Depo Provera: A Contraceptive Alternative For Adolescents

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The Canadian Consensus Conference on Contraception. Journal SOGC 1998, Bérubé J.
Le depo-provera : une alternative intéressante. Le Médecin du Québec, mai 1998.

Depo-provera : clinical tips

Depomedroxyprogesterone acetate (DMPA) is an injectable progestin that has been used as a contraceptive throughout the world in the last 30 to 35 years. Political, cultural and scientific reasons prevented its widespread use in North America until it was approved by the American Food and Drug Administration in 1992. In Canada, in 1997, the Health Protection Branch has approved depo-provera as a first choice contraceptive option. Recent reviews in the United States have shown that for many years, physicians have considered DMPA as a preferred method for certain populations, notably in young women with severe mental or physical deficiencies. The Society of Obstetric and Gynecology of Canada has recommended it in a policy statement in 1993 and has included depo-provera in its Canadian Consensus Conference on Contraception in 1998.

Depo-provera work by suppressing ovulation. It also renders cervical mucus impermeable to sperm and induces endometrial atrophy. It is injected in the deltoid or gluteal muscle. The dosage for immediate contraceptive efficacy is 150 mg and it is given on the first five days of the menstrual cycle or of the post partum (no adverse effect on lactation) or immediately following an abortion. Maximum contraceptive effect is achieved within 24 hours. It is repeated every 11 to 13 weeks, preferably every 12 weeks.

The action of DMPA is reversible but there is a variability in return of ovulation. At six months after last injection, 50% of women will have returned to regular menses; 90% at two years. DMPA offers contraceptive protection of 99.7 percent when given at 12 week intervals. An injection cost between 32-45$. Once a dose is drawn from a newly opened multidose bottle, the rest of the bottle has to be used within 9-12 months.

According to the SOGC policy statement, there is no indication that women taking DMPA have higher risks of thrombosis and a history of thrombophlebitis or thromboembolism is not a contraindication to DMPA.

Indications of DMPA:

- When pregnancy is absolutely contraindicated (risks for mother or fetus)
- When estrogens are contraindicated or not tolerated
- After giving birth and nursing

- Women over 35, who smoke
- Women taking medication that interacts negatively with oral contraceptives (e.g. phenytoin)
- Women who may benefit from amenorrhea (e.g. endometriosis, severe dysmenorrhea, menorragia)
- Failure and compliance problems with other methods
- Women with accompanied migraine headaches
- Women with epilepsy
- Women with sickle cell disease

Contraindications to DMPA:

- Known or suspected pregnancy
- Undiagnosed vaginal bleeding
- Known or suspected breast cancer (no proof of danger)
- Active thrombophlebitis, thromboembolism or past history of thromboembolism, or cerebral vascular disease (indicated in CPS, but SOGC does not suggest so)
- Active liver disease
- Known hypersensitivity to the product or one of its componants.

Non contraceptive benefits of DMPA:

- reduces anemia by decreasing blood loss
- reduce dysmenorrhea and premenstrual syndrome
- reduce pelvic inflamatory disease
- may increase volume and duration of lactation in post-partum
- decreases ovarian and endometrial cancer
- improves sickle cell anemia by inhibiting intravascular sickling and increasing survival of red blood cells
- decreases risk of ectopic pregnancy
- reduces pelvic inflammatory disease and candidal vaginitis
- is effective in relieving symptoms of endometriosis
- may reduce seizure frequency in epileptic women

Side effects of depo-provera

- Amenorrhea after one year (50%)
- Irregular bleeding
- Weight gain : 2.5 kg after a year
- Weight loss (20%)
- Headaches (17%)
- Mood changes (11%)

- Decrease intestinal motility (11%)
- Hypoestrogenism : dyspareunia, etc (8%)
- Nausea (3%)
- Acne (1%)
- 4-7% of Bone density reduction (not significant-reversible)

Counselling and follow-up

The adolescents being prescribed depo-provera should receive information on all the side effects. A pregnancy test could be considered before the first injection.

Treatment of irregular bleeding

The major side effect of depo-provera is irregular bleeding. If this is the case :

- Reassure the adolescent
- Check the hemoglobin if important bleeding
- Look for STD
- Decrease the interval between injection from 12 weeks down to 8 weeks
- Increase the dose to 175, 200 or 225 mg

Also, high dose of Non Steroids Anti-infalmatory can be prescribed (motrin 800 mg T.I.D. for 5 days or 400 mg Q.I.D. for 7-14 days); they decrease bleeding by 40%. Estrogens can be prescribed : premarin 0.625 to 1.25 mg for 7-21 days.

Management of missed appointments

It can happen that the adolescent will miss her appointment for injection. The injection is good up to 13 weeks. If the adolescent shows up after 14 weeks and had protected intercourse since the 14th week, depo provera can be administered. She should wait 7 days for contraceptive efficacy and a pregnancy test could be done 3 weeks later.
If the adolescent shows up after 14 weeks and hashad unprotected intercourse since the 14th wwek, a pregnancy test is performed, offer postcoital contraception if indicated, wait 14 days, perform a second pregnancy test, if negative, administer depo-provera; after 3 weeks, another pregnancy test could be performed if fear of pregnancy persist.

Depo-provera : A Research in Adolescents

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Contraception in the adolescent population is considered an important public health issue. The options for preventing pregnancy are not well suited to all adolescents and as health care workers who face pregnant adolescents in our daily practice, we are prepared to consider any method that may improve compliance. In 1981, Fraser had already described the advantages of DMPA that could make it an appealing choice for teenagers, such as long action following a single injection, simple to administer, independent of coitus, freedom from "fear of forgetting", which may occur with the pill, no estrogen side effects or complications, highly effective contraception and amenorrhea that may be a health benefit.

