

CAUSES OF STERILITY IN HINDU WOMEN

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T H E S I S

FOR DEGREE OF M.D.

by

GERTRUDE J. CAMPBELL, M.B., Ch.B.

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## CAUSES OF STERILITY IN HINDU WOMEN

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"Barrenness is the greatest possible curse to a woman in India and the most dreaded of all the misfortunes that can befall a Hindu family." So writes the Abbé Dubois, and no one who knows anything of India will challenge the truth of these statements.

### SERIOUSNESS FROM A RE- LIGIOUS STAND- POINT

From a religious point of view sterility is serious. The doctrine of the transmigration of souls has a bearing on it. According to it, the Hindus believe that after death the soul is born again and again in different bodies, until at last it loses its identity and becomes re-absorbed into the divine essence. Now, to help on this onward progress of a man's soul it is essential that ceremonies should be performed once a year by his sons and grandsons. Therefore the begetting of a son is spoken of as "paying the debt to one's ancestors". At the present day a common reason for absence from work, with loss of pay, on the part of Hindu clerks and teachers is that they must perform their deceased father's annual ceremony. The doctrine of Karma also has a bearing on the question. According to it one's

state in this life depends on the deeds done in a former existence. That past must have been unsatisfactory when a soul is born as a woman. When doomed to be a childless wife the past must have been black indeed, and the future is still more gloomy. To show the genuineness of belief in these doctrines at the present day, an incident that happened at Madras city, in January 1913, may be mentioned.

I was in charge of a labour case in the house of an orthodox Brahmin gentleman, the patient being his eldest daughter who, according to custom, had come from her husband's house in Calcutta for her first delivery. After labour had lasted sixteen hours, and when progress seemed slow, three men were brought into a room opposite, of which the door was left open, and they proceeded to intone in a loud voice a Sanskrit verse again and again and kept this up for an hour and a half. On asking an explanation, the patient's father told me that as the unborn child was coming into a Brahmin family it had probably been religious in a former birth, that the three men were priests from a neighbouring temple and were reciting a text from the Vedas incorrectly in the hope that the infant would get angry and come out to protest by its cries. Unfortunately for this theory, the reciting had no effect. The position of the child

being a permanent occipito-posterior one and the patient a flabby girl of fourteen, the child did not "come out" till, with their grudging consent, I delivered it in a prosaic manner with forceps some hours later.

SERIOUSNESS  
FROM A GEN-  
ERAL STAND-  
POINT

But Hindu women are not always thinking about religion. The hard part of the childless woman's lot is that she is considered to have failed in the main object - if not the sole object - of her existence. Being of a sensitive disposition she finds it hard to be counted a failure, and to have this view of herself obtruded on her notice. Her parents, though sympathetic, have no pride in her, while her husband's relatives often taunt her with her futility. Besides, the natural love of children is particularly strong in Hindu people. "A house without the prattle of children" is often spoken of in their literature as a place of desolation. By the customs of the country also a woman is so much shut up in the house, that she has little interest in outside life except what comes to her through her children.

Considerations as to the manner in which provision is to be made for the nourishment and education of children, as propounded by Malthus in his Essay on Population, do not enter into the question at all. Forethought

is conspicuously lacking in the Hindu character. In any case the grandparents are the heads of the family and responsible. Even if they should not be alive, the family income of their surviving children is a joint one, and food is cheap and education not compulsory. As for poor people, they make provision for the future by rearing children, and wisely so, as the children when grown up are as a rule glad to share all they have with their parents, and to support them in old age.

#### PREVALENCE

With regard to the prevalence of sterility it is impossible to give exact figures. In the Census Report of India for 1901 it is stated that "the birth-rate in India is far higher than in any country of Western Europe."

This high birth-rate has no doubt been maintained since then, because in the India Office List of 1914, which incorporates the census returns for 1911 as far as they are available, the grand total increase of population for India is stated to have been 6.4 during the decade 1901-1911, as against 2.5 during the previous decade. Further on in the Census Report of 1901 we find the following:- "M. Bertillon divides the countries of Europe into three classes: I Those with a high birth-rate exceeding 150 per mille. i.e., for 1,000

women of child-bearing age whether married, unmarried or widowed; II Those with a moderate one above 130 per mille. including England and Scotland; III Those with a low birth-rate, 120 per mille. or less. In India the corresponding proportion would be 180.2 per mille. But taking the ages fifteen to forty-five, and calculating only on the number of married women it comes to 247.5 in India with 254.9 in England. This includes all the people of India - the Mohammedans who marry later than the Hindus and are more prolific. It would seem as if early cohabitation and premature maternity tend to exhaust the frame and impair the capacity for further child-bearing rather than to increase the average number of children per family." These statistics, though the most pertinent that are available, do not show the proportion of women who are sterile. They probably indicate that the proportion is at least as high as in Great Britain, where the number of childless marriages is variously estimated as one in eight, or one in ten. As a matter of observation sterility is extremely common among Hindu women. The Hindu temples derive much revenue every year from childless couples who make offerings and perform ceremonies in the hope of being blessed with a son and heir. Medical practitioners are often

called upon to treat this condition. At one of our dispensaries in Madras city, in which gynaecological work predominates and the number of attendances made by women is 2,146 per annum, one out of every eleven comes to be treated for absolute sterility - that is to say because during three years of married life she has never conceived.

#### CAUSATION

To ascertain the causes of sterility in Hindu women, the most direct way seems to be to examine and report on women so afflicted. The 163 cases of sterility tabulated below are all records of patients examined by me within eight months from 1st April to 30th November 1913. The first 140 were seen at the dispensary mentioned above, held twice a week in the part of the city where caste people live. Though attending a mission dispensary for the sake of being seen by a woman doctor, they were by no means very poor. Indeed all of them paid from threepence to a shilling, according to their means, towards the cost of medicines supplied to them. The remaining twenty-three were examined privately at the Mission House where they paid a substantial fee towards the upkeep of the work. Only one of the patients recorded could speak English. Only a very few could read and write their own vernacular, Tamil

or Telugn. Nevertheless they were, like their class, most intelligent, and accurate as well as graphic in the description of their symptoms. No case of absolute sterility seen at these two centres during the eight months has been omitted. The list does not include women with sterility visited in their own homes. If these had been included the number would have been much larger, but it is difficult from want of light and of a suitable table to make a satisfactory vaginal examination in a Hindu house.

