GENITAL TUBERCULOSIS

by

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The reported incidence of genital tuberculosis in India is almost the same as that in the West: 0.76 per cent of all gynaecological admissions (Rao, 1959), 1.1 per cent (Anjaneyulu, 1959), and 0.56 per cent (Sutherland and Garrey, 1951). This is difficult to reconcile with the higher incidence of pulmonary and other forms of extragenital tuberculosis, specially as genital tuberculosis is regarded as a particular manifestation during the course of body diseases rather than a gynaecological entity.

Basing their studies on the presumption that genital tuberculosis should be encountered more frequently in India, Malkani and her co-workers, in two separate studies limited to 1411 cases of sterility (1954) and 518 cases of adnexal infection (1959), have been able to show a higher proportion of cases of tuberculous aetiology than in the West.

(i) Tuberculous adnexitis	26 per cent (Malkani, 1959)	5 per cent (Novak, 1958)
(ii) Endometrial tuberculosis in sterility	7.5 per cent (Malkani 1954)	5.6 per cent (Sharman, 1955)

Genital tuberculosis is known to present a diversity of clinical symptoms and signs and its course varies from one individual to another. Rewell (1956) found that genital tuberculosis in India differed markedly from that in the West.

A further review in so far as the clinical picture is concerned is required to detect the large number of cases which still undoubtedly go unrecognised and untreated in this country; 140 cases of histologically proved genital tuberculosis (57 by laparotomy and 83 by endometrial biopsy) were treated over a period of 6 years from 1962 to 1967 at the Safdarjang Hospital. The clinical records of these cases have been analysed.

Age

Table 1 shows the distribution according to age. The highest incidence is between the ages of 21 and 40 years as universally reported, but in view of the earlier start of childbearing in India a 30 per cent incidence after the age of 30 years shows that a good proportion of tuberculous infections occurs in the later years of the reproductive period.

Parity

Table II shows the distribution according to parity; 68 cases (48.5 per cent) were nulliparous and 72 (51.5 per cent) were parous. These figures are almost

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TABLE I
Age Distribution

Age Group	No. of cases.
16—20 years	10
21—25 years	48
26—30 years	40
31—35 years	30
36—40 years	9
41— years and over	3
Total	140

TABLE II
Parity Distribution

Para 0	68 (6 unmarried)
Para 1	25
Para 2	12
Para 3—5	25
Para 6 and over (maximum 10)	10
	140

the same as those of Phatak (1965) from Gwalior with 54.4 per cent parous women, and lower than those of Rao (1959) from Madras with 77 per cent parous women. In contrast with these reports, 5.5 per cent of Sutherland's (1954) and 6 per cent of Hendersons (1966) cases were parous.

Table III shows the correlation between age and parity.

With advancing age the chances of the patient with genital tuberculosis being parous increase, till in the group over 30 years about 85 per cent have had one or more deliveries; 18 (25 per cent) of the 72 parous patients dated their symptoms from the last delivery in 12 and the last abortion in six cases. The condition was usually of insidious onset, the patient reporting for treatment one to eight years after the onset of symptoms. Eight (45 per cent) of these 18 cases had adnexal masses with pain and/or fever while in ten (55 per cent) the only complaint was menstrual disorder or secondary sterility.

Sterility

Fifty-six patients (40 per cent) had primary sterility (five years since marriage), 49 (35 per cent) had secondary sterility (five years since last childbirth), though of these, only 28 (20 per cent) complained of sterility. The incidence of infertility was therefore 60 per cent. This is similar to the infertility rate of 57 per cent (Stalworthy, 1952) and 62 per cent (Russell, 1951).

