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A preliminary study into the efficacy of progesterone suppositories as a contraceptive for women with severe premenstrual syndrome

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Summary

The casenotes of 137 women suffering from severe premenstrual syndrome (PMS) were reviewed retrospectively. All had used natural progesterone as a contraceptive. The failure rate was 3.15 per 100 women years. There were no ectopic pregnancies.

The results of this limited preliminary study indicate that natural progesterone during the follicular phase of the menstrual cycle has a contraceptive effect which may be of benefit particularly in those patients for whom other forms of contraception are unsuitable.

Introduction

Premenstrual syndrome is the recurrence of symptoms in the premenstruum with complete absence of symptoms in the postmenstruum.[1] The cause of the syndrome remains unknown, but it has been shown epidemiologically that certain circumstances, such as pregnancy, female sterilisation and ingestion of oral contraceptives, initiate or exacerbate the condition.[1]

Natural progesterone in pessary, suppository or tablet form used in the luteal phase of the menstrual cycle has been successful in the treatment of PMS.[1,2] It has been proposed that extension of its prescription into the follicular phase would give contraception to this group of women in whom some alternative forms of contraception are problematic (Dalton M E, Dalton K, in preparation). This paper reports the efficacy of progesterone as a contraceptive in a small group of PMS sufferers.

Materials and methods

The casenotes of 137 women were studied retrospectively. All patients had been seen at a PMS clinic and were diagnosed by KD as suffering from sufficiently severe PMS to warrant progesterone therapy. All had been, or were, currently being prescribed progesterone in a contraceptive dose, which was considered to be a minimum of 100 mg for seven days prior to starting their luteal phase therapeutic dose. This latter dose is individually tailored to each patient's symptoms and cycle. For example, one patient may receive 400 mgs × six per day for the 14 days of the luteal phase, and another patient 200 mg daily for 10 days. For comparison with the fertility and contraceptive habits of PMS sufferers not taking progesterone, 100 consecutive women with proven PMS were questioned about their contraceptive and obstetric histories. The notes of both groups were analysed for age, parity, progesterone dose, side effects, duration of treatment, effect on subsequent fertility and failure of contraception.

Table 1 *Follicular phase dose of progesterone*

Contraception	Stopped (66)	Continuing (62)	Failed (9)
100mg	34 (51%)	34 (55%)	1 (11%)
200mg	28 (43%)	22 (35%)	7 (78%)
Over 200mg	4 (6%)	6 (10%)	1 (11%)

Results

The study group of 137 women had a total of 2.85 hundred women years of contraception with progesterone. Sixty-six women had stopped progesterone as a contraceptive, 62 were still using it and nine had become pregnant. The contraceptive dose of progesterone in the follicular phase was as shown in Table 1. In the luteal phase progesterone was tailored to the patient's requirements. The characteristics of these women are shown in Table 2. There were no significant differences in age between the groups. The contraceptive failure rate was 3.15 per 100 women years. The mean duration of progesterone use in the contraceptive failure group was not significantly different from the group who had stopped therapy for other reasons.

Table 2 *Characteristics of three groups of progesterone contraceptors (Mean ± SE)*

	Stopped (66)	Continuing (62)	Failed (9)
Age (years)	30.5 ± 6.8	30.0 ± 7.5	28.1 ± 7.0
Parity (previous pregnancies)	1.7 ± 1.4	1.5 ± 1.1	2.1 ± 1.8
Mean duration of use (months)	14.8 ± 23.2	35.2 ± 27.7	13.3 ± 9.0
Previous forms of contraception	1.5 ± 0.8	1.2 ± 1.0	1.0 ± 0.8

Table 3 *Reasons for discontinuation of therapy (n = 66)*

To conceive	22
Side effects	14
poor cycle control	12
loss of libido	1
depression	1
Not recorded	30

Twenty-two women stopped progesterone to conceive, and to date 17 have been successful. No data is available on the time taken to conceive. There were no ectopic pregnancies.

Of the 66 patients who had discontinued contraceptive therapy, 14 (21 per cent) did so due to side effects (Table 3). Table 4 shows the side effects of the whole group.