**PECULIARITIES  
OF MEDICAL  
WORK IN MADRAS**

With regard to gynaecological work generally it may be mentioned that it is easier in Madras than at home. The people are of slighter build and smaller in every way, so that the pelvic organs can be more easily reached and palpated and outlined. The high temperature of the air all the year round eliminates any difficulty from draughts or cold hands inconveniencing the patient. The women have usually little muscular development so that there is rarely any difficulty from abdominal tension. It may also be mentioned that because in India medical practitioners are few compared with the teeming population, they have to become responsible for a far larger number of patients. They do not necessarily do more work than at home, but they spread their work over

a larger area. As the first item in a day's work I have myself been obliged, singlehanded, to question in the vernacular, examine, record, and prescribe for a hundred and fifty-nine patients, without a break, in a morning and forenoon. In extenuation it may be said I at once took steps to prevent such a thing happening again, by arranging to open the dispensary in that district two extra days a week. In order that the extensiveness of the work may interfere as little as possible with its thoroughness, many practitioners are driven to devising codes and ciphers in order to make their records rapidly. The form I devised some years ago for noting gynaecological cases is as follows:-

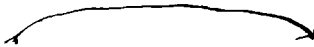
Ch.	a.	s. b.	Ab.	I.
M.	r.	q.	z.	L.
D.		E.		U.
Ut.	s.	p.	m.	t.
O. T.	R.			
	L.			
C.	En.	V.	P.	L.

which, being interpreted means:-

Children	alive	still-born	Abortions	last
Menstruation	regularity	quantity	pain	last
Digestion		Evacuation (of bowels)		Urination
Uterus	size	position	mobility	tenderness
Ovaries and Tubes	(Right ( Left	" " "	" " "	" "
Cervix	Endometrium	Vagina	Perinaeum	Leucorrhoea

When time presses, an Indian Christian nurse can fill in the first three lines as well as the name, age, caste, and duration of married life. This is done before the patient comes into the consulting room. These lines give the essentials of the history. After due preparation, on bimanual examination, a mental note is made of the size, position and mobility of the uterus and whether tenderness is present or not. No special space has been given for consistence, but if the uterus is specially hard or soft this is filled in immediately after its name. The same details are then mentally noted with reference to the right ovary and tube, and afterwards with reference to the left ovary and tube. The speculum is then used to inspect the cervix; the state of the endometrium is in certain cases tested by

passing in the sound, and the size of the internal os is gauged by withdrawing it. The state of the vagina and the degree of intactness of the perinaeum are noted, and whether leucorrhoea is present or not. After a mental note has been made of all these facts, in this order, the blanks in the form are filled up. To show how much writing is saved a sample record is given.



Ch. 5 a. 3 s. b. 0 Ab. 1 L. 2 yrs

M. r.  $\checkmark$   $\frac{1}{26}$  days q. + 6 days z. + l. 11 days

D.  $\checkmark$  anorexia E. —  $\frac{1}{2-3}$  days U. frequent  
c. z. + y.

Ut. s. + ish p.  $\frac{rfl}{ru}$   $\frac{1}{2}$  m.  $\checkmark$  t. slight

O. T. R.  $\checkmark$  L.  $\checkmark$  + down  $\checkmark$  slight

C. En. rough V. lax P.  $\frac{2}{5}$  L. +  
split  
catarrhal patches

The above indicates that the patient has given birth to five children, all born alive, and that three of them survive. She has had one abortion. The last pregnancy terminated in the birth of a child two years ago, that child being still alive. Menstruation is regular every twenty-six days; the quantity is profuse - the flow lasting for six days; pain is present. The last period

terminated eleven days ago. Digestion is good but anorexia is present. There is constipation, evacuations being diminished in number to one in two or three days. Urination is frequent and accompanied by pain and burning. The uterus is largish, retroflexed and retroverted but freely movable; there is slight tenderness. The right ovary and tube are normal. The left ovary is enlarged, displaced downwards, and slightly tender. The cervix is split and shows catarrhal patches. The endometrium is rough. The vagina is lax and the perinaeum has been ruptured, only two-fifths of it remaining. Leucorrhoea is present.

By means of a rubber stamp the above form is marked on the papers of all dispensary and office patients, and is stamped in the book used for recording patients seen in their own homes. Of course other pelvic signs and symptoms are also recorded when present, the above represents only the minimum record kept of every patient. After using it for a few weeks, a form like the above can be read at a glance. Thus when two colleagues work together, as in our case, and exchange departments of work every six or eight months, it enables one to get the benefit of the other's notes without waste of time. With us "Z" being a letter

quickly made and without much ostensible work has been taken arbitrarily to represent "pain". In the same way "y" has been taken to represent "burning" or "pricking" or "scalding" or other similar sensation.

For the sake of conciseness, in the records which follow, only abnormalities of the menstrual function and of the pelvic organs are mentioned. The complete record of each case is not given.

The 163 cases of absolute sterility are as follows:-

very scanty

3	Irregular, once in 45 to 60 days; sometimes scanty; pain severe	Fixed retroversion of uterus, right ovary enlarged, broad and collapsed	
5 Buzza	13	Scanty	Fixed retroversion of uterus, left ovary, inflamed and protracted
6	10	Too frequent, once in 15 days, profuse for 6 days; slight pain	Retroposition and retroflexion of uterus with adhesions behind
7	10	Painful	Uterus fixed back; thickened of end

No.	Caste	Age	Years of married life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
1	Indian Christian	25	8	Sometimes scanty - very painful	Fixed retroversion of uterus	Good
2	Brahmin	30	17	Scanty	Endometritis (catarrh of cervix, roughness of endometrium, tenderness of body, increased discharge from os)	Good except for tendency to obesity
3	"	22	8	Irregular - once in three to five months; very scanty	None	Obesity marked
4	"	20	6	Irregular, once in 45 to 60 days; sometimes scanty; pain severe	Fixed retroversion of uterus, right ovary enlarged, tender and prolapsed	Fair
5	Sudra	28	13	Scanty	Fixed retroversion of uterus, left ovary inflamed and prolapsed	Fair
6	"	18	4	Too frequent, once in 15 days; profuse for 6 days; slight pain	Retroversion and retroflexion of uterus with adhesions behind	Anaemia and slight enlargement of spleen (malarial cachexia?)
7	Brahmin	23	10	Painful	Uterus fixed back; thickening of both broad ligaments from old effusion	Anaemia and debility; was treated as in-patient four months

No.	Caste	Age	Years of married life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
7	(Contd.)					previously for acute pelvic cellulitis, abscesses opened and drained on each side of vagina
8	Brahmin	16	3	Painful	None	Dyspepsia
9	Sudra	16	3	Irregular, once in 2 to 3 months; scanty; painful	Body of uterus and cervix small, vagina also smallish	Anaemia
10	"	20	6	Scanty; very painful	Uterus smallish (sound passes 2") retroverted but freely movable	Fair
11	Brahmin	24	11	Infrequent, once in 40 days; painful	Uterus retroverted but anteflexed - mobility lessened by thickening of utero-sacral folds	Fair, except for dyspepsia
12	Sudra	25	11	Scanty and painful	Cervix very hard - conical	Good
13	Brahmin	19	6	Too frequent, once in 20 days - scanty	Fixed retroversion of uterus, right ovary inflamed	Fair, but takes hysterical fits
14	Sudra	28	14	Scanty and painful	Fixed retroversion of uterus, ovaritis left side	Granular lids, muscular pains & debility (spontaneous history)

