

TUBERCULOUS ENDOMETRITIS

(A Histological Study of 301 Cases)

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More and more cases of genital tuberculosis are diagnosed as increasing laboratory facilities are being made available. During the last decade or so the attention is drawn particularly to the problem of tuberculous endometritis.

Morgagni; the famous morbid anatomist, described these lesions in the middle of the eighteenth century. Raymond was the first to report a case of tuberculous cervicitis, while Kiwisch in 1847, for the first time described a case of tuberculosis of the uterus. The attention was drawn to tuberculous manifestations in gynaecology by Hegar's monograph in 1886.

As the incidence of general tuberculosis is high in our country, it is natural to expect more cases of genital tuberculosis in the same proportion. It is considered that genital tuberculosis is a secondary manifestation of the primary disease somewhere in the body, commonly in the lungs. Tubes are the first to be affected, from where the infection travels to the uterus, sometimes to the cervix and rarely to the vagina. According

to Novak the tubes are already affected in almost all cases (100%) when the diagnosis of tuberculous endometritis is made. But according to others at least some appear to be primary i.e. there is not any detectable healed or active lesion elsewhere in the body. The genital tract appears to be most vulnerable to this infection after puberty as most of the cases occur in the child-bearing age, i.e. between 15 and 40 years. It is possible that the infection may take place at an early age but becomes manifest later, when the general condition of the patient goes down due to added responsibilities of married life, stress and strain, repeated confinements and not least the undernourishment commonly found in the low income group of Indian women.

Material and Methods

These 301 cases were diagnosed histologically in this laboratory during a five-year period of 1958-62. On an average we receive about 3500 histological specimens per year and about half of them are endometrial biopsies. These tissues are processed according to the routine conventional method of haematoxyline and eosine staining. All the clinical data was collected from the case records made

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Received for publication on 21-2-66.

available to us by the hospital authorities. It may be stated that no mention was made in most of the biopsies regarding the stage of menstruation at the time of biopsy. However it was possible to classify the endometrium in the proliferative phase in 73 cases (25%) while in another 28 cases (9%) the endometrium was in the secretory phase. The diagnosis of tuberculous lesion was based on a single and rarely on two or more biopsies. Serial section method was not applied because this diagnosis was made during the

higher side when compared to the proportion of their general population. This can partly be explained on the basis that most of our cases came from one particular Women's Hospital situated in a predominantly Muslim locality. Moreover majority of the cases belong to the hospital class of patients and this can be seen from the absence of any patients from the Parsee community which belong to the better class of society.

Age incidence along with the figures of some other Indian workers is shown in Table 1. Although there

TABLE 1
Age Incidence

Series	No. of cases	Per cent of cases in age groups			
		Below 20 years	21-30	31-40	Above 40 years
Gupta (Gwalior) 1957	47	13	68	19	—
Bose (Calcutta) 1959	71	14	63	19	4
Rao (Madras) 1960	116	15	58	21	6
Devi (Nagpur) 1962	114	12	70	14	4
Present series (Bombay) 1963 ..	301	22.67	69	8	0.33

routine examination of the other endometrial biopsies.

Results and Discussion

Out of a total of 301, nearly two-thirds (65.4%) were Hindus the remaining third being mostly made up by the Muslim population including a very small (1.3%) fraction of Christians. In another small percentage of (2.3%) cases no mention was made of any religion. It is natural that the Hindus form a big majority. But even amongst the Muslims the cases are rather on the

are nearly a quarter of the cases reported below the age of 20 years, actually no cases occurred before the age of 15 years (Fig. 1) and hardly any case was reported after 40 years; this again clearly bears out the fact that this is a disease of the child-bearing age. When composed with the figures of other four workers which were from 12 to 15%, our figure of 22.67% seems to be highest of all. The incidence of 69% in the age group of 21-30 years is in good agreement with others whose figures vary from 58 to 70%. Again in the age

group of 31 to 40 our findings differ significantly from the other workers. Our incidence of 8% seems to be quite low when compared with 14 to 21% of the reported figures (It is possible that our higher percentage in the younger age group of below 20 years has been compensated by a lower figure in the later ages). We could hardly report one case (0.33%) after the age of 40 years, while the other three workers have come across several such cases from 4 to 6%. This in general supports the contention of other fellow workers who say that this is the disease of adult women most active during the reproductive period of life, a period during which the latent primary disease also gets activated.

