

ENVIRONMENT AND DYSFUNCTIONAL UTERINE HAEMORRHAGE

by

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It is well known that dysfunctional uterine haemorrhage is a symptom which appears without apparent lesions in the body, either systemic or pelvic. It is considered that in this condition, either ovarian dysfunction or disturbances of uterine vasomotor apparatus do operate. Role of hypothalamus has recently been focussed which might cause this dysfunction either through autonomous nerve or endocrine pathway. Thus in this disease where evidences of physical lesions are lacking, scope of study of influence of environment does exist, as in modern medicine influence of such in causing disease is gaining grounds.

The term environment is used here meaning socioeconomic status, role of diet and nutrition and psychosexual and educational states.

Material and Methods

Material for study is 137 consecutive cases of dysfunctional uterine haemorrhage collected from the gynaecological department of Nil-

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ratan Sircar Medical College Hospital, Calcutta, and also from the writer's private clinic. Detailed histories and clinical data were entered in printed proforma. Diet survey was conducted by the 'Oral questionnaire' method for 24 hours period prior to clinic visit. The analysed diet intakes were grouped into superior (Grade I), fair (Grade II) and inferior (Grade III) diet as per arbitrary classification of daily calorie intakes viz., 2,050-1,751 in Grade I, 1,750-1,451 in Grade II and 1,450-1,151 in Grade III. Nutritional status of these women was graded as "Good, fair, poor and very poor" according to the standards laid down by Wilson and Widdowson, 1942. Cases were clinically grouped; Group A. 62 *mild cases*, initially treated at the clinics. Most of these cases were young either virginal or of young maturity (below 30 years); of them 16 required subsequent hospital admission and curettage, but the rest were cured by treatment at clinic. Group B. 75 *severe cases* treated on hospital admission. Out of these total of 91 cases who were admitted and curetted, endometrial curettage showed chorionic tissue 6, mucus polyp 3, tuberculous endometritis 3. Rest, 79 (86.8%), showed varying endometrial histology conforming to the diagnosis of dysfunctional uterine haemorrhage.

Results

Age and Parity

Age distribution of 137 cases was as follows: up to 20 years 15, between 21-30 years 52, 31-40 years 30, above 40 years 27; thus there were about 50 per cent women with dysfunctional uterine haemorrhage who were within 30 years of age.

Parity distribution was as follows: para 0 — 19; para 1-4 — 74; para 5 and above 44. Thus the condition affected women with nulliparity as well as parity.

Twelve women who showed pathological lesions on endometrial curettage were excluded from subsequent analysis.

Mode of Onset

The following antecedent histories were obtained prior to onset of bleeding.

histories viz., family maladjustment in newly-marrieds, domestic worry and overwork, fear of pregnancy and that following induced abortion, sexual maladjustments, anxiety of infertility, cancerphobia. Four of these women were worried following operation for sterilisation — three had tubal ligations and one had vasectomy in husband. Premenopausal state could be found to be a factor in only 3.8 per cent cases.

Socio-economic Status

These women showed distribution of total monthly family incomes as follows: upto Rs. 100 (poor) — 50 (40%) Rs. 101-200 (lower middle class) — 25 (20%), Rs. 201-300 (lower middle class) — 25 (20%), Rs. 301-400 (upper middle class) — 21 (16.8%) and above Rs. 400 (Rich) — 4 (3.2%). This distribution, when compared to distribution of prenatal

TABLE I
Distribution of significant histories in women with
dysfunctional uterine haemorrhage

Histories of	Mild cases	Percentage	Severe cases	Percentage
(a) Puberty	6	13	9	11.4
(b) Childbirth and abortion	16	34.8	12	15.1
(c) Mental and physical strain	10	21.8	33	41.8
(d) Premenopausal ..	—	—	3	3.8
(e) Cause unknown ..	14	30.4	22	27.9
Total ..	46		79	

Effects of strains during puberty and child-birth or abortion on the menstrual apparatus of women leading to dysfunctional bleeding can be confirmed in this series in the table above. Mental and physical strains included various types of significant

women in various socioeconomic classes (Dawn, 1961) in the same community, shows more or less identical data but there was more percentage incidence of poor class in this series (40%) compared to that in prenatal series (28.1%). This dif-

ference was statistically significant. Thus more poor women had this disease than those in well-off families.

Educational Background

The distribution of these women was as follows: Illiterate (who could not read or write) 10, literate (who could read and write) 80, educated (who were at and beyond school-leaving stage) 35. In the last group of women, 9 were graduates. Thus this condition can be more commonly found amongst women who were literate and educated.

Residence

Careful scrutiny of this point showed that there were 15 (12%) women coming from rural homes while the rest, 110 (88%), were urban residents in Calcutta or surrounding towns. A sample survey of women with genital prolapse attending this hospital showed 63 per cent rural and 37 per cent urban (Dawn, 1962 unpublished). Thus this disease was more common amongst urban women than rural women.