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
14	(Contd.)					of gonorrhoea 7 yrs. previously)
15	Sudra	22	7	None	Retroversion of uterus which is fixed tightly back; catarrh of cervix - vaginitis and urethritis, copious yellow discharge containing gonococci	Debility
16	"	19	5	None	Uterus small from atrophy	Debility & emaciation from malarial cachexia
17	Brahmin	17	4	Irregular, profuse and prolonged once continued for 55 days; pain severe	General congestion of pelvic organs	Anaemia & debility, has had haemoptysis no signs of phthisis - heart healthy, except for haemic murmur at base
18	Sudra	18	3	Scanty and painful	Uterus fixed back - endometritis - right ovary inflamed	Debility - granular lids
19	Brahmin	23	10	Painful	Uterus retroflexed and retroverted - mobility restricted	Good

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
20	Vaisya	18	5	Scanty and pain- ful	Uterus retroflexed and retroverted and fixed - ovaritis both sides	Fair
21	Brah- min	19	6	Very scanty	Retroverted but freely movable	Fair
22	Sudra	30	16	Scanty	None	Emaciation from chronic gastro-ente- ritis
23	Sudra	24	9	Very painful - accompanied by vomiting	Uterus retroflexed, retroverted and fixed - utero- sacral folds thick- ened and shortened	Debility
24	"	18	(liv- ing ir- regul- arly - a temple woman)	None	Uterus retroverted but freely movable)	Good
25	Brah- min	25	12	None	Uterus retroflexed, retroverted and fixed back by ad- hesions - ovaritis both sides	Fair
26	"	20	6	Scanty and pain- ful	Uterus retroflexed, retroverted and fixed back by ad- hesions - ovaritis both sides - in- crease of vaginal discharge	Fair

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
27	Brah- min	(Was left (a Virgin (Widow, (has en- 27 (tered (into an (irregul- (ar union	4	Infrequent, once in 3 or 4 months, painful	Uterus retroflexed, retroverted and fixed back, ovar- itis both sides, congestion of cervix	Fair
28	Sudra	18	4	Painful	Uterus smallish (sound 2") tender- ness of right ovary	Good
29	"	20	5	Irregular, once in 1 or 2 months scanty and pain- ful	Uterus retroverted but anteflexed fixed. Congestion of vagina and cat- arrh of cervix - state of ovaries and tubes uncer- tain owing to tenseness of ab- dominal muscles	Good
30	Brah- min	17	4	None	Uterus retroverted, retroflexed and to left fixed	Symptoms and signs of sprue
31	"	21	7	Exceedingly pain- ful	Uterus retroverted but anteflexed, mobility restrict- ed by adhesions	Emaciated from dys- pepsia
32	Sudra	22	6	Scanty and ex- ceedingly pain- ful	Erosion of cervix with copious greenish-yellowish discharge in which gonococci are present	Fair

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
33	Sudra	19	5	Scanty and painful	Uterus retroflexed, retroverted and fixed. Congestion of cervix and vagina	Fair. She has granular lids and pains in muscles of legs
34	Brahmin	18	5	Painful	None	Good
35	Sudra	25	10	Scanty and painful	Uterus very hard	Good
36	"	20	5	Infrequent, once in 2 months, scanty and painful	Uterus retroverted but anteflexed adhesions behind. Catarrh of cervix and congestion of vagina	Good
37	Indian Christian	25	9	None	Catarrh of vagina	Good
38	"	21	6	Scanty and painful	Retroversion and endometritis	Good
39	Brahmin	24	10	Infrequent, once in 40 days, scanty and painful	Uterus retroverted but anteflexed, utero-sacral folds thickened and shortened	Fair
40	Sudra	20	5	Painful	Uterus retroflexed, retroverted and fixed	Good
41	Brahmin	26	13	None	Uterus retroflexed and retroverted but freely movable, erosion of cervix	Good

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
42	Sudra	20	6	Painful	Deep and extensive ulceration of cer- vix, seems syphil- itic	Fair
43	Brah- min	18	5	None	None	Good
44	Sudra	19	4	None	Atrophy of uterus	General emac- iation, mal- arial cach- exia
45	"	22	7	None	Uterus retroverted and tightly fixed back. Vaginitis with copious yellow discharge	Has urethritis also
46	"	25	10	Scanty and pain- ful	Cervix harder than normal	Good
47	Brah- min	30	16	Very painful - accompanied by rise of temper- ature for one or two days	Uterus retroverted - adhesions behind and thickening of cell- ular tissue in both broad ligaments	Fair. Had an attack of acute pelvic cellulitis gonorrhoeal in origin
48	"	21	7	Exceedingly pain- ful	Uterus retroverted - adhesions behind uterus	Fair
49	"	25	12	Scanty and pain- ful	None	Good
50	"	24	10	None	None	Good
51	Sudra	20	6	Scanty	Uterus retroflexed, retroverted & fixed. Ulceration of cervix & of vagina in front of it (syphilitic)	There are signs of syphilis in tongue scalp and shins

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
52	Brah- min	20	3	Exceedingly pain- ful	Uterus retroflexed and retroverted but freely movable. Cer- vix catarrhal. En- dometrium rough - increased discharge	Fair
53	"	26	11	Exceedingly pain- ful	Uterus retroflexed and retroverted, freely movable	Signs of tu- berculosis in left lung
54	Sudra	20	3	Scanty	Uterus retroflexed and retroverted and fixed - ovaritis both sides. Much bleeding on bimanual examination. Blood seems to come from cervix - no ulcera- tion nor catarrh seen	Fair
55	Brah- min	20	6	Scanty and pain- ful	Uterus retroverted but movable, ovar- itis right side	Good
56	Sudra	25	8	Scanty and pain- ful	Uterus retroflexed and retroverted and fixed, adhesions on both sides. Endom- etritis	Granular lids
57	"	26	12	Scanty and pain- ful	Inflammation of right ovary	Good
58	"	19	3	Painful	Fixed retroversion of uterus. Stenos- is of os - imposs- ible to pass a sound through it	Fair

No.	Caste	Age	Years of married life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
59	Vaisya	19	6	Infrequent, once in 2 or 3 months painful	Fixed retroversion of uterus. Catarrh of cervix	Good
60	Sudra	21	9	Unusual type. Lasts 2 days, then after interval of nine days 1 day more. Thus every month	Endometritis	Good
61	Brahmin	23	8	None	Vaginal catarrh	Signs of tuberculosis of lungs
62	"	17	4	Scanty and painful	Labial abscess	Fair
63	"	22	8	Scanty and painful	Ovaritis left side	Fair
64	Sudra	25	10	Infrequent, once in 1-5 months	None	Anaemia from malaria
65	"	28	9	Scanty and painful	Uterus retroflexed, retroverted and fixed	Granular lids causing great discomfort
66	"	20	5	Scanty and painful	Uterus retroflexed, retroverted and fixed. Catarrhal patches on cervix - congestion of vagina	Fair
67	Brahmin	16	(Ceremony 5 yrs. previously)	Said to take place at intervals of 5 mos. or so!	Uterus and apparently ovaries and tubes are all absent congenitally; vagina is very small admitting one finger with difficulty - tiny nodule representing cervix	Emaciated - suspicion of tuberculosis of left lung

