

MENSTRUAL DISCHARGE STUDY

Its Clinical Significance in Endometrial Tuberculosis

BY

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Introduction:

Since ancient times, man has given thought to the possible purpose of menstruation and the significance of menstrual discharge. Among the primitive and also part of the civilised population, there is a belief that by menstruation, the body gets rid of its impurities. Moreover it is thought, if a woman has amenorrhoea, except when due to physiological causes, the absence of discharge of these impurities leads to toxic effect on the body. The symptoms of any disease in an amenorrhoeic individual are attributed to retention of impurities rather than amenorrhoea being considered a symptom of the disease.

History:

O. Watkins Smith and George Van

Paper read at the Eighth All-India
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held at Bombay in March 1955.

Smith have demonstrated a toxin in the menstrual discharge. They suggested that various subjective and objective phenomena related to menstruation are due to abnormal absorption of this toxin from the endometrium into the general circulation. The euglobulin fraction of the menstrual discharge is markedly fibrinolytic as well as toxic. It also has pyrogenic activity as tested in rabbits. The pseudoglobulin fraction of menstrual discharge contains a substance capable, to a greater or less degree, of protecting rats against an otherwise lethal dose of toxin. These workers have postulated, for the menstrual toxin itself, a physiological role as a pituitary stimulant. This stimulus is important for complete development of the ovarian follicle in the succeeding cycle. In 1947, I. Halbrecht collected the menstrual discharge of patients suffering from endometrial tuberculosis and cultured it on Petragnani medium. He ob-

tained growth of mycobacterium tuberculosis in 17 out of 347 cases. Since then this method of study has been routinely used by him for the diagnosis of pelvic tuberculosis.

Object of Study:

In April 1952, endometrial biopsy studies in cases of sterility were started at our sterility clinic. By the histological examination of the biopsy material, endometrial tuberculosis was diagnosed in 7.4% of 2,165 patients who were studied. Although the technique of endometrial biopsy is a fairly simple procedure for the gynaecologist, it cannot be used with safety by a general practitioner. For this reason a simpler method of diagnosing endometrial tuberculosis is devised.

The collection of menstrual discharge is a simple procedure, not requiring any technical skill. Just as a smear from the vaginal discharge for the detection of carcinoma of the genital tract can be collected by a technician, so menstrual discharge can be collected by a non-medical person, in fact even by the patient herself. The only disadvantage in this method of diagnosis by culture of menstrual discharge is the time involved. While the pathologist can report on a biopsy specimen in less than a week, the bacteriologist cannot report on menstrual discharge culture in less than 6 weeks.

Culture of menstrual discharge is done for 4 reasons:—

- (1) To diagnose endometrial tuberculosis.
- (2) To confirm the diagnosis of endometrial tuberculosis after histological examination of en-

dometrial biopsy.

- (3) To warn the patient against the possible spread of the disease to the husband.
- (4) To evaluate the results of therapy.

Material:

The patient is given a tampax tampon to introduce into the vagina on the night preceding the day of menstruation when the flow is expected to be maximum. She reports to the clinic the next morning, the tampax is removed and dropped in a bottle containing 2% sodium citrate solution.

Technique:

Concentration method for culture of menstrual discharge is adopted and the material inoculated on MacDonal's medium. Equal parts of menstrual discharge collected in 2% citrate solution and 3 or 4% sodium hydroxide are placed in a sterile MacCartrey bottle. The mixture is shaken until thorough homogenisation is obtained. It is kept in an incubator at 37°C. for 20 minutes. The specimen is then centrifuged for 15 minutes at 3000 R.P.M. The supernatant fluid is decanted and 2N hydrochloric acid added to neutralise the sediment.

The neutralised sediment is aspirated with a sterile capillary pipette. Using a serpentine motion, the material is spread evenly over the surface of two tubes of MacDonal's culture medium. It is preferable, though not necessary, to keep the tubes in a slanting position for 24 hours to give a more even colony distribution. The labelled tubes are then incubated at

37°C. for 6 weeks. They are examined at weekly intervals for evidence of colony growth. The culture results are reported at the end of 6-8 weeks.
Results:

During 9 months from 1st January 1954 to 30th September 1954, 509 cases of sterility were studied for possible evidence of endometrial tuberculosis. The amenorrhoea group were diagnosed by study of endometrial biopsy. The menstruating group had endometrial biopsy done in the premenstrual week and the menstrual discharge collected for culture on the second or third day following menstrual period.