The 100 women in the control group included 13 women with infertility. Twenty-eight women had between them 36 unplanned pregnancies, 18 of these when not using a contraceptive method appropriately, eg forgetting to take the pill (Table 5).

There were nine recorded failures of contraception. Two pregnancies were subsequent to omission of therapy and two subsequent to episodes of diarrhoea. There was no known underlying factor in the other five.

Table 4 *Side effects of progesterone contraception (n = 137)*

	n	*%*
Cycle disturbances	18	13.1
Mastalgia	3	2.2
Amenorrhoea	2	1.4
Decreased libido	1	0.7
	Total 24	

Table 5 *Control group characteristics (n = 100)*

Age	35.5	5.8 years
Parity	2.16	1.57
Infertility	13 couples	

Unplanned pregnancies	Women	Pregnancies
Total	28	36
No contraceptives used	15	18
Contraceptives used		
Intrauterine device	4	4
Progestogen only pill	1	1
Combined pill	1	1
Sterilisation	2	2
Sheath	1	1
*Diaphragm	4	9

*Three women had two pregnancies and one had three pregnancies

Discussion

Natural progesterone has previously been shown to provide adequate contraception.[3] This preliminary study is only looking at a small subgroup of patients, that is those with severe PMS. However, the results in this small group are consistent with a contraceptive effect being obtained by the use of progesterone in the follicular phase of the menstrual cycle. All patients in this study suffered severely from PMS and were therefore limited in their choice of contraception.

The progesterone failure rate of 3.15 per 100 women years compares favourably with the alternative contraceptives available to this group of women, with a failure rate quoted for diaphragm as 12, sheath as 14, rhythm as 24 and chemical spermicides as 12–43 per 100 years respectively. It is not as efficient, however, as the intrauterine contraceptive device with a failure rate of 2.5 per 100 women years.[4] Recent evidence has come to light suggesting that a constituent in Cyclogest pessaries (Hoechst) degrades the rubber of a diaphragm.[5] Thus, women with severe PMS, who cannot tolerate oral contraception and are advised against the diaphragm, represent a group in whom it is difficult to provide adequate suitable contraception. The administration of progesterone in the follicular phase may provide a useful alternative form of contraceptive in this subgroup.

Cap failures in PMS sufferers may not necessarily be due to the adverse chemical action on the rubber of Cyclogest when used as a pessary. Nine unplanned pregnancies in four cap users in the control group occurred prior to using Cyclogest. PMS sufferers with increased forgetfulness and/or low libido may not use the cap accurately and therefore be at higher risk of contraceptive failure.

If, as has been suggested, PMS is due to a progesterone deficiency, it may be suspected that this group would be relatively infertile. The control group shows that this population is no less fertile than the general population, the 12 per cent incidence of subfertility comparing favourably with the general incidence of 17 per cent.[6] This confirms the findings of Ying and co-workers.

Fourteen of the 66 patients discontinuing progesterone contraception did so because of side effects. Overall 38 of 137 women in the study recorded side effects. The disadvantages of progesterone therapy can only be weighed against the benefits of contraception and reduction in PMS symptoms by the individual concerned. Overall, half of the patients in this study group had used one form of contraception previously and 13.5 per cent had used three, suggesting that side effect free contraception was difficult for this group.

Two patients became pregnant after bouts of diarrhoea, presumably due to early expulsion of the suppository and hence inadequate absorption of progesterone. Patients starting therapy should be informed at the outset that under such circumstances Cyclogest should be taken vaginally or alternative methods of contraception used.

No data was recorded regarding subsequent pregnancy other than whether or not it had been achieved to date. No ectopic pregnancies were recorded. Such parameters merit further study for comparison with other forms of contraception.[8,9]

In this study 16 nulliparous patients, also unsuitable for an intrauterine contraceptive device,[10] did well with progesterone contraception. The group who fell pregnant despite progesterone contraception were not significantly different from the other groups (Tables 1 and 2). The efficacy of other contraceptives have been shown to be age and experience related.[4] Our results may reflect a group of women poorly motivated to persist with any form of contraception.

Little data is available relating to the possible side effects of long term progesterone use.[1] Consequently it is proposed to extend this study with longer observation times.

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