Section of General Practice

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Depression: Emotion or Illness?

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Puerperal and Premenstrual Depression

The initial task when seeing a depressed patient is to determine whether the patient's condition is a normal reaction to the life situation, which will respond to the household remedies of human kindness, understanding and a helping hand, or a depressive illness requiring skilled medical attention.

Four weeks ago a 26-year-old mother of one child was seen. Her second pregnancy had progressed normally and she went into labour spontaneously. Progress was slow and after 12 hours with only 75% dilatation of the cervix the fœtal heart stopped. She was rushed to hospital, and given a Pitocin drip, but was delivered of a fresh female stillborn child – a totally unexpected and unexplained stillbirth. When the mother was seen 36 hours after this event she was still tearful and somewhat slow in responding to questions, but otherwise in the state of unhappiness appropriate to the situation. However, when I reached the front door the grandmother said: 'I suppose the midwife told you that at 2 a.m. she was out in the streets in her night-clothes searching for her lost baby?'

Emotion? Illness?

This paper deals with two types of feminine depressions in which the mood changes are related to hormonal swings and the depressions respond fully to progesterone therapy – premenstrual depression and puerperal depression.

A survey into the emotional changes of pregnancy and the puerperium was undertaken by a group of doctors centred on the North Middlesex Hospital. The group was made up of general practitioners, obstetricians and clinic doctors with the assistance of a consultant psychiatrist. When the survey was complete, but before the results had been analysed, it was felt it would be a stimulating exercise for the participant doctors to commit themselves as to what they anticipated would be the findings of the survey.

A questionnaire was prepared and sent to each of them and also to other interested doctors, all of whom attended the weekly lunch hour meetings at the hospital and were fully aware of the methods and progress of the survey. The answers were most revealing.

The Survey

The results of the survey have been published in the *British Journal of Psychiatry* (Dalton 1971). A woman was included in the scheme if the doctor had agreed to undertake full antenatal care. At each visit the doctor completed a form describing her emotional state and the obstetrical findings. This form was forwarded direct to the research secretary in the hospital and thus was not available to influence subsequent assessments. In the final analysis only those for whom a minimum of ten completed forms had been received, including one completed during each of the three trimesters of pregnancy and postnatal forms at 2 weeks, 6 weeks and 6 months, were used. Of the 189 women whose records were analysed 14 developed puerperal depression of sufficient severity to require psychiatric help or drug therapy from their general practitioners.

The significant findings of the survey were that the puerperal depressives tended to be more anxious at the time of their first interview, but during the later months of pregnancy the majority (64%) were markedly elated. As a group they experienced fewer upsets attributable to their pregnancy. When asked at the eighth month their wishes in regard to lactation they showed greater

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enthusiasm for breastfeeding and none was antagonistic to breastfeeding. A high proportion were successfully breastfeeding at two weeks. On the other hand there were no apparent differences between normal women and puerperal depressives in such factors as welcoming pregnancy and the pregnancy symptoms of irritability, tiredness, headache, backache, nausea and vomiting and history of previous psychiatric illness. These findings, and also the 7% incidence of puerperal depression, are in accordance with the findings of recent workers on the subject (Blair *et al.* 1970, Pitt 1968, Yalom *et al.* 1968, Bratfos & Haug 1966, Tod 1964, Ryle 1960, Foundeur *et al.* 1957).

Elation during pregnancy was recorded in 64% of the puerperal depressives compared with only 26% of normal women, a statistically significant finding. It is only when one has been made aware of this sequence of pregnancy elation followed by puerperal depression that the frequency of its occurrence can be fully appreciated. Recent patients with puerperal depression were asked about their health in late pregnancy and described their elation with such ecstatic terms as 'blissful', 'bouncing', 'never so well in my life', 'walked miles with ease' and 'boundless energy'.

Table 1
Questionnaire and results

	Correct answer	*Percentage correct*
Those who have a puerperal breakdown will tend to be those with:		
(1) History of previous breakdown	No	24
(2) Numerous symptoms during pregnancy	No	44
(3) Depression during pregnancy	No	31
(4) Anxious at first interview	Yes	36●
(5) Welcoming pregnancy	Yes	24
(6) Vomiting baby	Yes	36
(7) Difficult labour	Yes	29
(8) Complicated labour	Yes	29
Women with seven or more different symptoms during pregnancy tend to:		
(1) Welcome pregnancy	No	73
(2) High incidence of toxæmia	No	44
(3) Easy labour	No	58
(4) Crying baby	Yes	51
Those anxious at first interview will tend to have:		
(1) A difficult labour	Yes	40
(2) Obstetric complications	Yes	13
(3) Puerperal depression	Yes	22 ●
(4) Ailing baby	Yes	31
Women with few pregnancy symptoms will tend to have:		
(1) Puerperal depression	Yes	2 ●
(2) Easy labour	Yes	64
(3) Few obstetric complications	Yes	47
(4) Thriving baby	Yes	73
Total		37

●statistically significant finding at 5% level

The Doctors' Questionnaire

Completed questionnaires were received from 45 doctors and partially completed questionnaires, including comments, from 5 doctors.

