Contemporary Themes

Use of long-acting depot progestogen in domiciliary family planning

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Summary

Medroxyprogesterone acetate injections have been used as a long-term contraceptive by the domiciliary family planning service in Glasgow. The injections were particularly useful in women with a high risk of becoming pregnant and in whom oral or intrauterine contraception had failed or was unacceptable. The optimum dose was 200 mg every 15-16 weeks. It was accepted by an increasing proportion of women, only 12 out of 162 discontinuing because of side effects. Continuation rates compared favourably with those for the pill, but less well than those for intrauterine contraceptive devices. The theoretical hazards should be weighed against the positive good resulting from controlled fertility in domiciliary patients.

Introduction

The Glasgow domiciliary family planning service started in February 1970.¹ The number of families referred has increased from 50 in the first year to 400 in 1975. It soon became apparent that there were some patients who were unable or unwilling to use any of the usual methods.

Medroxyprogesterone acetate has been used overseas since the early 1960s, and it was thought that a trial of the acceptability of this method in the Glasgow domiciliary service was worthwhile, the theoretical risks being outweighed by the advantages to a group who were already severely deprived.² This report is concerned with 162 patients who received medroxyprogesterone acetate from February 1973 to June 1975. The nature of the cases and the difficult circumstances in which patients were seen precluded our making detailed investigations or asking patients to keep records. Observations on changes in weight, blood pressure, and menstrual irregularities have already been recorded by other workers.³⁻⁵ We were concerned with the acceptability of the method to a group of women who were known to have difficulty in controlling their fertility.

Selecting patients

Suitability was assessed on the basis of the patient's medical and social problems, and no one was barred on the grounds of age or low

parity; the mean age of the women treated was 25 (17-39) and the mean parity 4 (0-12). Unemployment, debt, imprisonment, truancy, homelessness, alcoholism, wife and child abuse, and degrading poverty were common factors in the lives of those referred. Among such patients were certain groups for whom an injection every three or four months was particularly suitable.

Presterilisation—Sixteen patients were given a 150-mg dose after delivery pending their subsequent readmission for sterilisation. This is a practice already established in many maternity hospitals.⁶ In several cases the hospital was unable to readmit the patient within the 90 days covered by this dose and a second or even third was necessary. Medroxyprogesterone was also given to nine women whose husbands underwent vasectomy, while they were waiting for negative semen analyses.

Psychiatric patients—There were eight patients who were psychotic, six being schizophrenics of low intelligence. They refused intrauterine contraception and their partners were as unreliable at using a condom as the women were in taking the pill.

Retarded patients—Most patients referred were of below average intelligence, but 47 were noticeably retarded. Many feeble-minded girls drift around urban ghettos from one temporary address to another. It is almost impossible to be a consistent pill-taker in these circumstances.

Promiscuous girls—Many of the girls were promiscuous and presented a particularly difficult problem. Sixteen were known to have had gonorrhoea, and two also had syphilis. The increased risk of pelvic inflammation associated with intrauterine contraceptive devices (IUCDs) in the presence of gonococci⁷ made the injectable contraceptive a far less risky alternative.

Unco-operative consorts—An injection cannot be removed, destroyed, or detected, and for these reasons it was chosen by five women whose consorts refused to allow them any contraceptive protection.

Other methods unacceptable—A few women had medical contraindications to oestrogens, such as a history of thromboembolism or recent jaundice; one was breast-feeding. Thirty-one women had conceived unpropitiously while they were said to be using other methods and chose the injection after delivery. Thirty-six women had been offered sterilisation and had either refused or defaulted. None of them wished for another pregnancy, but fear of hospitals, examination, anaesthesia, doubts about the care of their children in their absence, and, not uncommonly, their husband's refusal to consent resulted in their non-attendance. These women were particularly happy with the injection.

Procedure

Dosage—Initially 150 mg (3 ml) of medroxyprogesterone acetate (Depo-Provera) was given every 90 days as recommended by Dodds.⁸ The uncertainty of contacting the patient after exactly this interval, however, made us increase the dose to 175 mg (3.5 ml). More recently we have been giving 200 mg (4 ml) every 15 to 16 weeks. Occasionally we have given an even larger dose if we thought that there would be difficulty in maintaining contact.