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
68	Sudra	20	7	Scanty and pain- ful	Uterus retroflexed, retroverted and fixed. Vaginitis	Has frequent attacks of urethritis
69	"	22	5	Scanty and pain- ful	Endometritis, yellow spots on mucous mem- brane over cervix	Anaemia
70	"	15	3	Scanty and pain- ful	None	Anaemia
71	"	21	8	Irregular - none for six months	Mass to right of uterus, either a salpingo ovaritis or an old ectopic pregnancy	
72	"	20	6	Painful	Uterus retroflexed, retroverted and firmly fixed back, congestion of vag- inal mucous mem- brane, discharge contains gonococci	Frequent at- tacks of dysuria; eczema between toes
73	Brah- min	18	3	Painful	Indurated ulcers on both sides of vag- inal opening - syph- ilitic. Seems also to have vaginitis	Granular lids anaemia
74	"	16	3	Irregular - none for three months	None	Anaemia
75	Sudra	16	3	Painful	None	Fair
76	Brah- min	27	12	Scanty and pain- ful	Endometritis	Chronic en- teritis: V.S. murmur, seems haemic

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
77	Sudra	16	4	None for four months, formerly regular	None	Anaemia from dyspepsia
78	Pariah	18	6	Infrequent, once in 40-60 days; scanty and pain- ful	None	Fair
79	Brah- min	15	3	None	Chronic catarrh of cervix - discharge contains gonococci	Good
80	Sudra	24	8	Scanty and pain- ful	Uterus retroflexed, retroverted and to right; ovaritis both sides	Fair
81	"	22	7	Scanty and pain- ful	Catarrh of cervix with profuse dis- charge containing gonococci	"
82	Brah- min	20	8	None	Pelvic cellulitis with effusion into Douglas's pouch	Fair
83	"	20	8	Painful	Ovaritis right side	Good
84	Sudra	20	3	Scanty and pain- ful	None	Good
85	"	30	12	Scanty and pain- ful	Congestion of vagina and cervix gonococci not found	Reports oc- casional at- tacks of dysuria
86	Brah- min	20	7	Painful	Os narrow - not able to pass sound - al- so retroversion of uterus with adhe- sions	Fair

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
87	Brah- min	20	6	Painful	Uterus retroflexed, retroverted and mobility diminished by adhesions	Signs of mitral re- gurgitation, compensated
88	"	17	4	Painful	None	Good
89	Sudra	37	20	Amenorrhoea for ten months	Uterus retroflexed, retroverted and fixed by adhesions, double salpingo- ovaritis	Good
90	Vaisya	16	3	Painful	Uterus retroflexed, retroverted and fixed.	Chronic con- junctivitis and pains in joints
91	Brah- min	25	11	Painful	Endometritis	Good
92	Sudra	16	3	Scanty and pain- ful	Uterus fixed back and Douglas's pouch filled with masses of effusion hard- ened	Debility and dysuria
93	Pariah (scav- enger caste)	30	14	Scanty and ex- ceedingly pain- ful	Uterus retroflexed, retroverted and fixed by adhesions	Fair
94	Sudra	18	4	Amenorrhoea, four months	Ovaritis right side	Anaemia
95	"	25	8	Painful	Uterus retroflexed, retroverted and fixed by adhesions	Good

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
96	Brah- min	24	10	Painful	Uterus retroflexed and retroverted, adhesions behind also catarrhal patches on cervix, gonococci present in discharge	Fair
97	"	18	4	None	Endometritis	Fair
98	Sudra	25	13	None	Uterus retroflexed and retroverted, mobility restricted catarrh of cervix; no gonococci found	Has haemorr- hoids
99	Brah- min	18	6	Painful	Uterus retroflexed, retroverted, mobil- ity restricted by adhesions behind; congestion of vag- ina and cervix, gonococci present in discharge	Granular eye- lids with much prur- itis
100	Sudra	22	8	Infrequent, once in 3 months; scanty and pain- ful	Pelvic abscess on right side of uterus	Fever, debil- ity etc.
101	"	15	3	Painful	Vaginal opening nar- row; catarrh of vag- inal mucous membrane; no gonococci found	Fair
102	Brah- min	18	5	Infrequent, once in 45 days; scanty	None (Vaginal rugae very prominent)	Good
103	Sudra	32	8	Scanty and pain- ful	Uterus retroflexed, retroverted and fixed	Fair

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
104	Vaisya	15	3	Infrequent, once in 2 months; pro- fuse and painful	None	Good
105	Sudra	25	9	None	Uterus retroflexed and retroverted but movable	Has Kerat- itis
106	"	25	7	Infrequent, once in 5 or 6 mos. painful	None	Marked obes- ity
107	Indian Chris- tian	21	3	Infrequent, once in 40-45 days; scanty and pain- ful	Right ovary inflamed, catarrh of cervix no gonococci found	Fair
108	Sudra	16	4	Regular - pro- fuse for ten days a month and painful	Uterus retroflexed and retroverted but movable. Ovaritis on right side	Takes hyster- ical fits
109	Brah- min	16	4	Irregular and in- frequent, once in 3-6 months; very scanty	Uterus much atrophied	Emaoiated, without ob- vious cause
110	Sudra	18	5	Painful	Ovaritis both sides	Asthma. Fever at nights
111	"	20	3	Painful	Stenosis of os	Good
112	Brah- min	35	22	Metrorrhagia at intervals for six months	Uterus retroflexed, retroverted and fixed	Anaemia
113	"	15	3	Profuse for ten days a month and painful	Vagina bisected by longitudinal mem- brane extending an- tero-posteriorly in centre, double cervix one on each side, body of uterus single seems also to be sep- tate	Good

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
114	Sudra	25	9	Scanty (1 day a month)	Ovaritis right side; catarrh of cervix no gonococci found	Fair
115	Brahmin	22	6	Scanty and painful	Uterus retroflexed, retroverted and mobility diminished; chronic catarrh of vagina; no gonococci found	Has attacks of dysuria
116	Sudra	25	13	Painful	Uterus retroflexed, retroverted and fixed by adhesions	Fair
117	Brahmin	17	3	Too frequent, once in 15 or 16 days; scanty and painful	None	Dyspeptic
118	"	18	6	Too frequent once in all days; profuse and painful	Chronic catarrh of vagina and cervix - gonococci present	Takes attacks of dysuria
119	Indian Christian	20	3	Profuse and painful	Uterus retroverted and fixed by adhesions. Endometritis; no gonococci found	Anaemia
120	Sudra	20	5	Painful	Uterus largish retroflexed, retroverted and fixed - oedema and congestion of cervix; no gonococci found	Fair
121	Indian Christian	25	3	Scanty and painful	Salpingo-ovaritis right side acute - subacute on left side; endometritis	Fair
122	Sudra	17	3	Scanty and painful	Catarrh of cervix; gonococci in discharge	Fair