Table 1 shows the questions asked, the correct answers according to the findings of the survey and the percentage of doctors who correctly predicted the results. The doctors' expectations were correct in only 39% of the questions. Correct answers varied with top marks of 73% predicting that women with many pregnancy symptoms would not welcome their pregnancy, and that women with few pregnancy symptoms would have a thriving baby, but at the other extreme only 2% predicted that women with few pregnancy symptoms would show a tendency to develop puerperal depression, yet this latter finding was statistically significant at the 5% level.

Although the expectations of the doctors did not give a high correlation with the findings of the survey, nevertheless those doctors with greater experience in obstetrics obtained the better results (Table 2).

This suggests that the doctors who participated in this project were more observant or that they obtained further insight into the problems of puerperal depression by their participation. The discussion stimulated by the survey provided a most beneficial form of postgraduate education. From a study of recent medical literature the doctors might well have predicted the findings, but on the other hand the subject of puerperal depression is poorly covered in most obstetric and psychiatric textbooks because it falls between these two specialties. It is, however, of great importance to the family doctor.

Most doctors appeared to have answered the questions on a logical basis assuming that the usual problem patients (such as those with previous psychiatric illness, numerous pregnancy symptoms, depression during pregnancy) would be the ones who later developed puerperal depression, but the survey showed the opposite to be correct. Were the doctors' replies based on the

Table 2
Correct answers to questionnaires

	No. of doctors	*Percentage correct answers*	*On 1 degree of freedom*
All doctors	45	39	
Participating doctors	7	50	5·6 ●
Interested doctors	38	36	
Diploma in obstetrics	11	47	7·8 ●
No diploma	34	35	
General practitioners	37	40	n.s.
Other doctors	8	32	
Women doctors	7	42	n.s.
Men doctors	38	38	

●statistically significant at 5% level

belief that women can control their emotions during pregnancy and the puerperium? And that emotions are directly related to present events, such as welcoming pregnancy? Has the possibility of a hormonal etiology been overlooked as a factor influencing mood changes?

The characteristics of puerperal depressives appear to be (1) favourable attitude to motherhood (welcoming pregnancy, elated during pregnancy, free from pregnancy symptoms, eager to breastfeed and successful at breastfeeding) and (2) labile emotions (anxious initially, elated during later pregnancy and depressed during puerperium).

The findings of marked maternal characteristics and labile emotion could be explained on a hormonal basis, a high level of elation occurring during pregnancy when the placental progesterone levels are at their height and the subsequent depression during the puerperium following the abrupt loss of the placental progesterone.

The varying levels of the menstrual hormones during the monthly cycle are sufficient to cause important mood swings during the paramenstruum. The far-reaching effects of these hormonal changes are shown in premenstrual tension with its depression, increase of accident-proneness, lowering of mental ability and temporary alteration of behaviour (Dalton 1964). Nevertheless, the hormonal swings of the menstrual cycle are small in comparison with the massive increase in placental progesterone during pregnancy and the abrupt deprivation of progesterone following delivery. The marked differences in hormone levels between those existing in late pregnancy and in the early puerperium call for remarkable adjustment capabilities on the part of the women. Is puerperal depression but a failure to adjust adequately to this hormonal change? Is it the high level of progesterone in late pregnancy that is responsible for the elation? Does its rapid fall in the early puerperium cause depression?

A high incidence of premenstrual syndrome following puerperal depression has been noted by Dalton (1964), Hegarty (1955) and Malleson (1953). This suggests that those women who experience difficulties in adjusting to the differing hormonal levels of the premenstruum will tend to have even greater difficulty in adjusting to the hormone levels of the puerperium, expecially if elation has been present during late pregnancy. This hypothesis would also explain why puerperal depression is unrelated to previous psychiatric illness.

In premenstrual depression the mood changes are short-lived, the depression lasting only a few days at a time with improvement, often abrupt, occurring during menstruation. But the depth of depression may be extreme, reaching suicide level, or a temporary psychosis may develop. The depression is accompanied by tension, irritability with aggression which may result in a battered baby or bruised husband, and lethargy, both mental and physical. In addition the women may have added discomforts to cope with such as headaches, abdominal bloatedness, mastitis or backache. For diagnosis a knowledge of the menstrual dates is essential, and can most usefully be obtained by the use of a menstrual chart. However, the husband is often a valuable observer and may well confirm the cyclical nature of the depression.