Now we come to the presenting symptoms of the patients. Majority of them came either for menstrual disorder or sterility, corroborating a general statement that "in most of the cases the menstrual cycle is altered in one form or the other". The menstrual history was known in 206 (69%) cases only. In 95 cases (31%) no menstrual history was available. Amongst these 206 with known menstrual history eight women (4%) had primary amenorrhoea. Another 124 (60%) cases came with the complaint of secondary amenorrhoea. In 71 (34%) cases amenorrhoea was not the presenting symptom. One woman had postmenopausal bleeding and in the other two the amenorrhoea was considered to be menopausal. Further analysis of these 124 cases of secondary amenorrhoea revealed that 87 (70%) of them did not have any history of amenorrhoea in the past. In 15

(12%) of them the past menstrual history was normal, while another 16 (13%) had scanty menses. Six of them (5%) complained of irregular cycles. It is worth noting here that none of the patients in this group gave a past history of excessive bleeding.

The other 71 cases, without any history of amenorrhoea, showed that 10 of them had normal menstrual cycles, 35 complained of scanty periods, while in 32 the bleeding was excessive, and irregular in 4. Thus out of these 206 cases with known menstrual history only 10 (4.8%) were having normal menstrual cycle.

When we compare the two most important and common clinical symptoms of this disease i.e. sterility and amenorrhoea with other workers it makes an interesting reading. In Table 2 the complaint of sterility varies from 11% to 55% while the present finding gives the figure of 96% i.e. practically every patient had some type of sterility. If we further classify our figures, 61% had primary sterility which is comparable with the figure of other workers. In another 30% the sterility was secondary and a small group of 5% had relative sterility.

As regards amenorrhoea the range is from 16% to 55%. Our figure of 64% is the highest. To this we have also added two cases of postmenopausal amenorrhoea diagnosed clinically. It is presumed that it is natural to include our 8 cases (4%) of primary amenorrhoea also. Taking into account the above two types of cases our figure of 64% does not appear to be too high and should stand in comparison with Bhaskar Rao (55%) and Gupta (51%).

TABLE 2
 Percentage incidence of clinical symptoms of sterility and
 amenorrhoea by various authors

Clinical Symptoms	Authors					
	Gupta	Bose	Rao	Devi	Others	Present
Sterility	55	11	22	50	49 Sutherland (9)	61 Primary 30 Sec- ondary 5 Relative
Amenorrhoea ..	51	16	55	40	30 Schröder (8)	64

The following is a symptomwise analysis of 168 (60%) cases where some clinical history was available. As already stated 109 patients came with primary sterility, 54 with secondary sterility, 8 had primary amenorrhoea, while in 7 women there was normal obstetric history. In 123 (40%) cases no clinical history was available. Thirty-one women had full-term normal deliveries, the maximum being four in one case. The period elapsing after the last delivery and the diagnosis of tuberculous endometritis varied from 1 to 13 years. The last delivery had taken place at least three years earlier in 27 patients and amongst these, 22 had it 6 years ago. In these 300 cases the clinical diagnosis of tuberculous endometritis was made or suspected in 42 cases (14%) and this was also confirmed histologically.

Some of the positive pelvic findings recorded were as follows:

Under-developed and small uterus in 8, bulky uterus in 2; irregular and eroded cervix in 11 (most of them tuberculous); growth on cervix in 3; fibroid in 2 and a mass in the fornix 5 times. Two had small and conical

cervix, another two had prolapse and only one case had palpable pelvic glands.

