

Leprosy in Gynecology and Obstetrics¹

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Medical literature contains references to the association of leprosy with pregnancy. There is, however, no specific mention of the effect of leprosy on either sterility or fertility. This study of the effect of leprosy on the menstrual cycle and the endometrial phases was conducted on patients attending a leprosy outpatient clinic.

MATERIALS AND METHODS

The histories of 68 female patients attending a leprosy outpatient clinic were carefully recorded and reviewed as per *pro forma*. They were examined clinically for type of leprosy. Nasal smears and skin biopsy examinations were utilized for classifying the patients into the two broad groups of lepromatous and tuberculoid leprosy. Endometrial biopsies were taken during the premenstrual phase. Ovaries and Fallopian tubes were available for study in cases who agreed to cold sterilization. In addition to routine hematoxylin-eosin staining, sections were stained for the presence of lepra bacilli by Fite's acid-fast method.

OBSERVATIONS

The patients ranged between 18 years and 50 years of age (Table 1). In a similar study by Fleger *et al* (³), a younger group including six under the age of 12 years was included. Thus, the maximum number were referred during the reproductive period. This may be due to the fact that this is the only period when Indian women are

TABLE 1. Age of patients.

11-20	21-30	31-40	41-50	51-60	Total
4	24	32	8	Nil	68

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TABLE 2. Age at menarche.

Age in years	Cases	%
12	14	20.5
13	23	33.8
14	19	27.9
15	6	8.8
16	2	2.9
17	2	2.9
18	2	2.9
Total	68	99.5

supposed to be in need of medical advice; and secondly, perhaps this is again the only time when they are valuable to the family and society and are referred to the physician.

Socio-economic status. All patients came from a low socio-economic group with an annual income of less than Rs. 1200/- (\$US160). Only one was a wife of an engineer with an annual income of Rs. 10,000/- (\$US 1,333).

Menstrual history. Upon careful and repeated interrogation the date of onset of menarche and its correlation, if any, with the symptoms of leprosy were obtained (Table 2). It was found that all patients attained puberty at the same age as nonleprosy females, except one who reported that she had her first menses at the age of 18 years. Menstrual cycles were regular. Menstrual flow was adequate in 43 cases. Three complained of menorrhagia and three of oligomenorrhea. The rest of the 19 patients were in lactational amenorrhea, since in the lower socio-economic class it is customary to breast-feed the child up to the age of two to three years. This was an expected finding. All 19 had their last delivery at least two years before they were included in the study. This is in contrast to the findings of Fleger *et al* (³), who reported 43 (56%) of their patients as sterile, of which 27 (54%) complained of irregular oligomenorrhea.

Obstetrical history. Only 2 patients of 68 were unmarried. Of the 66 married women

TABLE 3. Onset of symptoms in 68 cases.

Onset at	No. of cases	% of total
Menarche	6	8.8
During pregnancy	6	8.8
Puerperium	36	52.9
Lactational amenorrhea	9	13.2
Menopause	1	1.4
No relation	10	14.7
Total	68	

only 7 (10.6%) were sterile and all of these had normal menstrual cycles.

The number of deliveries in each of the 59 multiparous women ranged between a minimum of 3 to a maximum of 17.

Onset of symptoms. First symptoms were noticed at various periods (Table 3). The maximum percentage of patients (52.9%) noticed the first symptom during puerperium and the second largest group (13.2%) observed it during a lactational period. A reasonable number (14.7%) denied any correlation of symptoms with either menarche, pregnancy, puerperium or lactation. Only one patient emphatically stated that the first symptoms were observed only three years after menopause.

Even after repeated questioning only ten cases gave a definite history of contact. Eight gave a history suggestive of contact and no such history was available in the rest of the fifty cases.

Pathologic study. Skin clipping. Skin clipping was positive for lepra bacilli in 46 cases and negative in 22 cases. These 46 were clinically classified cases of lepromatous leprosy and the rest were tuberculoid type.