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
123	Brah- min	19	6	Scanty	Uterus retroflexed and retroverted; endometritis; no gonococci found	Dyspepsia
124	Sudra	20	8	Very scanty (one day a month)	Uterus retroflexed, retroverted and fixed; congestion of cervix and vag- ina	Anaemia and debility
125	Brah- min	16	3	Amenorrhoea, 11 months	Endometritis - ovar- itis left side	Fair
126	"	19	6	Too frequent, once in-15 days; pain- ful	None, except that cervix bleeds pro- fusely on applica- tion of volsellum	
127	"	18	5	Painful	Uterus retroflexed, retroverted and fixed, right sal- pingo-ovaritis; catarrh of cervix; gonococci found	Debility
128	Sudra	22	6	Painful	Uterus sharply ante- flexed	Good
129	Brah- min	20	7	Painful	Chronic vaginitis - gonococci not found	Good
130	Sudra	16	4	Painful	None	Dyspeptic
131	Brah- min	17	4	Painful	Catarrh of cervix and congestion of vagina; gonococci present	
132	Brah- min	20	6	Scanty and pain- ful	None	Dyspeptic

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
133	Sudra	25	10	Scanty	Vaginal catarrh - gon- ococci present	Good
134	Brah- min	23	9	Painful	Uterus sharply ante- flexed	Good
135	Sudra	15	3	Amenorrhoea five months	None	Markedly anaemic
136	"	20	4	Scanty	Uterus retroflexed, retroverted and fixed by adhesions; gonococci not found	Granular lids, mus- cular pains
137	"	20	5	None	Salpingo-ovaritis (right)	Has elephan- tiasis of legs
138	"	15	3	Painful	Uterus retroflexed, retroverted and mo- bility diminished - catarrh of cervix, gonococci present	Granular eyelids, muscular pains
139	"	25	10	Very scanty (1 day a month) and exceedingly painful	Uterus retroflexed, retroverted and fixed; salpingo- ovaritis right side; leucorrhoea contain- ing gonococci	Debility
140	Indian Chris- tian	33	17	Scanty and pain- ful	Mobility of uterus diminished, ovaritis right side	Good
141	Brah- min	24	11	Scanty and pain- ful	Uterus retroflexed, retroverted and fixed	Anaemia, bronchial catarrh chronic with rise of temperature at nights

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
142	Brah- min	19	5	Painful	Uterus retroflexed and retroverted; endometritis and ovaritis right side	Fair
143	Sudra	22	6	Scanty and pain- ful	Uterus retroverted and mobility dim- inished; ovaritis both sides, right ovary adherent to uterus	Obesity - headaches, pain in ankles
144	Brah- min	15	3	Very irregular and infrequent, amenorrhoea twelve months; scanty and very painful	None	Obesity marked
145	Sudra	20	4	Painful	Stenosis of internal os	Good
146	"	32	15	Very painful	Uterus retroverted and tightly fixed back - thickening of right broad liga- ment	Fair
147	Brah- min	19	5	Very painful for past six months	Uterus retroflexed, retroverted and fixed back; conges- tion of cervix and vagina	Good
148	"	17	3	Infrequent once in 4 months; lasts sometimes 30 days	Ovaritis, right side; catarrh of cervix no gonococci found	Fair

No.	Caste	Age	Years of married life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
149	Sudra	22	10	Irregular; once in 30-50 days; exceedingly painful	Uterus retroverted and fixed back; thickening of right broad ligament; catarrh of cervix very marked; catarrh at urethral opening	Dyspepsia and anaemia
150	Brahmin	15	3	Infrequent; once in 2-6 months prolonged, sometimes lasts eight days	Uterus retroflexed, retroverted - mobility diminished by adhesions	Eyelids granular; were rolled by an oculist three days previously
151	Sudra	22	8	Infrequent; once in 3 or 4 mos. sometimes profuse sometimes scanty, painful always	Uterus retroflexed, retroverted and mobility diminished by adhesions	Signs of tuberculosis in apex of right lung, also tubercular peritonitis
152	"	20	6	Infrequent; once in 30-40 days, sometimes scanty always pain; severe pain in breasts before and during menstruation	Uterus retroflexed, retroverted, deflected to right and fixed by adhesions, ovaritis on right side	Fair
153	Brahmin	20	1½	Said to have taken place once eighteen months previously	Congenital absence of uterus and apparently of ovaries; vagina of fair size; admits two fingers and can be pouched up; small superficial opening in mucous membrane at vault - ends blindly	Good; breasts well developed

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
154	Sudra	24	8	Infrequent; once in 6 weeks; scanty and painful	None	Tubercular nodulated mass in per- itoneum of right iliac region enter- itis - fever with rise of temperature every evening
155	Brah- min	16	only cere- mon- ially	Primary amenorr- hoea	Congenital absence of uterus and appar- ently of ovaries and tubes; vagina small - tiny knob where cervix usu- ally is	No development of breasts, no hair at pubes; weight 4 st. 5 lbs. 8 oz.
156	Sudra	18	5	Painful, usually accompanied by vomiting and diarrhoea	Uterus retroflexed, retroverted and fixed by adhesions, ovaritis both sides chronic vaginitis; (gonococci not found)	Anaemia and debility
157	Brah- min	15	3	Infrequent, once in 4-6 months	None	Dyspeptic and anaemic
158	"	16	3	Irregular once in 15-30 days, lasts 10-12 days sometimes pro- fuse, sometimes scanty	Uterus retroflexed, retroverted and fixed back by adhe- sions; ovaritis both sides, catarrh of cervix; gonococci present	Had an attack of Cystitis three years ago; has chronic con- junctivitis and muscular pains in legs
159	"	18	4	Irregular; once in 20-40 days; sometimes scanty sometimes pro- fuse; pain severe	None	Fair

No.	Caste	Age	Years of mar- ried life	Menstrual Abnormalities	Pelvic Lesions	Health Otherwise
160	Sudra	20	5	Irregular and in- frequent; once in 4, 5, or 6 months; scanty and painful	Uterus retroflexed and retroverted; mobility lessened	Has had sev- eral attacks of ureth- ritis; has chronic con- junctivitis and pains in muscles
161	Brah- min	26	12	Scanty	Uterus retroflexed, retroverted and fixed; both ovar- ies inflamed; ab- scess below ureth- ral opening - much pus expressed con- tains gonococci	General de- bility
162	Brah- min	35	21	Painful and ac- companied by hysterical fits	Catarrh of cervix marked, gonococci not found	Synovitis of left knee - had dengue fever re- cently
163	"	18	5	Exceedingly pain- ful	Ovaritis left side, catarrh of cervix gonococci present	Granular eye- lids, vague pains in arms and legs

## CASTE

It will be seen that of the patients recorded

72 are Brahmins  
 4 " Vaisyas  
 78 " Sudras  
 2 " Pariahs or outcasts  
 7 " Indian Christians

The Brahmins are of course the highest caste. They are also the most keen intellectually. Though forming only a small proportion of the population in the Madras presidency they are at the head in all departments of government service. As lawyers and educationalists they are supreme. A fair number practise medicine with success though the details of such work - as for instance the examination of secretions and excretions - involve the worst kind of pollution according to caste rules. Many are engaged in priestly duties. To a Brahmin woman most of all is sterility serious.