In most reviews of experience with DMPA and the implant Norplant in teenagers, the authors do not evade questions on the ethical acceptability of these methods and acknowledge the fact that time and experience will provide more answers. However, the safety and effectiveness of DMPA are well-known and we believe that there are, here and now, teenagers to protect and any number of pregnancies that are prevented or delayed becomes a good enough reason to offer a long term "passive" contraceptive.

Material and Method

The Adolescent Program of the Montreal Children's Hospital and La Clinique des Jeunes Saint-Denis, a community based youth clinic in Montreal, offer contraceptive services to teenagers. A consultation for birth control includes a complete history, physical examination, screening for sexually transmitted disease, counseling on sexuality and contraception. The counseling provided by a registered nurse or a physician gives background education in the current contraceptive methods, their effectiveness, routes of administration, side effects and cost. The teenager is also assessed as to her lifestyle, her place in the family and her ability to take charge of her life and health. Confidentiality is respected when required by the adolescent and most of the time samples of birth control pills provided by the pharmaceutical companies are given in order to increase chances of compliance. DMPA injection is provided by both institutions and given free. The nurses are available for further information and advice on the phone during the clinics' working hours and will see adolescents who present without an appointment for concerns about birth control.

Both clinics also provide first trimester abortion services to adolescents who are patients of the clinics or referrals from other adolescent services, private physicians and school based nurses.

Table 1:
Profile of patients given DMPA N: 151

. Mean age at first injection	16.7 years	
. Parity (GPA)	GO: 48 (~%)	
	Gl: 63 (41%)	(P1 : 15; A1 : 48)
	G2-4: 40 (26%)	

From 1993 until February 1996, one hundred and fifty-one female adolescents ages 14 to 19 were prescribed DMPA (Table 1). Only nine of them were given the injection because of mental retardation. The rest chose DMPA mainly after giving birth, going through an abortion or when compliance to oral contraception was a problem (Table 2).

Table 2:
Reasons to choose DMPA
(more than one possible): N:180

. Pregnancy	93 (50%)
. Non compliance to contraceptive Method	61 (30%)
. Side effects to oral contraception (OC)	19 (10%)
. Handicapped	9 (5%)
. Confidentiality	6
. Absolute contraindication to OC	1

Results

A review of the files of the 151 patients who opted for DMPA from 1992 to February 1996 shows that 61 (40%) were still using the method; we must point out however that with our growing experience, we have used it more often in the last year so that many had received only one or two injections by the time this review was completed. Therefore, in our study, a very small number of patients have taken up to six (6) injections and the average number of injections is 2.6.

Table 3.
Reasons for discontinuing DMPA
(more than one possible) N: 105

. Irregular bleeding	28 (27%)
. Weight gain	15(14%)
. Other side effects*	13 (12%)
. Did not need contraception	12 (11%)

* These included small numbers of headaches, depression, nausea, acne.

Table 3 lists the main reasons given by the adolescents to discontinue DMPA. It is important to note taht 37 (35%) simply did not show up for appointment. Other reasons include: desire for pregnancy, fear of the product and being closely watched by the parents who would be likely to question the irregular bleeding pattern or the amenorrhea. Table 4 list the side effects on the first 47 adolescents on depo-provera in our series.

Table 4 :
Side effects in adolescents on DMPA N: 47

Side effect	
. Spotting	12 (32%)
. Amenorrhea	6 (16%)
. Menorrhagia	6 (16%)
. Continuous bleeding	3 (8%)
. Headaches	3 (8%)
. Weight gain	3 (8%)

In 47 files, information was available as to the adolescents' satisfaction with the method. Thirty-two (32) claimed they were satisfied, citing the ease of use of DMPA as the main reason. However, this did not significantly correlate with compliance.

Discussion

This review has allowed us to illustrate two major drawbacks to the use of DMPA: the failure to recognize the product as an available method for all women and the choice of patients to whom it is now prescribed. DMPA is not yet a well-known and widely used contraceptive method in Canada and it cannot be offered as a first choice for birth control. Therefore, many family planning clinics and physicians in private practice are not familiar with it and do not venture to recommend it. Some of our patients have had problems finding a clinic who will agree to provide the injections along with the required information and counseling.

DMPA has side effects that influence a woman's daily life, her sex life and many of her beliefs and fears. She may have been told that any irregular bleeding can be a sign of cancer, that no bleeding at all means pregnancy or an accumulation of poisonous material inside the body. Intercourse when bleeding is considered by many women and men as unhygienic, uncomfortable or prohibited by religion. Adolescents are especially vulnerable to these disturbances.

Therefore, health care providers have to be familiar with these aspects of the method and they must feel comfortable in addressing these issues with a woman. Handing out written information and being available for repeated counseling are important ways of insuring compliance.

In our review, *irregular bleeding* was responsible for the 50 percent discontinuation rate and possibly more since we have no information on 35 percent of our adolescents who did not show up for subsequent injections. This compares with Siqueira's review of 194

adolescents where 44 percent were still taking the injections after one year and 25 percent after two years. Their major reason for discontinuing the method was also irregular bleeding. In Harel's study of 35 patients who stopped the method, 60 percent cited irregular bleeding as the first reason.

Disruption of the menstrual pattern, both the irregular bleeding and the amenorrhea usually observed in about half of the patients within the first year of use proved to be our main problem with such a young population. Most of them would not be compliant to relieving bleeding with adding a cycle of birth control pills, conjugated estrogen (1.25mg X 14 days) or an estrogen patch to alleviate the symptoms. Those who reached amenorrhea rapidly tended to be more satisfied. Even though all girls were repeatedly informed of these side effects and the relative benign aspect of them, most had trouble coming to terms with this, especially since DMPA is still thought by many to be experimental or illegal.

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