

TUBERCULOUS ENDOMETRITIS*

(Clinico-pathological Study of 140 Cases)

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Tuberculosis of the female genital tract used to pose a diagnostic problem. The simplicity by which an endometrial biopsy can be taken and studied pathologically, has considerably solved the problem and consequently more cases of endometrial tuberculosis are brought to light. Hafeez *et al* (1965) from this department reported 120 cases in a period of 8 years, whereas we came across 140 cases in a period of 5 years.

This article is based on the study of 140 cases of tuberculous endometritis seen during the period from May 1964 to April 1969, in the department of Pathology, Gandhi Medical College, Bhopal.

Material and Methods

The endometrial biopsies were received as a routine procedure for the diagnosis of various types of diseases. In all the 140 cases where endometrial tuberculosis was found, the patients' detailed clinical history was taken, laying stress on the history of the present illness, menstrual, marital

and obstetrical histories. An attempt was made to find out if the patient had any evidence of systemic tuberculosis at present or in the past. Systemic and gynaecological examinations were done and the findings were recorded. In patients where there was any evidence of systemic tuberculosis, attempts were made to establish the diagnosis by laboratory methods.

Tissue processing and sectioning were done as usual. Zeihl Neelson's stain was used to demonstrate acid fast bacilli.

Observation and Discussion

Patients whose endometrial biopsies were received were divided into five groups on clinical basis, viz; (i) primary sterility; (ii) secondary sterility; (iii) dysfunctional uterine bleeding; (iv) amenorrhoea, primary or secondary; and (v) miscellaneous group-consisting of pelvic inflammation, tuberculous abdomen and cases of tubo-ovarian masses. Distribution of these cases is shown in Table I.

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Age and Community

Out of 140 cases of the present series, 97 were Hindus (69.3%) and

TABLE I

Showing distribution of tuberculous endometritis in various clinical groups

Type of cases.	Total No of cases	Cases showing endom. TB	Incidence percentage.
All biopsies	4500	140	3%
Sterility	1437	52	3.62%
Primary sterility	1134	38	3.34%
Sec. sterility	303	14	4.06%
Dysfunctional uterine bleeding	1938	50	2.06%
Primary amenorrhoea	13	6	46.2%
Sec. amenorrhoea	152	54	35.5%
Miscellaneous	958	52	5.3%

43 were Muslims (30.7%). Bhopal is the centre for medical help to the people of Raisen and Sehore districts. The Muslim women population of Raisen and Sehore district (both) is 13.8% of the total women population. The incidence of tuberculous endometritis in Muslim women is 30.7%. The possible reason for this is poor economic and hygienic conditions. The orthodox following of "Purdah" system may be a further contributory factor.

Tuberculous endometritis is more common in the child bearing age. The maximum age incidence is in 21-30 years age group, comprising of 55.7%. The figures are comparable to those of other Indian authors, as shown in table II.

The incidence of 55.7% in the age group of 21-30 years is highest in our series though low as compared to other authors where the incidence varies from 58% to 89%.

The majority of patients came either for sterility or for menstrual disorders, such as menorrhagia, dysfunctional uterine bleeding, amenorrhoea, etc.

It has further been observed that many women who had been enjoying normal health, were none the less, victims of genital tuberculosis. Patients often attend clinics for infertility only.

It is evident therefore that 3.6% of sterile women harbour endometrial tuberculosis; the incidence in cases of

TABLE II

Showing the incidence of endometrial tuberculosis in various age groups

Author and year.	No. of cases	Percentage of cases in various age groups :			
		Below 20	21-30	31-40	Above 40
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
Sant (Bombay) 1966 ..	301	22.67	69	8	6.33
Phatak (Gwalior) 1965 ..	112	9.8	62.1	24.1	1.8
Hafeez (Bhopal) 1966 ..	120	3.3	89.1	5.95	1.65
Present series (Bhopal) ..	140	17.8	55.7	10	5

secondary sterility is comparatively higher (Table III).

Various menstrual disturbances are met with in cases of tuberculous endometritis. In a small number of cases there is no disturbance whatsoever. Such cases are known as 'silent' cases. Scanty periods or profuse bleeding which may be regular or irregular, amenorrhoea, primary or secondary, and post-menopausal bleeding are the common menstrual disturbances (Table IV).

In the present series the figures for profuse bleeding are higher as compared to those of other authors. Other figures are in good agreement

with them. The most common symptom is amenorrhoea, either primary or secondary, comprising of 42.8%. The incidence of primary amenorrhoea is 4.3% and of secondary amenorrhoea, 38.5%.

We came across 13 cases of primary amenorrhoea of which 6 cases (46.2%) were found to have tuberculosis. There were 152 cases of secondary amenorrhoea of which 54 cases (35.5%) had tuberculosis (Table V).