The utility and importance of repeat biopsy need not be stressed here. Not only is it essential to note the effect of treatment but also to observe the nature and the amount of healing that has taken place in order to avoid further complications. Few repeat biopsies after antituberculous line of treatment were referred to us. In one case we had made positive histological report in the past. Two of these cases still showed the presence of tuberculous process while in one case there was complete restoration to normal endometrium. (Fig. 2). It may be mentioned here that anti-tuberculous line of treatment is not just for cure of sterility, because it is very rare to have a normal delivery after the treatment. In some cases the menstrual cycle becomes regular and normal, as it happened in one of our cases. Persistence of infertility even after successful treatment, or nonestablishment of normal cycles is probably due to affection of the tubes and sometime ovaries also. But this does not disprove in the least the

utility of the treatment in arresting the progress of disease or in avoiding further complications.

Coming to the problem of histological diagnosis it is a matter of opinion about its ease or otherwise. Usually one sees the endometrial glands either in the proliferative or secretory phase with scattered light coloured follicles spread irregularly in the stroma (Fig. 3). Langhan's type of giant cells may or may not be present and usually caseation is not seen. This typical picture is not always present and in the present series 190 sections (63%) showed the presence of follicles with or without giant cells (Table 3). Definite histological evidence of caseation was seen in about 17% of the cases of our series. The incidence of caseation of 71.3% reported by Malkani appears to be too high. We agree with Hains that

"histologically tuberculosis of the endometrium resembles tuberculosis in other tissues, but the more advanced stages of caseation, fibrosis, calcification etc. are rarely seen". The process of caseation, so typical and characteristic of tuberculous inflammation, is a definite evidence of the presence of this condition, indicating more or less an advanced stage. The size of this lesion varies from a small tiny area to an extensive one spread all over the section. Rarely this process can be diagnosed by naked eye examination of the morbid tissue which was done in one case of the present series (Fig. 4). As the process of caseation takes some time to develop completely, this material may not be discarded at every menstrual period. At times the caseated material has been found in the lumen of the glands. It is a matter of guess,

TABLE 3
Histological types of tuberculous lesions

Histological Picture	No. of cases	Per cent
Typical picture with follicles	138	45.84
Typical picture with follicles & giant cells ..	52	17.2
	} 190	} 63
Only caseation	4	1.3
Only tuberculous granulation tissue ..	36	18.7
Caseation + tuberculous granulation tissue	26	8.7
Caseation + calcification	1	0.3
Suggestive from scanty tissue (Advisable to repeat)	15	5
Normal endometrium	1	0.3
Atypical picture	8	2.7

whether it means a deep penetration of the infective process. There were four sections (1.3%) where only caseation was present. These four cases, showing only caseation, had corroborative clinical history and the supporting physical findings were also present. Fifty-six cases (18.7%) showed only tuberculous granulation tissue while in 26 more cases (8.7%) tuberculous granulation tissue without follicles but with caseation was seen. One case (0.3%) showed both the changes of caseation and calcification (Fig. 5).

Another notable feature is the presence of tuberculous granulation tissue. This is like any other granulation tissue in addition to giant and epithelioid cells but no tubercles were formed. The diagnosis was based on this typical appearance of granulation tissue. The presence of granulation tissue probably represents an earlier stage than caseation, where attempts at healing are better and the proper treatment in such cases may be rewarding. There were 56 biopsies (18.7%) where only granulation tissue was present. In addition to these 26 sections (8.7%) as stated above showed both tuberculous granulation tissue and caseation.