Menstrual Disorders

Table IV shows the incidence of men-

TABLE III
Correlation between Age and Parity

Age group.	No.	Nullipara	Parous
16—20 years	10	9 (90.0%)	1 (10.0%)
21—25 years	48	33 (68.7%)	15 (31.3%)
26—30 years	40	20 (50.0%)	20 (50.0%)
31—35 years	30	4 (13.3%)	26 (86.7%)
36 years & over	12	2 (16.7%)	10 (83.3%)

TABLE IV
Menstrual Disorders

	No.	Oligomenorrhoea/ amenorrhoea	Menorrhagia or irregular bleeding	Normal.
Present series	140	79 (57.5%)	24 (17.25%)	37 (25.25%)
Phatak (1955)	112	81 (71.6%)	18 (16%)	11 (10%)
Sutherland and Garret (1951)	178	26 (13%)	66 (37%)	86 (50%)

strual disorders with one Western and one Indian series for comparison.

In both the Indian series menstrual disorders are more frequent—75 to 90 per cent—with a preponderance of oligomenorrhoea and amenorrhoea (58 to 72 per cent), while only 50 per cent have menstrual disorder with a preponderance of menorrhagia (37 per cent in the West). Rewell (1958) attributes these differences to the more advanced endometrial lesion with destruction of mucosa.

Table V shows the distribution of menstrual disorders according to age.

While oligomenorrhoea and amenorrhoea are most frequent in all age groups, their incidence decreases from 80 per cent under 20 years to 50 per cent over 30 years, and menorrhagia increases from 10 per cent under 20 to 25-30 per cent over 30 years. The group over 30 years is also associated with parity in 85 per cent. Three out of 68 (4.5 per cent) nullipara had menorrhagia as compared with 21 of the 72 (30 per cent) parous women.

Severity of the Disease Process

Twenty-five patients (18 per cent) were febrile, 48 (34 per cent) complained of pain in abdomen, and 57 (42 per cent) had adnexitis; 70 cases (50 per cent) had no fever, pain or palpable adnexal masses. These figures correspond closely with several reports from the West (Sutherland, 1954; Liljedahl and Ryden, 1951 and Jedberg, 1950).

Table VI, shows the severity of the disease in relation to age. Under 20, only 20 per cent were free from pain fever or adnexitis, as compared with 60 per cent after 30 years and 83 per cent after 36 years of age. Of the 12 cases in the age group over 36 years, four were revealed at histopathologic examination of the uterus and cervix after vaginal hysterectomy for prolapse, two had menorrhagia

TABLE V
Correlation between Age and Menstrual Disorders

Age	No.	Oligomenorrhoea/ amenorrhoea	Menorrhagia or irregular bleeding	Normal
16—20 years	10	8 (80.0%)	1 (10.0%)	1 (10.0%)
21—25 years	48	26 (54.2%)	5 (10.4%)	17 (35.4%)
26—30 years	40	24 (60.0%)	6 (15%)	10 (25.0%)
31—35 years	30	15 (50.0%)	9 (30%)	6 (20.0%)
36 years and over	12*	6 (50.0%)	3 (25.0%)	—

* 3 had menopause.

TABLE VI
Severity in Relation to Age

Age	No.	No pain, fever or adnexitis	Pain	Fever	Adnexitis
16—20 years	10	2 (20.0%)	4 (40.0%)	2 (20.0%)	5 (50.0%)
21—25 years	48	20 (41.2%)	16 (33.3%)	9(18.75%)	24 (50.0%)
26—30 years	40	20 (50.0%)	18 (45.0%)	8 (20.0%)	20 (50.0%)
31—35 years	30	18 (60.0%)	8 (26.7%)	6 (20.0%)	8 (26.7%)
36 & over	12	10 (83%)	2 (16.6%)	0 (0%)	0 (0%)
Total	140	70 (50.0%)	48 (34%)	25 (18%)	57 (41%)

only and were diagnosed as dysfunctional uterine bleeding and two were detected on biopsy of cervix for suspected malignancy. There is a sharp decrease in the incidence of pain and adnexitis after the age of 30 years.

Table VII shows the severity in relation to parity. Pain, fever and adnexitis are more frequent in the parous group than in the nulliparous patients with primary sterility.

2. Menstrual disorders were more frequent with a preponderance of oligomenorrhoea at all ages, though the incidence of menorrhagia increased from 10 per cent at 20 years to 30 per cent at 35 years and was more frequent in parous patients. This signifies more extensive endometrial destruction.