The Kshatriyas and Vaisyas, the second and third castes are hardly represented in South India. There are none of the former, and only four of the latter, in the list.

The Sudras form the great bulk of the population. Though technically the lowest of the four castes, they come next to the Brahmins in South India, and are chiefly

engaged in trading and agriculture. They are less religious than the Brahmins but have to a large extent adopted their customs in social matters.

There are only two pariahs in the list. We do a great deal of work among them, but at another centre in the city. They are untouchables - that is no caste person can touch them without pollution.

The Indian Christians are free from caste rules. It will be noticed that they marry at a later age.

## MARRIAGE

Here we find a real evil.

Married life began in	24	cases	at	the	age	of	12
"	"	"	39	"	"	"	13
"	"	"	42	"	"	"	14
"	"	"	24	"	"	"	15
"	"	"	12	"	"	"	16
"	"	"	11	"	"	"	17
"	"	"	4	"	"	"	18
"	"	"	1	case	"	"	19
"	"	"	1	"	"	"	22
"	"	"	1	"	"	"	24

In two cases the marriage ceremony only had been performed - cohabitation being postponed on account of primary amenorrhoea. Two patients were living irregularly.

The last two may be dismissed with the remark that a Hindu woman is so much the slave of her environment that little personal blame attaches to such a life. Of these noted, No. 27 had been left a virgin widow; that is to say she had gone through a form of marriage,

about the age of ten, with a youth who died before she reached puberty. Being then debarred by inexorable custom from forming any lawful union, and having no natural protector after the death of her father, she shared the fate of many in similar circumstances. The other, No. 24, was a temple woman. She had been married at an early age to the idol worshipped in a temple and had been brought up to a life of shame in connection with the temple. As there is no way out of such a life, through Hinduism, for the woman or her female descendants, surely sterility in this case is a blessing though unwelcome to the subject of it.

#### MARRIAGE CUSTOMS

The custom among Brahmins at the present day is that the marriage ceremony takes place any time between the ages of eight and twelve, that the girl then remains in her parents' home till after puberty is reached, or at least till the age of twelve, when cohabitation is begun. Consummation of the marriage before the twelfth year is forbidden by British law. Among non-Brahmin Hindus the same course may be pursued, or the ceremony may be postponed till the girl is fit for all the duties of married life. There is no uniform custom except among the Brahmins, therefore the latter are referred to chiefly throughout this thesis.

A controversy has for long been carried on between orthodox pundits and advanced Hindus as to the permissibility or otherwise of postponing the marriage ceremony till after puberty. This may not at first sight seem of great importance but in practice it is. The parents of most of the patients recorded above, as beginning married life very early, did not intend at the time of the ceremony, that their daughters should do so at the age of twelve or thirteen. But the ceremony having once been performed, the husband's family have a claim on the girl, and often assert their claim at the earliest possible time. They may do so if they are too orthodox or too poor to employ house servants, and require an extra hand to help with the work. They may do so if they are afraid of the youthful husband falling into bad habits. Sometimes the consummation of the marriage is hurried on because of the childish impatience of the women in both families, who cannot wait longer to see what will be the practical result of the union that has been arranged. The other great evil of the early ceremony is that it greatly increases the number of widows.

**RELIGIOUS  
CONTROVERSY  
WITH REGARD  
TO THE TIME  
OF MARRIAGE**

But to return to the religious controversy. Orthodox pundits contend that the marriage of Brahmin girls after puberty is forbidden by the Hindu sacred books of

antiquity and that it was never in vogue. In proving the contrary the Madras Hindu Association has given its authority to a treatise on the subject recently published. This Association, which has as its office-bearers some of the leading Hindus in South India, was founded in December 1903 with a view to the "promotion of Hindu social and religious advancement on national lines". Among methods to be adopted No. VII refers to marriage-reform and is as follows:- "This has to be worked out so as not to conflict with the high spiritual and sacramental ideal of Hindu marriage, but so as at the same time to diminish, as far as possible, all avoidable misery and hardship that may arise out of the marriage relation. Attempts are to be made (a) to gradually raise the age of betrothals and marriages in the case of girls as well as boys, (b) to discourage money considerations in concluding marriage alliances, (c) to diminish the expenditure on marriage festivities."

In the treatise mentioned above called "Marriage after Puberty" a full statement of the case is given, with a critical examination of all the Sanskrit texts of authority on the subject. The main facts brought out are given as briefly as possible here, and are as follows:-

In the Vedas, which are of divine origin, and the

chief source of law, there is no definite command that marriage shall take place after puberty, but there are various texts that indicate this was the custom and was approved. Some of these texts are still used in the marriage ritual, which dates back to about 500 B.C. The second source of law is the Smritis written by the Rishis, When a command in the Smritis has no text of the Vedas behind it, such text is presumed to have been lost. Among the authors of the Smritis is Manu, revered as the first great law-giver. The earlier Smriti writers favour marriage after puberty. In the later Smritis there are many passages denouncing it. At the time of Manu both customs were in vogue. He gave his approval to both, and fixed limits in both directions as follows:-

- "1 Ordinarily twelve or the age of puberty is the age of marriage
- "2 Before this age, but never under eight, marriage is permissible under exceptional circumstances
- "3 After this age, and within three years of puberty marriage is also permissible
- "4 Beyond that limit of three years the girl must secure a husband for herself. In this case she must not take her father's jewels, nor is he entitled to any bride-price
- "5 Neither such girl nor her husband incurs sin."

In later Smritis, the three years allowed after puberty is reduced to three months. A stigma falls on the girl not married before puberty. She loses caste. Later still the three months grace is disallowed; if a father has not provided his daughter with a husband before puberty, he incurs the sin of having killed an embryo. As many menstrual periods as she passes unmarried, so many embryo murders attach to her father. The denunciations become increasingly horrible. That of Parasara, one of the latest, may be quoted:-

"If a father fails to give away his daughter when she has reached the twelfth year, her ancestors drink the blood of her menstrual flow every month.

"The father, mother and elder brother of a maiden seeing her in the menstrual course go to hell.

"The Brahmin who, blinded by ignorance, marries her, is unfit to converse or dine with; he is the husband of a Sudra woman."

Parasara is quoted specially, because his followers claim that he has superseded Manu as law-giver for the last age of the world - that in which we now live; and this claim has been popularly allowed, though there is no real foundation for it. The Brahmin writer of the treatise which has been so largely quoted above, in referring to the special difficulties of this time, when India has been brought into contact and competition with

the whole world, when "her sons want strength as well as patience, courage as well as resignation, ambition as well as contentment" cries pathetically, "If Parasara had known all this, would he have asked us to marry early, live ineffectually and die prematurely?"