Instructions to patient—Each patient was given a typed slip reinforcing the verbal explanation that preceded the first injection. It was important to emphasise that changes in menstrual pattern were to be expected. Prolonged amenorrhoea is not uncommon,^{8,9} and local

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TABLE 1—Numbers of women referred, accepting injection, and reasons for discontinuing treatment

	1 Jan 1974	1 Jan 1975	1 June 1975	Total	1 Jan 1976	Final total
Total referred by each date	513	770	920		1170	1170
Case load at each date (No)	304	470	563		830	
No with first injection by each date	21	60	81	162	78	240
Acceptance rate (%)	7	17	29		29	
No continuing at 1 Dec 1975	8	31	50	89		29
	(>23 months)	(>11 months)	(>6 months)			
% Of cohort continuing	38	52	62	55		
Reason for discontinuing:						
Vasectomy of consort	3	2	4	9		
Sterilisation	7	10	7	24		
Pre-IUCD postpartum	1	3	4	8		
Desire for pregnancy		5	4	9		
Pregnant on injection		1	3	4		
Lost etc	1	6	4	11		
Total	12	27	22	61		
Side effects:						
Weight gain		1	8	9		
Bleeding	1	1		2		
Suspected pregnancy			1	1		
Total (%) discontinuing because of side effects	1 (5)	2 (3)	9 (11)	12 (7)		
Total (%) discontinuing	13 (62)	29 (48)	31 (38)	73 (45)		

folklore ascribes this to a "blockage," which sends the "bad blood" to the head with resultant headaches, fits, or meningitis. Intermittent but frequent bleeding is less common but more troublesome and all patients had our telephone number to contact if they had any difficulties. They were also told that although the injection was effective for three or four months, their fertility might not return to normal for a further four months¹⁰ and that if they wanted another pregnancy it should be planned well in advance. The patient was visited by a domiciliary nurse four to six weeks after the first injection and then at regular intervals whenever another dose was due.

Communication with general practitioner—A letter was sent to the woman's general practitioner before the initial visit, and a more detailed communication was sent once the method had been decided.

Results

ACCEPTABILITY

This method was first used in March 1973 but was offered to few patients. As confidence increased it was given to more women, until in the second half of 1975 it was the first method of choice in 78 (31%)

TABLE 2—Contraceptive method used before and after medroxyprogesterone acetate injection. Numbers in parentheses refer to pregnancies subsequent to referral and square brackets refer to patients who were or thought they were pregnant at the first or subsequent injection

	Before	After
None, coitus interruptus, or pregnant	54 (2)	9
Oral contraception	89 (15)	10 [3]
IUCD	15 (4)	7
Safe period	1 (4)	
Condom	2 (0)	3 [1]
Lost, not known	1 (0)	11
Sterilisation		33
Total	162 (22)	73 [4]
Number continuing		89 [2]

out of 250 women referred. Insufficient time has elapsed to assess its long-term acceptability in this group. The number of potential acceptors is shown by the number of patients under care at the beginning of each year from 1973. Although an increasing proportion made it their first choice, there were also many who had tried other methods and wished to change. Details of the 162 acceptors is shown in table I according to the length of time since the first injection was given.

Only 12 discontinued treatment because of side effects, the most common being a complaint of "feeling bloated," often, but not always, accompanied by an obvious gain in weight. Only three were deterred by persistent intermittent bleeding, one of whom was found to have chronic pelvic inflammation when she was eventually sterilised.

The methods used immediately before the injection and those used subsequently by those who changed are shown in table II.

A comparison of the acceptability of the injectable compound compared with other methods of contraception is shown in table III. By January 1975 the medical staff had become convinced of the usefulness of the preparation and experience had shown no serious hazards. It was therefore offered as an alternative method to oral contraception or an IUCD. When patients who were subsequently sterilised were excluded the acceptability and continuation rates were similar to those for IUCDs and much better than those for the pill.

