

Contraception update

Part 3: A practical and helpful up-to-date review

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Summary

Different types of contraceptives (other than oral or surgical) are evaluated in Part 3. The benefits and risks of each are discussed and the GP's role in conveying a balanced picture appropriate to the particular person, is emphasised.

Injectable contraceptives

There are two injectable contraceptives available - Depo-Provera (depo-medroxyprogesterone acetate) given 12-weekly, and Nur-Isterate (norethisterone enanthate) given 8-weekly. Clinical evidence from more than 15 years of use as contraceptive agents shows no additional, and possibly fewer, adverse effects to those found with oral contraceptives. There is no reported associated incidence of mortality or serious morbidity. The effects on carbohydrate and lipid metabolism are minimal, and there is no evidence of alteration of blood coagulation factors, and only rare reports of significant rise in blood pressure. Side effects are not usually troublesome except for weight gain and headaches. The main problem is disruption of menstrual cycles which is unacceptable to some women, although it is not a health hazard. The importance of adequate counselling prior to treatment cannot be over-emphasised, as patients must understand that absence of periods should not give rise to concern, and bleeding disturbances should not be regarded as 'something gone wrong'. Once other causes of heavy or prolonged bleeding have been excluded, the following treatment is advised: Lyndiol or premarin 1,25 mg daily for 21 days (Sapire, 1986).

There may be a delay in return of fertility with Depo-Provera (9-24 months) and Nur-Isterate (5-9 months). This bears no relation to the number of injections given, but is due to the fact that in some women the depo remains longer than in others. There is no evidence of permanent infertility. Women who intend to become pregnant should be advised to change to a mechanical contraceptive for at least 6 months before they plan to conceive, and to continue until two spontaneous periods have occurred, in order to facilitate the estimation of the expected date of delivery. There is no evidence of harmful effects on the foetus or offspring after discontinuing injectable contraceptives or if injections have been given inadvertently during pregnancy.

Depo-Provera is particularly suitable for women who have completed their families and have medical contra-indications to pregnancy, (hypertension, renal or cardiac disease), while Nur-Isterate is more suitable for nulliparous women and for child spacing, as there is a quicker return of fertility. Prolonged and heavy bleeding and amenorrhoea, headaches and weight gain appear to be less significant among women who use Nur-Isterate than Depo-Provera. Nur-Isterate may cause less disturbance of glucose tolerance than Depo-Provera and is to be preferred in women with gestational diabetes or with a family or personal history of diabetes.

Beneficial effects

- protection from pelvic inflammatory disease and ectopic pregnancies
- a reduction in:
 - benign breast disease,
 - dysmenorrhoea,
 - menopausal symptoms,
 - moniliasis,
 - premenstrual tension, and
 - sickle cell crises.

Many women report a sense of well-being. Injectable contraceptives appear to be unaffected by antibiotics and enzyme-inducing drugs.

There is no clinical evidence that injectable contraceptives cause *neoplasia* of any kind. Most evidence points towards a protective effect (Liang, 1983).

Injectable contraceptives provide safe, convenient and highly acceptable contraception that has a higher use-effectiveness than any other reversible contraceptive method. Their particular advantages make them important as options that should be available for women desiring a convenient, reliable method of fertility regulation (WHO, 1982).

Implants

Implants slowly release hormones and can prevent pregnancy for many years.

Norplant has received official approval for use in Finland and Sweden, and the endorsement of WHO. It consists of 6 matchstick-size capsules containing levonorgestrel. They are inserted under the skin of the arm surgically and allow steady diffusion of the drug for a minimum of 5 years. The major advantage over the injectable contraceptive is its reversibility although it does require removal by incision under local anaesthesia. There are no serious side effects except irregular bleeding or spotting. Return to fertility is prompt after removal, and there is no interference with lactation, lipid metabolism or blood pressure. They may have health benefits similar to oral contraceptives. This appears to be the most effective reversible contraceptive yet developed, and approval in other countries is expected soon. Research is proceeding on a Norplant system using only two rods, as well as on new biodegradable implant systems that would eliminate the need for removal.

Doctors should convey a balanced picture of the benefits and risks of contraception

Post-coital contraception (PCC)

Post-coital contraception acts by preventing implantation in women who are exposed to unprotected intercourse during the fertile time of the cycle. It is important to ensure that only a single act of unprotected intercourse has occurred, and that the woman is not already pregnant.