To sum up, the case stands thus: There is no command of the Vedas on the subject. A command in favour of marriage after puberty can be inferred from the Vedas and from the earliest Smriti writers. On the other hand a command in favour of marriage always taking place before puberty can be inferred from the later Smriti writers. Therefore the balance of evidence is in favour of later marriages, and this agrees with the requirements of physiology.

There is, however, a considerateness and propriety in the arrangements usually made for a youthful bride. She goes to her husband's house (or rather her mother-in-law's house as it is more politely termed) for a week or so, then returns home for a month - goes next for a month and returns for the same time, then goes for three months and finally to stay. When pregnancy has taken place, in the seventh month the young married daughter returns to her parents' house to stay there till at least the third month after delivery is over. The time of return in this way is a specially joyful

one. The father pays all the costs of the first delivery, they being counted as a rule as part of the wedding expenses.

**MENSTRUAL AB-NORMALITIES**

Excluding the three cases of primary amenorrhoea, and taking the 160 which remain, it will be seen that in 120 menstruation was regular.

In 33 it was irregular and infrequent  
 " 7 " " " " " too frequent

With regard to quantity, in 81 this was normal  
 " 66 it was scanty  
 " 10 it was profuse  
 " 3 it was sometimes scanty  
 and sometimes profuse

With regard to pain this was present in 113 cases  
 and absent in 47 "

As among the Jews, the word generally used for menstruation means "pollution". It is also spoken of as being "out of doors" or "at a distance from the house". This is because the woman always remains apart during the days it lasts. Rich people build a little house for the purpose in part of their grounds. Others have a room somewhat separate inside the house. In poorer families the woman has to sit outside, on the raised verandah in front of the house, and every passer-by knows why she is there. No Hindu woman has any privacy, and

reticence is a virtue unknown. There is however an improvement gradually taking place. I am told that in excusing non-attendance at ladies' garden parties at Government House or elsewhere, on account of menstrual impurity, the reason is now often disguised instead of being bluntly stated. During the days she is apart, a woman's food is sent out to her. She is not allowed to touch anyone, not even her children. She does not bathe nor wash herself, a great deprivation in a hot country among people of cleanly habits. On the fourth day she takes an oil-bath, puts on clean clothes, and being purified returns to ordinary family life.

These oil-baths are very common. The whole body is anointed with sesamun oil or castor oil or cocoanut oil. This is then washed off vigorously with water. The reason of the oil may be understood from the following incident. A Brahmin gentleman taking his daughter out of our mission hospital was advised, in the days of my inexperience twelve years ago, to let her have a water-bath first, and an oil-bath later, when her strength had returned. He explained that this would not do, that if oil were not applied first the water would soak through the pores and make the blood watery. I said, "But we take water baths every day and are not anaemic, our blood is not watery." He looked at me with ill-

concealed disgust and said, "Yes, Madam, but ours is pure vegetarian blood." I felt properly rebuked for having compared with theirs my blood, polluted by eating not only eggs and fish and fowl but also the flesh of sheep and cows, which diet to the strict Brahmin is as bad as cannabilism, since the soul of an ancestor may be contained in any one of these.

In two of the cases reported No. 67 and No. 153 which are of necessity cases of primary amenorrhoea, owing to absence of the uterus, it will be noted that menstruation is said to have taken place. No doubt in these cases the usual procedure has been adopted. The barber-woman, who is the only midwife and gynaecologist in places where western methods have not introduced nurses and women doctors, is called in, and she induces a discharge of blood from the vagina either by scratching it - and she does not hesitate to use any kind of rusty knife - or by applying some irritating substance. The announcement is then made to the husband's household that the girl has attained puberty, all the ceremonies are performed, and later the girl is sent to her mother-in-law's house.

## PELVIC LESIONS

These may be classified as follows:-

## I Congenital structural defects:

(1) Absence of uterus	3
(2) Bi-septate vagina and uterus	1
(3) Stenosis of os	2
(4) Smallness of uterus	3
(5) Abnormal hardness of uterus	3
(6) Acute anteflexion of uterus	2
(7) Retroversion of uterus without adhesions (not necessarily congenital; may have arisen accidentally and persisted)	4
	<u>18</u>

## II Abnormalities arising from disease of the pelvic organs:

(1) Pelvic Peritoneal adhesions associated with displacement of the uterus etc.	69
(2) Pelvic cellulitis	3
(3) Ovaritis and salpingitis separate or combined	16
(4) Endometritis	8
(5) Erosion or catarrh of cervix	10
(5) Vaginal catarrh	5
(6) Labial abscess (not examined further)	1
(7) Ulceration of vulva (not examined further)	<u>1</u>
	<u>113</u>

## III Abnormalities arising from the general state of health:

(1) Atrophy of uterus from general emaciation and debility	2
(2) Ovarian inactivity associated with obesity	<u>3</u> 5

## IV No pelvic abnormality

27

Of these 27, eight were still very young, 5 being sixteen and 3 only 15 years of age though co-habitation had begun three years previously

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## I Congenital Structural Defects:

The only lesion mentioned under this heading, which is an absolute cause of sterility, is absence of the uterus. As it is a permanent and incurable cause, the three patients who were affected with it are included in this series, although they had not led a married life for three years, as all the others had done. Probably defects of this kind are more common in India than in Britain, because so many of the people in India are descended from a line of immature ancestors. A bi-septate state of the uterus and vagina is not incompatible with conception taking place and going on to delivery at full time, as shown by the numerous cases that have been recorded. The other congenital defects that are found, stenosis of the os etc., though not necessarily causes of sterility in every case, are so often associated with it that there is considered to be a causal relation between them and it. Probably the view that they are signs of an ill-developed uterus, which is on that account less likely to conceive, is

correct.

## II Abnormalities arising from disease of the pelvic organs:

About seventy per cent. of the cases recorded are included under this heading. Peritoneal adhesions are the main feature in 69 of the patients, and in 28 of these there is in addition inflammation of the uterine appendages on one or both sides. The large number described as having adhesions may be thought to indicate an undue readiness to diagnose such; but this is never done without good reason. When associated, as they usually are, with retroversion of the uterus, their presence can be demonstrated by very gently inserting a sound, and finding that it is impossible to raise the uterus with it, or that the uterus, though raised with difficulty, is drawn back again by adhesive bands, as soon as the sound has been withdrawn. The adhesions generally give rise to pain on the gentlest pelvic examination and during marital intercourse. They are associated with much discomfort and some ill-health. They cause so much inconvenience that even dispensary patients, who have little money to spare, are willing to buy for themselves ten or twenty ampoules of Fibrolysin and allow these to be injected subcutaneously

twice a week when they come for local treatment. They usually purchase five to begin with, and finding a distinct improvement, go on to buy the others.