Diet Survey

Daily diet intakes of these women showed following distribution:

TABLE II

Distribution of women according to grades of daily diet intakes

Grades of diet	No. of women with per centage
Grade I (superior)	.. 4 (3.2%)
Grade II (fair)	.. 59 (47.2%)
Grade III (inferior)	.. 62 (49.6%)

The percentage distribution of unselected prenatal women in a diet survey by the author (Dawn, 1961) showed as follows:

Grade I—13.3%, Grade II—59.3% Grade III—27.3%. In this study there could be found more shift of distribution of women towards inferior diet group from that of superior diet group and this difference is statistically significant. Thus there was a significant association of poor diet intake and incidence of dysfunctional uterine haemorrhage. This association became more significant when only severe cases were analysed as in them there were none in Grade I, 34 (43%) in Grade II and 45 (57%) in Grade III.

Nutrition

The nutritional assessment of these women showed the distribution as follows: Good 12 (9.6%), fair 49 (39.2%), poor 50 (40%), very poor 14 (11.2%). Nutritional assessment of a sample of prenatal women (150) by the author (Dawn, 1961) showed 75.3 per cent in fair to very poor nutrition in the same hospital. Thus there could be found a shift in incidence of women towards fair to very poor grades of nutrition when they were suffering from dysfunctional uterine haemorrhage.

Dietetic Supplements

Of forty-six mild cases, 18 could be followed up to note control of the condition on improvement of their standard of health by dietetic supplements by oral iron, vitamin B-complex, folic acid, advice on protein diets (egg, milk, meat and fish). These women were mostly virginal or women who had strain on nutritional status due to recent child-birth or abortion.

Discussion

The causation of dysfunctional uterine haemorrhage is as yet not satisfactorily understood, particularly in those where endometrium shows normal secretory pattern as in about 60 per cent (Howkins, 1962). Novak and Jones, 1961 could find amongst 135 cases the etiological aspects as follows: 18 central origin (psychogenic and neurogenic), 60 peripheral origin (ovarian insufficiency, pubertal changes, menopausal changes) 11 undetermined and 57 constitutional (nutritional deficiencies, metabolic disorders). Thus even in a well fed country like the United States of America there were 23 (17%) women with nutritional insufficiencies. Melvin et al. 1960, from Harvard, contended that in tissue iron deficiency, the defect that leads to menorrhagia is a relative inadequacy of contraction of spiral arterioles of the endometrium. In this study a significant correlation could be found between poor diet intake and poor nutritional standard and incidence of dysfunctional uterine bleeding. This bleeding episode does particularly develop in epochs of woman's life when nutritional strain is maximum i.e., after puberty, childbirth and abortion. Emotional influence could be also significantly associated with the disease. It can be suggested that emotion does affect appetite and thus leads to poor eating. In the well fed it is possible that emotion affects nutritional health of women. It is difficult to prove the mechanism by which nutritional inadequacy causes dysfunctional bleeding although iron deficiency had been suspected of having an effect on con-

tractibility of spiral endometrial vessels and myometrium due to deficient cytochrome oxidase (Loc. Cit). Hepatic dysfunction in gross nutritional inadequacy might be another factor. Role of nutrition in maintenance of proper endocrinal status is also considered necessary (Brock, 1961). Thus it is possible that diet and nutritional deficiencies can work to cause dysfunctional bleeding either through pituitary-ovarian endocrine pathway or hepatic dysfunction causing imperfect oestrogen metabolism or even directly on the uterine vasomotor apparatus.

In mild cases of regular dysfunctional uterine haemorrhage with evidences of undernutrition specially, in this country, it is suggested that routine curettage is not necessary. Improvement of standard of health by adequate dietary supplement does relieve them of the condition.

Summary and Conclusion

Influence of various aspects of environment on development of dysfunctional uterine haemorrhage has been studied in 137 cases. Final diagnosis following study of endometrial histology could be made for 125 cases.

Dysfunctional uterine bleeding developed in both nulliparous and parous women.

Careful assessment of history showed that in about 70 per cent of them some factor of strain predisposed to the condition. These factors were onset of puberty, strain of childbirth or abortion as well as various forms of mental and physical strain. The latter comprised of family maladjustment in newly married, domestic

worry and overwork, fear of pregnancy and that following induced abortion, sexual maladjustment, anxiety of infertility, cancerphobia, operations for sterilisation either on them or the husband. Premenopausal change of hormonal status by itself could not be found an important factor in this series. Therefore there were many 'hidden anxieties' predisposing to the occurrence of dysfunctional bleeding which can be only revealed by careful and sympathetic history taking.

More poor women developed this disease than those in well-off families. The condition could be more commonly found amongst women who were literate and educated.

There could be found a significant association of poor diet intake with incidence of dysfunctional bleeding. In severe cases, this association was more significant. Women with poor nutrition suffered more from the condition than those in better nutrition. Dietetic supplements to women, suffering from mild degree of dysfunctional uterine haemorrhage, could relieve the condition and therefore routine endometrial curettage in

this group is considered unnecessary.

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