Hormonal treatment: two tablets of ethinyl estradiol 0,05 mg and dl-norgestrel 0,5 mg (Ovral) should be taken within 72 hours of exposure and repeated exactly 12 hours later. This method is 98,4% effective (Yuzpe, 1982). Nausea is a common side effect and menstruation may be delayed by 21 days. This method should be considered only as an emergency measure as it is not suitable for recurrent use because of the high doses of steroids administered, and the fact that the pregnancy rate increases with repeated use.

Insertion of a Copper IUCD within 120 hours of unprotected coitus provides ongoing contraception, and may be suitable particularly in women who are unreliable in pill-taking or in returning for injections. Contra-indications to IUCD must be considered (Part 1, Table 2).

Post-coital contraception must be associated with motivation and provision of long-term contraception. This method should be promoted and be widely available for emergency use in order to

avoid the risks of abortion and unwanted pregnancy, provided patients present early enough.

Periodic abstinence

Periodic abstinence implies the voluntary avoidance of coitus during the fertile phase of the menstrual cycle in order to avoid pregnancy. Couples may abstain from sexual contact altogether, or engage in non-coital pleasuring, or use a barrier method or coitus interruptus during the fertile period. Women must be taught to identify their fertile periods using the calendar rhythm or temperature or cervical mucus method or a combination of these methods, called the symptothermal method. In circumstances where no other method is acceptable, particularly for religious reasons, if the couple is highly motivated and uses the method consistently, every effort should be made to make it as effective as possible by ensuring understanding. This method is vulnerable to user failure because of the need to abstain during the fertile period, and the need for sustained attention to physical changes and co-operation between partners. The symptothermal method is twice as effective as the ovulation method alone, but the pregnancy rate remains high (see Part 1, Table 1).

The International Planned Parenthood Federation concluded in 1982 that "couples electing to use periodic abstinence should be clearly informed that this is not considered an effective method of family planning".

Barrier contraception

Vaginal caps act as a mechanical barrier and a carrier for spermicide. The cap must be inserted prior to coitus and removed not less than 6 hours afterwards. The "Dutch Cap" or diaphragm cap is the one most commonly used in this country. It must be used in conjunction with the spermicidal cream or jelly (not foam). Increasing concern about potential health risks of OCs and IUCDs has resulted in a revived interest in barrier methods

Clinical evidence shows fewer adverse effects of injectable than oral contraceptives

especially amongst young women. Provided the cap is carefully fitted and its use properly taught, and it is used meticulously with every act of intercourse, it provides effective contraception (see Part 1, Table 1), comparing favourably with that of the minipill or IUCD. There are no systemic side effects or metabolic changes, and this method is suitable for well-motivated, responsible women, especially those who reject or cannot tolerate hormonal methods or intrauterine devices. The diaphragm appears to offer some protection against sexually transmitted

diseases (Austin, 1984) and cervical neoplasia (Sherris, 1982). Women who have poor vaginal tone (usually after more than 3 vaginal deliveries) should not use a diaphragm cap. Acceptance is increased by recommending that the cap is inserted routinely or that the partner insert it during foreplay so as to avoid premeditation about its use.

Clinical tests are under way to evaluate a new custom-fitted cap which is moulded to the user's cervix and worn for extended periods. It has a unique one-way valve which permits menstrual flow.

Collatex vaginal sponge ("Today" sponge): This soft, pliable sponge impregnated with spermicide is a non-prescription contraceptive available in many parts of the world. It is mushroom-shaped, fits snugly around the cervix and has a thread to facilitate removal. There is only one size, and it does not require fitting. It must be moistened with warm water to activate the spermicide. It may be worn for up to 48 hours and may be used for more than one act of coitus without requiring additional applications of spermicide. It must be left in place for at least 6 hours after coitus and is then discarded. It is easier to insert and remove than the diaphragm cap and less messy. However, the pregnancy rate is high: 15.8-27.1/100wy (Kafka, 1983) and should only be used by couples who are aware of this risk.

For most women, pregnancy is far more 'dangerous' than using contraceptives

Cervical caps are more difficult than the diaphragm cap to insert and remove, and may cause discomfort to the man or woman, and may become dislodged. The efficacy is lower than with diaphragm caps.

Condoms: This is the only effective reversible male method available. It has gained popularity as improved materials and lubricants provide greater sensitivity with reduced thickness and increased strength, and quality control is ensured by electronic testing. Theoretically condom failures (Part 1, Table 1) should only occur if the condom ruptures or tears, but pregnancy may result because of decay, careless handling, and inconsistent or incorrect application. Post-coital contraception (4 tablets of Ovral) should be supplied to couples who accept this method, with clear instructions for use if the condom bursts or there is leakage of semen. The main advantages (Part 1, Table 3) of protection from sexually transmitted diseases and absence of side effects or need for medical intervention make this a most acceptable method to many couples. Condoms can be used after delivery or abortion, as an extra precaution when initiating OCs, or if more

than one pill has been omitted, or when antibiotics are used, and to increase the effectiveness of IUCDs around the time of ovulation. If condoms are used consistently and with care the degree of security is greater than is commonly believed.