It is probable that these peritoneal adhesions are in most cases the result of gonorrhoeal infection. The list indicates the route along which extension usually takes place, there being one case of labial abscess from infection of Bartholin's gland, ten of catarrh or erosion of the cervix, eight of endometritis, sixteen of ovaritis or salpingitis, and sixty-nine of extension to the pelvic peritoneum also. In the three cases of pelvic cellulitis noted, it is possible that the inflammation has extended to the connective tissue in the base of the broad ligaments etc., from the peritoneal folds enclosing or covering it in the various regions.

As to the reasons for suspecting the gonococcus:

(1) In 32 cases a smear of the discharge, taken in most cases from the cervix, was sent for examination to the Bacteriological Laboratory of the Government Medical College and in 18 of these gonococci were found to be present. In the other cases it was not possible to have a reliable examination made.

(2) Two other patients gave a spontaneous history

of infection - one directly, the other by means of a note from her husband's medical attendant. Six others reported attacks of urethritis. Eight complained of severe muscular pains, and all of these and four more had chronic conjunctivitis, or even a granular condition of the eye-lids. The association of extensive pelvic adhesions with muscular pains and chronic conjunctivitis, makes a common clinical picture in our work, more common than this series of cases would indicate. It is thought that the pains may be due to toxins generated by the gonococcus, and that the conjunctivitis may be the result of a direct infection. The matting of the pelvic peritoneum seems analogous to the adhesions produced in joints that have been attacked by the gonococcus.

(3) The common causes of pelvic inflammation are stated to be only two in number - sepsis connected with an abortion or labour, and gonorrhoeal infection. Now not one of the patients in the list given had ever been pregnant. All who thought they had had even one abortion, however doubtful, were excluded. And Hindu women, though they often imagine they are pregnant when they are not - the wish being father to the thought - rarely fail to recognise an abortion. Therefore it seems fair to conclude that in most of the cases of pelvic in-

flammatory disease recorded, gonorrhoeal infection was the original cause.

It is obvious how these conditions act in causing sterility. By irritating secretions from the cervix the vitality of the spermatozoa may be destroyed. The inflammation of the endometrium may retard the upward passage of the spermatozoa or prevent implantation of the fertilised ovum. Changes in the mucous membrane of the Fallopian tube may prevent union of the spermatozoon and ovum. The fimbriated end of the Fallopian tube may be closed by inflammatory changes in itself or in the peritoneum around, and thus entrance of the ovum is prevented. Inflammation of the ovary may interfere with the development of the Graafian follicles, or peritoneal inflammatory bands may encapsule the ovary preventing the escape of ova. Some or all of these lesions may be present on both sides, though on examination abnormality is made out on one side only. All the above may be curable, but are less readily so when extension has taken place to the uterine appendages. In this class of cases especially, the possibility of sterility on the part of the husband must be kept in mind.

III Abnormalities arising from the general state of health:

The only condition that need be mentioned under this heading is the type in which sterility is associated with obesity and with infrequent and scanty menstruation. There seems to be a disorder of metabolism associated with ovarian inactivity. Some think it is due to defective internal secretion on the part of the thyroid. Such cases are not hopeful. We may reduce the bulk by means of diet and exercises and the administration of Thyroid, and we may make menstruation more nearly regular by giving iron and tonics to improve the state of the blood, but these patients seldom conceive.

#### RESULTS OF TREATMENT

During the eight months these records were made, only five patients came to the dispensary who had become pregnant shortly after treatment. None came simply to report. One brought a friend for treatment. Another came for a paper of admission to the hospital for her delivery. The three others came for treatment of new ailments. Of these five, three had been curetted for endometritis; one had had a retroflexed and retroverted uterus set right by a pessary; the record of the fifth could not be found as she had lost her number. Of course many who are treated and become pregnant we never hear of again - or we get only vague information

in a round-about way that we cannot verify and record. Certainly in some districts of South India, and among certain caste sub-divisions, our medical mission has a reputation for curing sterility that is embarrassing to people who want to be quite honest. This is probably the fate of all British practitioners in foreign lands. It is interesting to note that Dr Livingstone, the great missionary and explorer, mentions in an early communication to the London Mission Society, that in revisiting an African village, he found that medicine formerly given by him, was getting the credit of a child borne eighteen months later by a woman previously sterile, and that he was therefore supposed to have a specific for the cure of sterility!

#### PREVENTION OF STERILITY

This resolves itself largely into the prevention of gonorrhoeal infection. It would not be possible, even if desirable, for government by legislation to do anything to diminish the spread of infection by prostitution, as long as this is carried on under the auspices of the various Hindu temples. Extreme care should be taken in disinfecting the hands and all instruments used, before making a vaginal examination of any patient. An important point is to do everything possible to get the minimum age for the consummation of marriage raised to at least fifteen. If Hindu public opinion were ripe for allowing government to pass a law to this effect it would be a

great step in advance. In the present state of Hindu opinion this would be difficult, as it involves interference with the religious customs of the people - a thing that Government is pledged to avoid. The ancient Rishis taught that as soon as puberty was reached cohabitation, during any of the first sixteen nights after menstruation, was likely to be followed by conception, and that every even night from the fourth onwards was favourable for the procreation of a son. The embryo-murder theory, referred to before, has a great influence on the Hindu mind, because to Brahmins the taking of life is one of the greatest sins. They will not kill even a mosquito, or a flea, or a bug, though all these are obnoxious as well as carriers of disease. The state of a people that is callous to real sins and manufactures artificial ones is pitiful. It is also hopeless apart from divine regenerating power. Meanwhile, their haste in trying to procreate children is often the cause of their failure. The reason why the "one-child sterility" often mentioned in English books seems to be less common in South India is probably that gonorrhoeal infection takes place, and has months and years in which to extend up, before the girl is really old enough to conceive. If married life were begun

later it need be less often interrupted. In practice in Madras one has often been saddened to find that in a wealthy and cultured Hindu home a much-cherished daughter has been infected with syphilis or gonorrhoea, and it has been obvious that the infection must have taken place after one of these very prolonged visits to her parents' home. In efforts to secure the raising of the marriage age indigenous reform societies, like the Madras Hindu Association referred to above, ought to be cordially welcomed. The spread of education and above all the imbibing of Christian ideas will also help.

To sum up, a consideration of 163 consecutive cases of sterility, which for religious reasons is a particularly serious affliction to a Hindu woman, shows that the great majority are associated with pelvic peritoneal adhesions or inflammatory disease of the ovaries and tubes or of the endometrium and cervix. Evidence, direct and circumstantial, has been given to show that infection with the gonococcus is often the cause of these lesions. It is recommended that the minimum age for the consummation of marriage should be raised by government from twelve to fifteen, but this is difficult owing to the strength of custom based on religious be-

liefs. Other cases of sterility are associated with congenital defects of the uterus. The only absolute cause found is absence of the uterus and apparently of the ovaries also in three cases. In three others sterility is associated with ovarian inactivity and obesity.

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