Endometrium, ovary and Fallopian tubes. Endometrial biopsy was done in 50 cases (Table 4). Twenty lepromatous and eighteen tuberculoid cases showed "proliferative phase," six lepromatous and three tuberculoid types showed "secretory phase," and endometrium was scanty in three cases which were grouped as lepromatous. This observation shows that the type of leprosy does not have specific effect on endometrial phase though both types can cause hormonal disturbances. Thus, the majority presented the proliferative phase during

TABLE 4. Endometrial phase and type of leprosy in 50 cases.

Endometrial phase	Lepromatous	Tuberculoid	Total no.
Proliferative	20	18	38
Secretory	6	3	9
Scanty tissue	3	0	3
Total	29	21	50

the premenstrual period. Ovaries and tubes were available in four cases. Neither endometrium, ovary or tubes showed granuloma or any other changes of leprosy histopathologically, though skin clipping was positive in 29 cases.

Fite stain (²). Acid-fast bacilli were seen in one of the glands of an endometrial biopsy. Diphtheroid bacilli with bipolar staining were seen in one endometrium. To evaluate the possibility of vaginal contamination 100 other endometrium specimens, routinely received in the Department of Pathology and Bacteriology, were subjected to the same stain and all were negative for diphtheroid type of organisms.

Ovaries and tubes were negative for bacilli.

DISCUSSION

Leprosy had no direct effect on the onset of menarche, menstrual bleeding or fertility.

There was definite relation of exacerbation of symptoms or first appearance of symptoms with the puerperium. This could either be due to lowered resistance (¹) during this period when every disease is exaggerated or it is possible that symptoms were observed by women during this time, as they have more leisure time to look after themselves. King and Marks (⁴) also report exaggeration of symptoms during pregnancy and puerperium in patients with or without treatment. This indicates the serious effect of pregnancy on leprosy. Nevertheless, there were some who could not correlate the disease course with any of the obstetrical events.

Only one woman in the study developed symptoms after the menopause.

Histopathology did not reveal any granuloma either in the endometrium, ovary or

tubes. Only 18% showed secretory phase indicating that though fertility was not affected, there was some hormonal imbalance.

Presence of diphtheroids in the endometrium of one case is possibly significant in relation to its absence in the other 100 cases.

SUMMARY

The histories of 68 female patients attending a leprosy outpatient clinic for treatment were studied carefully. The type of disease and endometrial phase were examined histopathologically. Correlation of obstetrical history and clinical symptoms was noted.

RESUMEN

Se estudiaron cuidadosamente las historias clínicas de 68 pacientes del sexo femenino que acudían a una clínica de lepra para recibir tratamiento. Se examinó histopatológicamente el tipo de enfermedad y la fase del endometrio. Se estudió si existía alguna relación entre la historia obstétrica y los síntomas clínicos.

RÉSUMÉ

On a passé en revue, dans le détail, les antécédents de 68 femmes atteintes de la lèpre, et qui fréquentaient un centre de traitement ambulatoire pour y être traitées de la maladie. Le type de la maladie, de même que la phase au point de vue de l'endometrium, ont été examinés au point de vue histopathologique. On a noté la corrélation entre les antécédents obstétricaux et les symptômes cliniques.

REFERENCES

1. COCHRANE, R. G. and DAVEY, T. F. (eds.). *Leprosy in Theory and Practice*. Bristol: John Wright & Sons, Ltd., 2nd ed., 1964.
2. FITE, G. L. Staining of acid-fast bacilli in paraffin sections. *Amer. J. Path.* **14** (1938) 491-507.
3. FLEGER, J., BERIC, B. and PRICA, S. The importance of leprosy in gynecology and midwifery. *Trop. Dis. Bull.* **60** (1963) 446-447. (Abstract by Sir Philip Mason Bahr)
4. KING, J. A. and HASKS, R. A. Pregnancy and leprosy. *Amer. J. Obs. Gyn.* **76** (1958) 438-442.