PREGNANCY

The injection should be given during or immediately after menstruation.⁸ In many cases the risk of administering the drug at the time of first contact, possibly even in the presence of an early conception, had to be weighed against the chances of pregnancy occurring if the women were not protected immediately. In consequence four patients were almost certainly pregnant at the time the first injection was given; their next periods were within five days of the time when it was administered. In one the subsequent amenorrhoea was ascribed to the drug and she had a second injection, a total of 375 mg. Three, including this woman, were delivered at term of healthy babies. One had a spontaneous abortion at 26 weeks of an apparently normal fetus.

TABLE 3—Choice of method in first 100 women referred in 1975 and subsequent changes

1st choice	No of women	No continuing at 6 months	No wanting pregnancy	No sterilised	No lost etc	No who changed to another non-permanent method			
						Oral contraceptive	IUCD	Medroxyprogesterone	%
Medroxyprogesterone acetate	17	8	1	6	2	0	0		0
Oral contraceptive	52	29	0	3	3		3	14	33
IUCD	16	13	0	1	0	1		1	13
Other	15	3	3	3	6	0	0	0	0

Two girls possibly had early miscarriages, but neither sought medical aid at the time so the diagnoses remain uncertain.

Two patients conceived five months after a single 175-mg injection. Both had normal full-term deliveries of healthy babies. One has been sterilised and the other has been restarted on medroxyprogesterone.

Nine other women wanted to become pregnant. Three had severe bilateral salpingitis and their fertility is doubtful. None of the remaining six has been trying for longer than six months since the last injection.

Discussion

The use of medroxyprogesterone acetate was approved by the Central Medical Committee of the International Planned Parenthood Federation in June 1975.¹¹ In this country the Committee on Safety of Medicines has approved its short-term use for women whose husbands have had a vasectomy, pending a negative seminal analysis, and for girls who are being immunised against rubella.¹² In the United States the Federal Drugs Administration (FDA) has not allowed its use as a contraceptive, primarily because of fears that it might stimulate cancer of the cervix or of the breast. The evidence for the former is based on slightly increased rates of carcinoma in situ found in medroxyprogesterone users in certain series, but matched control groups were not studied. The FDA concluded that no increased risk could be proved, especially as "such early tumours cannot be considered as drug related; the absence of a timelag of 3 to 10 years or more is at variance with the known toxicological behaviour of chemical carcinogens."¹³ Other series have failed to show any difference between users and non-users. Similar doubts have been raised about combined oral contraceptives and yet they have continued to remain on the market with FDA approval.

The evidence for increased risks of carcinoma of the breast is based on animal studies. The relevance of mammary nodules in such a cancer-prone species as the beagle to their possible occurrence in the human female is not known.¹³ The recent withdrawal of oral contraceptives containing megestrol acetate¹⁴ highlights this problem. Although beagles that had received megestrol acetate for a long time had an increased incidence of malignant breast tumours, Vessey and the Royal College of General Practitioners have shown that women taking oral contraceptives have a lower incidence of referral to hospital for benign breast lumps than those using other methods of contraception.^{15 16} It is also known that malignancy is commonly associated with preceding breast nodularity, but the true importance of these observations is not known.

The health hazards of heavy smoking and drinking, the increased wastage of infant life (only 448 children out of 491 were surviving at the time of referral), and the higher than average rate of congenital abnormality make long-term theoretical hazards less relevant in these particular families, while their problems increase in number and degree with each unwanted pregnancy.

As in other studies,^{17 18} the continuation rates with the injection in these Glaswegian women compared favourably with those for oral contraceptives but less well with those for IUCDs. Since many of our patients refuse IUCDs, however, the choice usually lies between irregular and ineffective oral contraception with eventual failure, and a four-monthly injection.

Possible hazards to the fetus if pregnancy occurs or has already occurred when the injection is given have so far not been shown, although the injection might have precipitated premature labour in one case. Intrauterine devices are known to increase the risk of miscarriage if conception occurs,¹⁹ and a few of these have been associated with serious infection and even death.²⁰ If there is an increased likelihood of miscarriage with long-acting progestogens (so far unreported) it cannot be complicated by sepsis due to the drug.