Secondary sterility and secondary amenorrhoea are more common in cases of tuberculous endometritis, probably because tuberculous infec-

TABLE III
Showing incidence of tuberculous endometritis in cases of infertility

Author and year	Total incidence	Primary sterility	Secondary sterility
Malkani 1953	7.5	6	13
Sharma 1955	—	5.6	—
Gupta 1957	—	14	—
Rabau 1957	—	10	4
Muller 1957	6.6	—	—
Botella 1958	10.6	—	—
Magnus Haines 1958	4.0	—	—
Rewell 1958	0.3	—	—
Paranjothy 1966	5.6	—	—
Hafeez 1966	7.0	6.16	9.52
Present series	3.6	3.34	4.6

TABLE IV
Showing a comparative account of menstrual disturbances

Author & year	Normal period	Scanty periods	Profuse bleeding	Amenorrhoea	Postmeno. bleeding.
Malkani 1953	12.27	34.27	9.43	43.4	—
Sharman 1955	48.31	11.23	34.29	3.37	2.8
Gupta 1959	37.1	—	19.9	22.8	—
Petrescu 1959	22.9	10	39.7	22.8	—
Bhaskar 1959	8.6	14	15.7	55.1	—
Bose 1959	—	—	—	16	—
Rao 1960	—	—	—	55	—
Devi 1962	—	—	—	40	—
Sant 1966	—	—	—	64	—
Phatak 1965	9.8	19.6	16	53.5	0.89
Haf. ez 1966	29.1	7.5	23.3	39.27	0.83
Our series	—	13.5	41.4	42.8	1.4

TABLE V

Shows incidence of tuberculous endometritis in cases of amenorrhoea

Name of author and year	Total cases of amenor- rhoea.	Primary amenorrhoea			Secondary amenorrhoea		
		Total cases	T.B. endo- metritis.	%	Total cases	T.B. endo- metritis.	%
Asolkar 1966 ..	391	15	5	33.3	168	22	13.1
Phatak 1965 ..	—	—	3	—	—	56	—
Hafeez 1966 ..	—	—	4	—	—	43	—
Present series ..	165	13	6	46.2	152	54	35.5

tion is acquired by girls after the onset of menarche.

Under the miscellaneous group were included cases of tubo-ovarian masses or cases who complained of pain and leucorrhoea.

Cases of infertility having secondary amenorrhoea and pain in the abdomen, some with thickened fornices or tubo-ovarian masses, were suspected to be tuberculous unless proved otherwise. Out of the total, there were 47 cases (36.4%) who complained of pain in the lower abdomen and white discharge per vaginam, whose endometrium showed tuberculosis. Of these 47 cases, 17 had tubo-ovarian masses, while for the pain in the remaining cases (22.1%) no explanation could be given.

Tubo-ovarian masses or thickening have been reported by all the authors as being usually associated with pain, but Hafeez *et al* (1965) do not consider pain as an important symptom. Usually it is a reflection of deep seated grief, such as primary sterility.

Previous tuberculous infection in other parts of the body in cases of endometrial tuberculosis has been reported by various authors to vary from 20% to 73% of cases (Sutherland, 1958; Sutherland, 1960; Muller, 1957; Kuang Ui, 1956; Bhaskar Rao,

1959; Phatak, 1965; Hafeez, 1966 and Malkani and Banerjee, 1959).

In the present series systemic tuberculous infection was found in 14.5% of cases only; there was a history of pleurisy with effusion in one case, 3 cases had radiological evidence of pulmonary tuberculosis, 6 case had abdominal tuberculosis; three cases had genital tuberculosis, one of Bartholin gland, one of cervix and one of the tubes.

Pathology

Tuberculosis spreads by haematogenous route, and endometrial tuberculosis is secondary to tuberculous foci elsewhere.

In cases of abdominal tuberculosis the spread is by transperitoneal route to the tubes.

During the reproductive period, when the resistance is lowered during pregnancy, lactation, post-partum and post-abortion periods, the dormant foci of tuberculosis flare up.

Tuberculous endometritis is diagnosed from the histological study of the endometrial curettings. As the endometrium is shed off every month or even frequently in cases with menorrhagia and metrorrhagia, classical tuberculous lesions may not be seen. In women with a history of

amenorrhoea the tuberculous lesions are well developed. Premenstrual biopsy is to be studied so as to give sufficient time for development of the lesion.

In the present series typical granuloma formation with caseation was commonest. In the granulomas, lymphocytes, epitheloid cells and typical Langhan type of giant cells were seen around an area of caseous necrosis. Out of a total of 140 cases there were 69 such cases (49.3%); 37 cases showed granuloma formation without any evidence of caseation. Caseation in 71.3% cases reported by Malkani and Rajani (1959) appears to be too high.

