after surgery; all with good results. Tubal reconstructive surgery was performed in two patients without medical treatment. Gynecologists should be aware of this disease to facilitate early diagnosis and treatment.

Key word : Genital Tuberculosis - Female - Clinical Features - Trend

Tuberculosis is an important communicable disease. The incidence of this contagious disease has steadily declined since the turn of the last century. However, it remains a major health problem especially in underdeveloped and some developing countries(1).

Genital tuberculosis is an uncommon type of tuberculosis involving the female genital organ(2-7). The pathogenesis is almost always secondary to tuberculosis elsewhere especially pulmonary tuberculosis.

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During the last decade it has been observed that the incidence of tuberculosis is increasing worldwide. This involves not only patients with human immunodeficiency virus (HIV) but also non-HIV infected patients[8-11]. In addition, there is also an increase of drug resistant tuberculosis which is an important factor enhancing the spread of the disease[12-14]. Therefore, it could be predicted that the incidence of genital tuberculosis is rising.

The aims of this paper was to study the current trend of genital tuberculosis and its clinical features.

MATERIAL AND METHOD

This is a retrospective study of patients attending the Department of Obstetrics and Gynecology, Ramathibodi Hospital between January 1986 and December 1997. The clinical features of patients with genital tuberculosis including personal profile, clinical presentation, operative findings and management were reviewed. All histologic slides of each patient were reconfirmed by a gynecologic pathologist (MR).

In this study, the diagnosis of genital tuberculosis and pelvic peritonitis was based on the clinical manifestations and pathological findings, both macroscopic and microscopic as described by Varma[1]. Genital tuberculosis was diagnosed when granulomatous inflammation involved not only serosal layer, but also the deeper layer of the genital organs while tuberculous peritonitis was diagnosed when tuberculous pathology, tubercle for example, involved only the peritoneum and serosal surface of abdominal and pelvic organs.

RESULTS

During the study period, there were 11 patients with genital tuberculosis. Two patients had a combination of genital tuberculosis and tuberculous peritonitis. The mean age of the patients was 38 years (range 23-77). All but two patients were in the reproductive age. Clinical features of all patients are shown in Table 1. During the same peroid there were 112,887 new gynecologic outpatients and 23,447 inpatients. The incidence of genital tuberculosis was 0.01 per cent of outpatients, and 0.05 per cent of inpatients respectively. It was noticed that 8 patients presented during the last 6 years and 4 in the last year. One patient had pulmonary and tuberculous menigitis 9 years ago and fully recovered after medical treatment.

Table 2 shows the frequency of the presenting symptoms of all patients. Infertility was the most common complaint (3 cases), followed by pelvic pain (2 cases). Menstrual disorder, abnormal vaginal discharge and postcoital bleeding indicated the pathology was confined to the endometrium and cervix. Pelvic pain and pelvic mass were nonspecific symptoms.

Chest X-ray of all patients showed no lung infiltration. VDRL and anti-HIV were negative. Recently, the polymerase chain reaction (PCR) for tuberculosis diagnosis has been developed. The test was positive in 1 out of 2 cases. Positive acid fast bacilli staining (AFB) was observed in 2 out of 5 patients who had been tested.

Considering involvement of various organs of the genital tract, the endometrium was the most common site of infection, followed by the fallopian tube, ovary and cervix respectively (Table 3).

Two patients complaining of infertility underwent reconstructive operation of the obstructed fallopian tubes. The pathology revealed tuberculosis. Since no other sites of tuberculosis were found, antituberculous drugs were not given. Six patients received medical treatment. Response was observed in all cases. Combined surgical and medical treatment was given in three patients. Antituberculous drugs were given postoperatively after pathological findings confirmed the diagnosis.

DISCUSSION

This study shows the increasing trend of genital tuberculosis and their clinical features. This retrospective analysis, although lacking some information, gives some insight into this uncommon disease which is very difficult to carry out in a prospective study.

The actual incidence of genital tuberculosis cannot be exactly determined because some patients are asymptomatic and the disease is discovered accidentally. In addition, the incidence of the disease varies from place to place[1]. In the present study, the incidence of genital tuberculosis is quite low but it is comparable with other studies reported from developed countries. In those reports, the incidence was around 0.02-0.05 per cent of gynecologic admission[2,3] and was only 0.01 per cent of 54,576 gynecologic specimens collected over 16 years[4]. The incidence of the disease is higher in some developing countries. In Saudi

Table 1. Summary of clinical features and histological picture.