The low fall-out rate attributable to side effects may have been due to the personal care and support given to each patient and

the careful explanation of possible menstrual irregularities before treatment was started.

We have found medroxyprogesterone acetate a useful and sometimes essential tool as a contraceptive agent in domiciliary practice. We believe that the hypothetical hazards are far outweighed by the positive benefits not only to the woman but to the whole family when she can successfully control her fertility. In the long term we hope that one or other parent will be sterilised, but failing that we try to limit their fertility to the number of children they want by providing acceptable contraception until the end of the woman's reproductive life.

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References

- 1 Wilson, E, *British Medical Journal*, 1971, **4**, 731.
- 2 Wilson, E, *Health Bulletin*, 1974, **32**, 239.
- 3 McDaniel, E G, Pardthaisong, T, and Gray R, paper presented at Conference of the International Epidemiological Association, Brighton, 1974.
- 4 Rubio, L L, and Gonzalez, R A, *Proceedings of the Sixth World Congress on Fertility and Sterility*, p 21. Jerusalem, Israel Academy of Sciences and Humanities, 1970.
- 5 Harnecker, J, et al, *Proceedings of the Sixth World Congress on Fertility and Sterility*, p 27. Jerusalem, Israel Academy of Sciences and Humanities, 1970.
- 6 Mowat, J, *British Medical Journal*, 1974, **2**, 306.
- 7 Statham, R, and Morton, R S, *British Medical Journal*, 1968, **4**, 623.
- 8 Dodds, G H, *Medical News letter*, 1975, **57**, 1.
- 9 Koetswang, S, et al, *Journal of the Medical Association of Thailand*, 1974, **57**, 396.
- 10 Schwallie, P C, and Assenzo, J R, *Contraception*, 1974, **10**, 181.
- 11 IPPF *Medical Bulletin*, 1975, **9** (2).
- 12 *Data Sheet Compendium*, p 949. London, Association of the British Pharmaceutical Industry, 1976.
- 13 Rinehart, W, and Winter, J, *Population Report*, K 1. Washington, DC, Department of Medical and Public Affairs, George Washington University Medical Centre, 1975.
- 14 Committee on Safety of Medicines, MF 495/3. London, DHSS, 1975.
- 15 Vessey, M P, Doll, R, and Smith, P M, *British Medical Journal*, 1972, **3**, 719.
- 16 Royal College of General Practitioners, *Oral Contraception and Health*. London, Pitman Medical, 1974.
- 17 McDaniel, E, and Pardthaisong, T, *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 1972, **12**, 80.
- 18 Apelo, R A, De La Cruz, J R, and Cancio-Lopez, F, *IPPF Medical Bulletin*, 1974, **8**, 1.
- 19 Vessey, M P, et al, *Lancet*, 1974, **1**, 495.

A traditional first-aid treatment for severe bruising is a locally applied ice pack. Are there any contraindications to this treatment in an elderly person who has fallen (possibly as a result of a small stroke) and sustained severe local bruising?

I know of no contraindication to using ice packs for an elderly person who has fallen and sustained severe local bruising. Ice has a local anaesthetic effect and may relieve pain. If ice is unacceptable ultrasound is effective.

Should a 35-year-old man with hypertension be allowed to scuba-dive?

It would be most unwise for anyone with hypertension, whether treated or otherwise, to scuba-dive. Most drugs used for treating hypertension abolish the body's response to stress. Diving involves the stresses of exposure to cold, raised partial pressure of oxygen, anxiety, and, occasionally, when dive planning goes awry, an all-out muscular effort. The professional divers have a limit of 145/95 mm Hg and the British Sub-Aqua Club 90 mm diastolic on entry and 100 mm for established members. The diving hazards of hypertension are not purely theoretical. There have been reports of hypertensive divers developing acute left ventricular failure in the water, presumably owing to the increased cardiac load from peripheral vasoconstriction in response to cold and raised oxygen partial pressure at depth.