Tuberculous granulation tissue without any evidence of tubercle formation was seen in 22 cases (15.7%). Epitheloid cells with typical giant cells were seen in the endometrial stroma and there was no attempt at granuloma formation; out of these, three cases also showed areas of caseous necrosis.

In 12 cases (8.6%), biopsies showed focal collection of lymphocytes or lymphocytes and epitheloid cells only. In these cases serial sections were studied; also repeat biopsy were done in doubtful cases. On subsequent examination, 5 cases showed areas of typical tubercle formation, while in 7 cases there was persistence of the lymphoid aggregation.

We agree with the findings of Bourne and William (1962) and Hafeez *et al* (1966) that focal collection of lymphocytes should be considered to be of tuberculous origin unless proved otherwise (Fig. 1), which on examination of serial sections may show formation of epithe-

loid cells (Fig. 2) or may show even tubercles. With growth of the tubercles, fibrosis of the stroma and destruction of the glands take place which are responsible for the development of amenorrhoea, and sterility. In such cases the biopsy gives scanty tissue.

Aldea *et al* (1959) believe that there is reduced production of ovarian and pituitary hormones which are responsible for amenorrhoea, whereas Petrescu and Condrea (1959) attribute the amenorrhoea and disturbed endocrine function to circulating tuberculotoxins.

Summary and Conclusion

A clinico-pathological study of 140 cases of tuberculous endometritis is presented. The pathogenesis of endometrial tuberculosis has been discussed. The correlation of pathological changes with clinical findings is considered to be definitely helpful in the clinical diagnosis of tuberculous endometritis which can be treated and cured.

References

1. Aldea, A., Luc, A. V. and Filipensu, I.: Quoted by Hafeez *et al*. 12.
2. Asolkar, P. and Sutaria, U.: *J. Obst. & Gynec. India*. 16: 145, 1966.
3. Bhaskar, Rao K.: *J. Obst. & Gynec. India*. 10: 26, 1959.
4. Bose, S.: *J. Obst. & Gynec. India*. 10: 12, 1959.
5. Botella, L. J.: *Gynec. Pract.* 9: 387, 1958.
6. Bourne, A. W. and William, L. M.: *Recent Advances in Obstetrics & Gynaecology*, ed. 10, London, 1962, Churchill.
7. Census of India (1961) District

- Census hand book Sehore District, State Publication, Government of Madhya Pradesh.
8. Census of India (1961) District Census handbook, Raisen District, State Publication, Government of Madhya Pradesh.
 9. Devi, P. K.: J.I.M.A. 38: 164, 1962.
 10. Gupta, Sheela: J. Obst. & Gynec. India. 7: 181, 1957.
 11. Hafeez, M. A. and Tandon, P. L.: J. Obst. & Gynec. India. 15: 83, 1965.
 12. Hafeez, M. A. and Tandon, P. L.: J.I.M.A. 46: 610, 1966.
 13. Haines, Magnus: Lancet. 1: 436, 1951.
 14. Kuang, Ui and Vocheng: Chinese J. Obst. & Gynec. 4: 306, 1956.
 15. Malkani, P. K. and Rajani, C. K.: Proceedings Indian Association of Pathologists, Fourth meeting, November, 1953.
 16. Malkani, P. K. and Banerjee, A.: J. Obst. & Gynec. India. 10: 1, 1959.
 17. Malkani, P. K. and Rajani, C. K.: Obst. & Gynec. 14: 600, 1959.
 18. Muller, W. H. S.: Afr. Med. J. 31: 615, 1957.
 19. Paranjothy, D.: J. Obst. & Gynec. India. 16: 140, 1966.
 20. Petrescu, V. D. and Condrea, H.: Zbl. Gynaec. 81: 1791, 1959.
 21. Phatak, L. V.: J. Obst. & Gynec. India. 15: 74, 1965.
 22. Rabau, E. and Liguornik, I.: Gynec. Pract. 7: 20, 1957.
 23. Rewell, R. E.: J. Obst. & Gynec. Brit. Emp. 65: 28, 1958.
 24. Sant, M. V. and Limaye, S. S.: J. Obst. & Gynec. India. 16: 205, 1966.
 25. Sharman (1955); Cited by Malkani P. K. and Banerjee, A. (1959).
 26. Sutherland, A. M.: Am. J. Obst. & Gynec. 79: 486, 1960.
 27. Sutherland, A. M.: J. Obst. & Gynec. Brit. Emp. 63: 161, 1956.

See Figs. on Art Paper IV