Another element worthy of attention is the presence of "endocervical tissue" where the external os was unhealthy or ulcerated, usually tuberculous cervicitis was present; this means that the process of this infection has spread down to the cervical canal. But in unsuspected cases, where the cervix appeared normal externally and the detection of tuberculous endocervicitis in the curettings definitely warns us about the ex-

tent and spread of the disease process. This may also help the clinician to plan or alter his line of treatment. In the present series the endocervical tissue was present in 28 sections and three of them showed tuberculous involvement. There were fifteen more cases of tuberculous cervicitis and in most of these a diagnosis of chronic cervicitis was made with little suspicion of the tuberculous affection. Generally the picture of endocervicitis appears to be of the polypoid type, may be because of the recemose type of the gland pattern present.

In 8 cases (2.7%) the histological picture was not typical of tuberculous inflammation but certain features like granulation tissue were present in some along with some other evidence. These atypical changes may be due to the prolonged or irregular antituberculous line of treatment. However along with the suggestive diagnosis of tuberculous infection the repetition of the biopsy was also advised (Fig. 6). Another point to be mentioned here is the "adequacy of the material" received. In nearly 5% (15) of the cases the material received was inadequate. But the diagnosis could be made from one definite typical histological feature present out of many of them like caseation or a follicle or epithelioid cells etc. For example in two such cases there were no endometrial glands or stroma present but only typical tuberculous granulation tissue was seen. In another case only two typical tuberculous follicles were present (Fig. 7). At the same time this does not minimise the necessity or value of adequate biopsy material. Under the

circumstances the best course is to repeat the biopsy for confirmation of the diagnosis. As a matter of fact we had asked for repeat biopsies in all the above cases. At times there was an inflammatory exudate present in the stroma, or in the glandular lumen mixed up with mucus. This was mainly made up of granulocytes. This may be as a result of superadded secondary infection. There were 7 such cases. It is desirable that every case be followed and assessed by a final post-treatment curettage. The lesion may more or less heal completely. We had one such case. Another case worth mentioning is that of a woman who had leprosy for the last seven years. There were patches on the body and history of menorrhagia. The biopsy showed typical picture of tuberculous endometritis. (Fig. 8). As regards findings about the glandular pattern 25% (73) were in the proliferative phase while only 28 (9%) showed the secretory activity including two with pseudo-decidual reaction. In 21 sections (7%) endometrial glands were not seen. Malkani reports that out of 68 cases of amenorrhoea, the structure of the endometrium was lost in 57 cases.

Observation and Summary

1. A study of 301 cases of histologically diagnosed tuberculous endometritis during a five-year period of 1958-1962 is presented. This gives an overall percentage of 3 of all the endometrial biopsies received.

2. As is well-known, and reported by many, the majority of the patients come with a complaint of primary or secondary sterility. The commonest

symptom is amenorrhoea or other menstrual disorders.

3. The maximum incidence of this disease (nearly 70%) is between the age period of 20 to 30 years which happens to be the most active reproductive period in a woman's life; cases can also occur below the age of 15 years or in the menopausal women and even in unmarried individuals. The conditions seems to be more common in the less fortunate class of society.

4. A typical histological picture was present in about 63% of the cases, while in the remaining cases a varied pattern was seen, like only tuberculous granulation tissue with or without glands, only caseation and rarely calcification.

5. In many cervical or endocervical biopsies the involvement of the cervix was reported. This should help the clinician to alter or modify his treatment.

6. At times the biopsy material was too scanty but with one of the typical histological feature present in the section the diagnosis of "tuberculous inflammation" was suggested with a request for a repetition of the biopsy to confirm this.

7. It is comparatively easy to diagnose this latent condition by endometrial curettage. Moreover the efficacy of the treatment can be judged by the repeated curettage. In the present series, in one case a report was made of the healing of the lesion while in two other cases the anti-tuberculous treatment had not made any difference in the lesions.

8. Finally a plea is made that to detect more cases of tuberculous endometritis complete data should be

obtained of the patients regarding the presence of genital or extragenital tuberculosis, past history and also contacts in the family and surroundings.

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Figs. on art paper III-IV