No.	Year	Age	Clinical presentation	Operative finding	Histology
1.	1986	64	pelvic pain and pelvic mass	tubercle, caseation of genital organs, tubo-ovarian abscess	Caseous granulomatous inflammation of uterus and adnexae
2.	1987	23	pelvic mass	generalized tubercle, right ovarian tumor with content of caseation.	Caseous granuloma of right ovary
3.	1991	33	primary infertility, laparoscopy: tubal occlusion, bilateral adnexal adhesion, right tubal nodular mass	same as laparoscopic finding	granulomatous inflammation of tubal nodule
4	1992	39	postcoital bleeding, hard enlarged cervix with contact bleeding		granulomatous inflammation of cervical tissue
5.	1994	29	primary infertility, HSG: bilateral tubal occlusion	bilateral tubal occlusion at ischmic-ampular part	granulomatous inflammation of both tubes
6.	1995	29	yellowish discharge, caulifowler growth 2 cm in diameter		granulomatous inflammation of cervical mass
7.	1996	30	amenorrhea, no progestin and estrogen-progestin withdrawal bleeding	hysteroscope: generalized filmy adhesion at anterior and posterior wall of uterine cavity	granulomatous inflammation of endometrium
8.	1997	32	primary infertility, abnormal uterine bleeding		granulomatous inflammation of endometrium
9.	1997	24	spotting bleeding, pelvic pain abdominal distention, ascites and pelvic mass	laparoscopic finding: ascites, adhesion of omentum and small bowel, adnexal irregular mass, generalized tubercle and caseation	granulomatous inflammation of endometrium
10.	1997	77	yellowish discharge, low grade fever, weakness		granulomatous inflammation of endometrium
11.	1997	38	Dysmenorrhea, adnexal mass	bilateral ovarian chocolate cysts	granulomatous inflammation of righ ovary, endometriotic cyst

Table. 2 The presenting symptoms in 11 patients.

Symptoms	No. of cases
Infertility	3
Pelvic pain	2
Pelvic mass	2
Menstrual disorder	2
Abnormal vaginal discharge	2
Postcoital bleeding	1

Note : Two patients had one more symptoms.
One patient had genital tuberculosis as accidental finding of endometriotic cyst without initial symtom.

Table. 3 Pathological diagnosis of genital tuberculosis in 11 patients.

Diagnosis	No. of cases
Endometritis	5
Salpingitis	3
Oophoritis	3
Cervicitis	2

Note : some patients had one more diagnosis.

Arabia, genital tuberculosis was 0.45 per cent of gynecologic admissions[6], 10 times the incidence in this paper. India is an endemic area of tuberculosis. Tuberculous endometritis was found in 2.3 per cent of 42,770 specimens of non-pregnant endometrial curetting and biopsy[15].

Although the incidence of genital tuberculosis in this study is rather low, it is rising. During the twelve year studied period, 8 out of 11 cases were reported during the last six years, and 4 in the last year. At the same time it was observed that the occurrence of tuberculosis in the general population is also rising. The general explanation includes the spread of HIV infection[8-10] and the increase of drug resistant M. tuberculosis[12-14]. However, in this study, serology for anti-HIV was negative in all patients. In Ramathibodi Hospital, tuberculosis was the most common infection among HIV infected and AIDS patients[9]. One study in Africa showed that the prevalence of tuberculosis in 1995 was 2-3 times that of 1989[10]. A report from Spain showed that the crude rate of tuberculosis increased by 50 per cent, of which 60 per cent was due to AIDS between 1987 and 1993[11]. Increased incidence of tuberculosis, either pulmonary or extrapulmonary, associated with HIV and AIDS was observed in the United States of America [8]. Another factor that may also play an important role in enhancing the spread of tuberculosis is the resistance to antituberculous drugs in tuberculosis among AIDS patients[12,13]. In Thailand, there has been a rising tendency of drug resistance of M. tuberculosis[14-16].

Clinical features depend on the site of infection and the extent of disease. In this study, infertility was the most common complaint. This is in accordance with some other studies[5,17]. Although infertility was the commonest presentation in this series, genital tuberculosis is a very uncommon cause of infertility in Ramathibodi Hospital. Unlike the reports from Nigeria and India, genital tuberculosis was a more common cause of infertility[7,18].

Menstrual disorder, abnormal vaginal discharge and postcoital bleeding were other manifestations. These symptoms indicated that the pathology had extended to the endometrium and cervix.

The diagnosis of genital tuberculosis is based on clinical manifestations and laboratory tests[1,19]. The clinical manifestations, both symptoms and signs, are non-specific. The definite diagnosis of tuberculosis must rely on either isolation of tubercle bacilli including AFB staining, bacterial culture and PCR for Mycobacterium tuberculosis[1,19-22] or histologic finding of granulomatous inflammation, especially, with caseation[1,19]. PCR for Mycobacterium tuberculosis is the new technique for definite diagnosis[20,22] even in cases where a small amount of the bacterium is present in its specimen. However, AFB staining and PCR are not positive in all specimens. The results depend upon not only the quality of the technique but also upon specimens[1,19-23]. In this study, the diagnosis of most patients was merely based on histologic examination. The main finding is the presence of granulomatous inflammation. However, these granulomatous lesions can be found in other diseases such as sarcoidosis, candidiasis, histoplasmosis and actinomycosis. Genital sarcoidosis is a very rare disease and the histological features always reveal non caseous granulomas[24,25]. Actinomycosis of the genital tract is always associated with prolonged use of intrauterine device (IUD)[26]. No patient in this study used IUD. However, candidiasis and histoplasmosis are more common in immunocompromised women. They can cause genital infection and peritonitis as part of the systemic presentation[26].