Premenstrual depression and puerperal depression both have an excellent response to progesterone, given by intramuscular injections, suppositories or implantation. Unfortunately the oral synthetic progestogens are ineffective, as is also the pill. This vital difference between progesterone and progestogens is rarely appreciated. By definition, a progestogen is a substance capable of causing proliferation of the endometrium in the same way as progesterone. The oral synthetic progestogens, such as ethisterone and chlormadinone, all possess this property. But progesterone also has a place in the synthesis of all corticosteroids. In the biosynthetic pathway in the adrenals cholesterol is converted to pregnenolone, and then to progesterone, where the pathways diverge for the various conversions into aldosterone, corticosterone, cortisone and the many compounds A, B, E, F and S, which have so far been isolated, or the conversion to androgens or œstrogens may occur (Harper 1969). The progestogens cannot be converted into the other corticosteroids. It is probable that this function of the adrenal progesterone in the synthesis of corticosteroids may explain the specificity of progesterone in the treatment of premenstrual syndrome and puerperal depression.

The initial dose of progesterone in the treatment of premenstrual syndrome may be 25–100 mg daily by injection or 100–400 mg by suppositories. The progesterone is given from mid-cycle until a day or two after the depression would normally lift, usually during early menstruation. If ovulatory symptoms occur then the course should be commenced by the tenth day. Occasionally progesterone administration merely postpones symptoms from the premenstruum until menstruation, in which case the progesterone is continued until the end of menstruation. Progesterone implantation is useful for long-term use in avoiding frequent injections or suppositories, and should be considered when progesterone has proved effective by one of the other routes. Then five to twelve 100 mg progesterone pellets may be implanted into the fat of the abdominal wall during the postmenstruum.

In the treatment of puerperal depression the dose of progesterone may need to be higher during the first month or two following childbirth, and up to 200 mg by daily injections may be needed for the first few days. That may seem a high dose, but during pregnancy the level of progesterone production in the placenta exceeds 300 mg daily. If treatment of puerperal depression has been delayed for a few months, then it is usual to find an exacerbation of the depression during the premenstruum, and in these cases it is as well to give continuous progesterone for the first month or two and when symptoms are relieved to give progesterone cyclically in the second half of the menstrual cycle.

These are two depressions that need no reference to the consultant psychiatrist. Their diagnosis and treatment lie completely within the province of the family doctor. Those doctors familiar with the treatment of premenstrual syndrome should have no difficulty in mastering the technique of progesterone therapy in puerperal depression. Thus, practice of good medicine will avoid wasting the valuable time of our psychiatric colleagues.

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Depression: Emotion or Illness? A Biological Approach

One of the commonest decisions in the general hospital practice of psychiatry is to distinguish depressive illness from normal unhappiness. Although much has been written, there are no firm guide lines on which to take decisions of this kind from purely psychological criteria in all cases. For this reason a biological view of depressive illness and of its separation from normal mood states is suggested.

The Distinction: Biological Definition and Classification

If several people are faced with adversity, some will fight and enjoy the challenge, others feel unhappy and seek help, and relatively few develop depressive illnesses or other psychological reactions.

To detect whether a sad person in these circumstances is healthy or suffering from a depressive illness appears simple, but examination of the 'cause' which is the basis of one classification is unhelpful, for it is the same in each case. A further difficulty arises from the tendency for the judgment (and history) of the patient with depressive illness to be distorted. Whereas the healthy sad person always recognizes his problem with reasonable accuracy, the patient with depressive illness may well be unable to connect the use of hormones, depressant drugs or recent virus infection with his or her psychological symptoms, and may mislead himself and his doctor into belief in an environmental 'cause'.

From a biological viewpoint depressive illness can be regarded as a semipermanent disturbance of the primitive central regulating mechanisms, including alteration in mood, in the absence of organic brain disease. The changes most readily appreciable by the clinician are those concerned with sleep, appetite, weight, libido and diurnal variation, all of which are closely associated with the hypothalamus. In depressive illness there is a shift from the normal setting, and the distinction from unhappiness depends on knowledge of whether these functions are continuously disturbed. This distinction is important to the individual sufferer. The unhappy person is well fitted to seek and gain help from his relatives, friends and spiritual sources or his doctor, but the person with depressive illness with the same problems is handicapped by being unlike himself. His personality is changed and his worst features are caricatured. His everyday life is burdened by difficulty in concentrating and gloomy contemplation and his capacity to get help is reduced.

Although depressive illness can be precipitated by a wide variety of stresses, in a number of cases no obvious precipitant can be found. These are often recurrent depressive illnesses, occasionally manic-depressive in type, and their clinical characteristics are different. Not only does the superficial picture suggest a link with hibernation, but certain biochemical investigations show identical changes. It is possible that in some cases seasonal changes in light and temperature influence the development of attacks at intervals in those genetically predisposed.

Whether of the solitary or recurrent type, the clinical picture of depressive illness varies ac-