

## STUDY OF ENDOMETRIUM IN INFERTILE WOMEN

by

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All gynaecologists are to face the problems of infertile couple. To uncover the causative factors in both partners a well planned search is mandatory. These include examination of semen and evaluation of cervical, endometrial, tubal and ovarian factors.

Most of the tests of ovulation are indirect and subjective and chiefly the result of the cyclic effects of oestrogen and progesterone. The study of endometrium is still considered to be one of the best methods. Due to lower intelligence of the masses B.B.T. chart studies have a very limited field and so also the study of serial vaginal smear and cervical mucus examination.

The incidence of tuberculosis in India is comparatively higher than the other parts of the world. Since endometrial tuberculosis and anovulation are so closely associated with sterility, it was decided to study these in infertile women, at the sterility clinic in the gynaecological department, of the Postgraduate Institute of Medical Education and Research, Chandigarh.

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### Material and Methods

All patients had preliminary investigations like Hb., E.S.R., semen examination and X-ray chest to find the active or healed tuberculosis. The endometrial biopsy was performed in the premenstrual phase on all patients, except those with irregular menstruation, when biopsy was done on the first day of the menstruation. 2-4 strips of endometrium, specially from two cornual regions were sent for histological and bacteriologic investigations which included the staining of the smear with Ziehl Neelsen's stain for acid fast bacilli (A.F.B.), culture of endometrial tissue on Dorset egg medium and guinea-pig inoculation. Endometrial biopsy was repeated in cases showing evidence of anovulation, scanty or atrophic endometrium.

Five hundred cases of primary infertility (73.5%) and 180 cases of secondary infertility (26.5%) seen from January, 1971 to July, 1974 were analysed. The patients age ranged from 15-45 years. 32.06% women were 30 years or above in age. 61.3% cases had infertility of 5 years and more when seen in the sterility clinic. On detailed enquiry of menstrual history, only 30.55% (208) women had abnormal menstrual cycles (Table I).

TABLE I  
Menstrual Pattern

Normal	472	
Abnormal	208	
Irregular	109	16.02%
Menorrhagia	16	2.35%
Oligomenorrhoea	54	8.66%
Polymenorrhoea	6	0.88%
Secondary Amenorrhoea	18	2.65%

Out of these 680 cases, normal secretory pattern could be obtained in 60.4% cases, proliferative pattern in 16.9% cases and non-secretory hyperplastic endometrium in 5.9%. Sixteen cases (2.3%) showing secretory endometrium had evidences suggestive of irregular ripening (Table II).

TABLE II  
Endometrial Pattern

Endometrium	Primary	Secondary	Total	Percentage
<i>Secretory:</i>				
(a) Normal secretory	293	118	411	60.4
(b) Irregular ripening	14	2	16	2.3
<i>Non-Secretory:</i>				
(a) Proliferative	91	24	115	16.9
(b) Hyperplastic	34	6	40	5.9
Hormonal imbalance	24	15	39	5.74
Tubercular endometritis	31	28	59	8.66

The incidence of endometrial tuberculosis in case of secondary sterility was twice that in primary sterility cases of (Table III). The incidence rose with age, as more cases of secondary infertility were seen in the age group of 31-45 years.

In 40% cases of genital tuberculosis the menstrual cycle was normal while 35% cases presented with amenorrhoea. Others presented with hypomenorrhoea and only 2 cases had mild menorrhagia. The majority of amenorrhoea cases had extensive hormonal therapy outside with no effect, but when treated with antituber-

cular drugs, menstruation occurred in 7 cases.

The results of bacteriological investigations were rather disappointing. In 3 cases of histologically proved tuberculosis, the smear was positive for A.F.B. Only 10% showed growth of mycobacterium tuberculosis. Surprisingly, in 3 cases only culture was positive and histological proof of tuberculosis was lacking even after repeat biopsy.

#### Discussion

The function of the normal endometrium is to produce a satisfactory substrate in which a healthy blastocyst may implant and flourish. Many of the patho-

TABLE III  
Incidence of T.B. Endometritis in Types of Infertility

Author	Primary	Secondary	Total
Malkani and Rajani	7.1%	12.35%	7.8%
Ganguli et al	1.6%	6.8%	2.14%
Present series	6.2%	15.5%	8.66%

logic changes that occur in the endometrium reflect its responsiveness either to hormonal stimulation or lack of it. The incidence of 28.54% of hormonal factors

for infertility in this series is comparable to the figure of 25% as reported by Israel (1967), though Baeyertz (1967) and Saha (1961) have reported the incidence of 13.49% and 31.5% respectively. The incidence of anovulation in infertility as reported by various authors is variable between 5% to 36% (Sharman, 1943; Stallworthy, 1948; Sachdeva, 1954; Saha, 1961; Israel, 1967). Wong, (1950) found persistent anovulatory cycles in 52.8%, on repetitive studies; while Israel feels repeated anovulation occurs in 10% of sterile women. In Javeri's series (1972) persistent anovulatory cycles were encountered only in 4 out of 410 cases i.e. in 0.97% cases. Thus the value of initial endometrial biopsy remains uncertain in establishing the diagnosis of repetitive anovulation. Stevenson (1965) reports one chance in three and poor chance of having a baby if the initial biopsy has shown anovulation or atrophic endometrium respectively.

Inadequate luteal phase was demonstrated in 16 cases. Such patients who are unable to develop an adequate secretory response may be helped by hormonal therapy (deMoraes-Ruehsen *et al* 1969).

The high incidence of endometrial tuberculosis (8.66%) in the present series makes one realise that many women are living a normal life inspite of tuberculous pelvic infection. It is quite possible that more cases of tubercular endometritis would be made evident by a

thorough curettage of the endometrium or biopsy of fallopian tube, at laparotomy when no material is found from endometrium. The higher incidence of genital tuberculosis in secondary infertility group (Table III) emphasizes that search for tuberculosis is mandatory when puerperal and post abortal sepsis do not respond to usual antibiotics (Malkani 1959).

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