- (1) 31 patients (6.4%) showed histological evidence of endometrial tuberculosis.
- (2) 12 patients (2.5%) showed growth of mycobacterium tuberculosis on culture of menstrual discharge.
- (3) 2 patients (0.4%) showed histological evidence of tuberculosis as well as growth of mycobacterium tuberculosis on culture of menstrual discharge.
- (4) 29 patients (6%) showed histological evidence of endometrial tuberculosis but no growth of mycobacterium

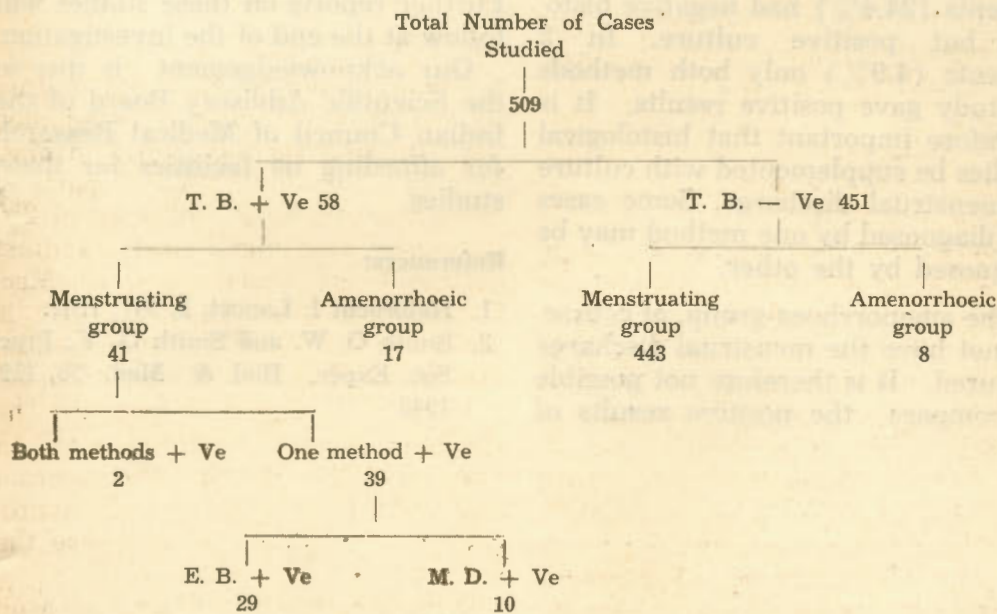


Fig. 1 Analysis of 509 cases of Sterility.

Abbreviations: T. B. + Ve = Tuberculosis positive.
 T. B. - Ve = Tuberculosis negative.
 E. B. + Ve = Endometrium showing histology of tuberculosis.
 M. D. + Ve = Growth of mycobacterium tuberculosis on culture of menstrual discharge.

To summarise the results of study of the menstruating group:—

tuberculosis on culture of menstrual discharge.

(5) 10 patients (2.6%) showed growth of mycobacterium tuberculosis on culture of menstrual discharge but no evidence of endometrial tuberculosis on histological examination of endometrial biopsy.

Conclusions:

41 out of 484 patients of the menstruating group were diagnosed as suffering from endometrial tuberculosis. They gave positive results with either one or both methods of study. 29 patients (70.7%) showed positive histology but negative culture and 10 patients (24.4%) had negative histology but positive culture. In 2 patients (4.9%) only both methods of study gave positive results. It is therefore important that histological studies be supplemented with culture of menstrual discharge. Some cases not diagnosed by one method may be diagnosed by the other.

The amenorrhoea group, of course, cannot have the menstrual discharge cultured. It is therefore not possible to compare the positive results of

menstrual discharge culture with histological studies of endometrial biopsy. 17 cases of amenorrhoea diagnosed as suffering from endometrial tuberculosis account for 29.3% of the cases diagnosed in this series. The only method of diagnosis in this group is by endometrial biopsy study as these patients obviously cannot have menstrual discharge cultured.

At least 3 specimens of menstrual discharge of a patient should be cultured before it is assumed to be negative. All patients who did not show growth of mycobacterium tuberculosis are having menstrual discharge culture repeated at least twice more. Further reports on these studies will follow at the end of the investigation.

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References:

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