Since pulmonary tuberculosis is common and usually is a primary source, a chest X-ray should be performed in every patient with genital tuberculosis[1,19]. In this series, the chest X-ray was negative for tuberculosis in all cases, contrary to other reports that positive chest X-ray, both active and old lesions were found in 10-47 per cent[3,5,6]

For genital tuberculosis, the fallopian tube is the most common site of infection (90-100%) followed by the endometrium (50-60%)[19]. In this study however, the endometrium was found to be the most common site of infection followed by the fallopian tube and ovary. This may be due to misdiagnosis in some cases in which no tubal assessments were perfomed and no tissue was obtained for pathological examination.

The primary treatment for genital tuberculosis is antituberculous drugs. Surgical treatment is carried out when indicated or in cases with medical failure[1,19]. In this series, 6 patients were treated with antituberculous drugs with good results. Combination with surgery can improve the results of treatment and diminish the complication. Complications after surgery, fistula for example, have been

reduced in cases which received preoperative treatment with antituberculous drugs[1,19]. Preoperative medical treatment also makes the operation easier, safer, and more effective[1,19]. However, in many cases surgery was done due to misdiagnosis. In this series, there were 3 cases whose preoperative diagnosis was not tuberculosis.

SUMMARY

Genital tuberculosis is a rare manifestation of tuberculosis. There has been, however, a rising tendency with the re-emergence of tuberculosis. The clinical manifestations of genital tuberculosis are not typical or diagnostic. Thus, gynecologists should be aware of this disease in women with pelvic pain, irregular pelvic mass, infertility and abnormal uterine bleeding that do not respond to conventional treatment, thus avoiding an unnecessary operation and rendering early diagnosis and treatment.

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วัณโรคระบบสืบพันธุ์สตรี : แนวโน้มและลักษณะทางคลินิก

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การศึกษาย้อนหลังผู้ป่วยที่เป็นวัณโรคระบบสืบพันธุ์ ในสตรีที่มารับบริการที่ภาควิชาสูติศาสตร์-นรีเวชวิทยา ตั้งแต่เดือนมกราคม 2529 ถึงเดือนธันวาคม 2540 พบผู้ป่วยเป็นโรคดังกล่าว 11 ราย อุบัติการณ์ของโรคเท่ากับ ร้อยละ 0.01 ของผู้ป่วยนอกใหม่ และร้อยละ 0.05 ของผู้ป่วยในใหม่ ผู้ป่วยส่วนใหญ่ (8 ราย) ได้รับการวินิจฉัยในช่วง 6 ปีหลังของการศึกษา แม้ว่าอุบัติการณ์ของโรคจะต่ำมาก แต่มีแนวโน้มของการเกิดโรคมากขึ้น โดยอุบัติการณ์ของโรคที่เกิดในช่วง 6 ปีหลัง สูงเป็น 2-3 เท่าของในช่วง 6 ปีแรก สำหรับลักษณะทางคลินิกพบภาวะมีบุตรยากเป็นอาการนำที่มากที่สุด (3 ราย) และพบรอยโรคของวัณโรคของเยื่อบุโพรงมดลูกมากที่สุด (5 ราย) รองลงไปคือวัณโรคของท่อนำไข่และรังไข่ (3 ราย) ผู้ป่วย 6 ราย ได้รับการรักษาด้วยยาต้านเชื้อวัณโรค 3 ราย ได้รับยาต้านวัณโรคภายหลังการผ่าตัดและวินิจฉัยทางพยาธิวิทยา ผู้ป่วยทั้ง 10 ราย ตอบสนองต่อการรักษาดี ผู้ป่วย 2 รายที่มีปัญหาการมีบุตรยาก ได้รับการผ่าตัดแก้ไขท่อนำไข่ โดยไม่ได้ยาต้านวัณโรค จากรายนี้แสดงให้เห็นว่า วัณโรคของระบบสืบพันธุ์สตรีมีแนวโน้มที่พบมากขึ้น ควรที่นรีเวชแพทย์จะเพิ่มความสนใจโรคดังกล่าว เพราะการวินิจฉัยและรักษาที่เร็ว จะทำให้ผลการรักษาและพยากรณ์ของโรคดี

คำสำคัญ : วัณโรคระบบสืบพันธุ์ - สตรี - ลักษณะทางคลินิก - แนวโน้ม

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