3. The percentage of cases with pain (34 per cent), fever (18 per cent) and palpable adnexa (41 per cent), all signs

TABLE VII
Severity in Relation to Parity

Parity	No.	No pain, fever or adnexitis	Pain	Fever	Adnexitis
Nullipara	68	36 (53%)	18 (26.5%)	7 (10%)	25 (36.8%)
One child	25	12 (48%)	8 (32%)	6 (24%)	12 (48%)
Multipara	47	22 (47%)	22 (47%)	12 (25%)	20 (52.4%)

Associated Extragenital Tuberculous Foci

Associated extragenital tuberculous foci were noted in only 18 cases. This does not give an idea of the true incidence as a previous or even concomitant lesion requires for its detection special interrogation of the patient and a complete clinical examination, which was not possible in this retrospective study.

Discussion

This study reveals the following significant features of genital tuberculosis in this country.

1. A higher proportion of cases in women who have had one or more pregnancies (51.5 per cent), 25 per cent of these developed symptoms after the last delivery or abortion. In almost a third of the cases the disease appeared in the latter half of the reproductory period. Notwithstanding these findings infertility remains as important a feature of the disease as in the West; 40 per cent complained of primary and 20 per cent of secondary sterility.

of a severe form of the disease, however, are the same as observed in the West, showing that the virulence of the infection is not greater. The severe forms are more frequent in (a) women who have had one or more children and in (b) women under the age of 30 years. Hence it may be concluded that early and frequent childbearing by reducing either the general or local host resistance influences the course of a tuberculous infection (if and when it occurs) adversely.

A possible explanation for these clinical features may lie in an inherent difference in the natural history of genital tuberculosis and its relation to tuberculous infection elsewhere in the body, from that which has been put forward by Barns (1955). He has shown that the pelvic organs are often infected very soon after the primary complex, usually within a year. He puts forward the hypothesis that if the primary complex is delayed until puberty, the pelvic organs being in a state of activity are more likely to be infected during the post-primary spread.

The long latent interval between the time of the primary infection and the onset of symptoms suggests that the infection remains silent for several years and the low fertility which precedes the recognition of the disease confirms the view that incipient tuberculosis is present for a number of years.

Though it is not possible to get such a thorough retrospective insight in our patients, certain facts preclude the possibility of this hypothesis in at least half of our cases.

1. Seventy-five per cent of our urban population becomes tuberculin positive before the age of 15 years or puberty (ICMR report 1955-58).

2. Excluding the cases of primary sterility where incipient dormant pelvic tuberculosis is a possibility, it is most improbable that genital tuberculosis existed before pregnancy in the large number of parous women in this series.

A more likely sequence of events may be that primary infection which occurs in the lungs, abdomen or glands in childhood may have healed only partially. These partially healed foci may after years of latency reactivate under the stress of the reproductive period in a woman's life and overcoming the acquired immunity of the primary infection result in blood spread, attacking the tubes and uterus when they are vulnerable to infection after a delivery or abortion. Again the infection may be manifest immediately or may lie dormant for a variable period, appearing several years after the last childbirth.

Tubercle bacilli isolated from pulmonary tuberculosis in India are less virulent than in most Western countries (Rao, 1966). This may explain the fact that while genital tuberculosis may be more common, it is not more severe than in the West. The more advanced endometrial lesions with destruction of endometrium causing amenorrhoea have been attributed to a greater host reaction rather than virulence of infection (Rewell, 1958). Diminution of the host reaction with age may account for the rising incidence of menorrhagia after the age of 30 years.

Conclusion

This analysis of 140 cases of histologically proved genital tuberculosis over a period of six years shows that about half the cases of genital tuberculosis in India do not conform to the pattern laid down in the West. The appearance for the first time in parous women in the later reproductive period, the extensive local endometrial destruction coupled with a generally incipient clinical picture suggest that it represents an adult type of tuberculous infection from endogenous spread of an old apparently healed primary focus due to a diminution of acquired immunity during the stress of the reproductory period, rather than a post-primary infection at the time of puberty.

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