Implants appear to be the most effective reversible contraceptives yet developed

Spermicidal contraceptives

Chemical spermicidal compounds in the form of jelly, cream, pessary or aerosol foam are inserted into the vagina prior to coitus. This is the only contraceptive used by women which is available commercially and does not require medical intervention. Spermicidal contraceptives have limited use because of their low efficacy (Part 1, Table 1) and they are mainly used as adjuncts to other methods (condoms, IUCDs). They may be chosen because of absence of side effects or the need for medical supervision, but they provide limited protection and are not recommended as a single method of contraception. Their real value lies in augmenting the efficiency of barrier methods and IUCDs. Recent concerns about potential teratogenicity appear to be unfounded (Grimes, 1986).

Coitus interruptus

This method is still used extensively, and many couples use it exclusively as it requires no medical supervision or supplies. It is not as effective as modern methods of contraception, but it has no serious health risks. Couples who are satisfied with this method should not be discouraged but should

Coitus interruptus cannot be recommended as an effective contraceptive but is better than no method at all

be informed about effective methods that are available. It is not advisable to be disparaging about coitus interruptus and insist on the use of other methods, because if the new method is discontinued because of unacceptable side effects, the couple may not revert to coitus interruptus because they have been told that it is bad. Coitus interruptus cannot be recommended as an effective contraceptive, but it is better than no method at all. Post-coital contraception should be available as an emergency measure in case a man fails to withdraw in time. This method may be associated with

anxiety during coitus and result in sexual dysfunction as it interferes with the spontaneity of sex responses and obliges both partners to be controlled. It may result in inhibited or premature ejaculation, and in some cases in erectile impairment in men, and increased passivity, and arousal or orgasmic dysfunction in women.

Intrauterine Contraceptive Devices

Since IUCDs were first introduced in the 1960s, large epidemiological studies have clarified their risks. Many of the adverse effects were strongly related to the Dalkon Shield which is no longer marketed, and other IUCDs have a very low rate of serious complications. The "second generation IUCDs" bearing copper or progestogens are thought to lessen the risk of infection, and reduce expulsion rates. They are smaller and more flexible and are less likely to cause pain and heavy menstrual bleeding and therefore tolerance is better than with the original inert devices, but the efficacy remains similar (Part 1, Table 1). The training and skill of providers and the quality of counselling and follow-up affect performance and continuation rates as much or more than the characteristics of a particular device (Liskin, 1982). The unique advantage

The IUCD is convenient, requires one decision and one action, and minimal patient involvement

of IUCDs is that compliance and continuing motivation are not relevant, thus continuation rates are higher than for other contraceptive methods. The small pregnancy rate is significantly reduced by the adjunctive use of spermicides (Thiery, 1976). IUCDs are particularly suitable for women who have borne at least 1 child, are spacing their families, and are not exposed to sexually transmitted diseases, and those who have contraindications to or severe side effects with hormonal contraception and do not accept sterilisation, as well as women who are unreliable with other methods. Infection and bleeding problems and their sequelae are the principal drawbacks to this method.

Pelvic inflammatory disease: The reported incidence associated with IUCDs varies from nil to five-fold compared to nonusers, and an increased association for nulliparous women between nil to nine-fold (Malhotra, 1982). Since pelvic infection carries a substantial risk of subsequent sterility, the IUCD is not a good method for women who may be exposed to sexually transmitted diseases. Malhotra, 1982 reported that the risk of PID does not increase with the duration of use but Stadel (1984) found that continuous use for 5 or more years may increase the risk of PID requiring operative

treatment. Copper devices are associated with a lower risk of PID than inert devices (Blum, 1982). Progestin-releasing devices may be associated with a lower incidence of PID than other devices (Liskin 1982). Prompt recognition and treatment of salpingitis may reduce tubal damage and subsequent problems in infertility and ectopic pregnancy (Scott, 1978). Removal of the device makes no difference to the healing rate or the process of acute salpingitis (Larsson, 1977). It is recommended that the device should be removed only if the patient

It is important to help individuals to choose the optimal method at different phases of their reproductive lives

does not improve on treatment with antibiotics within 48 hours. Although there is no clear evidence of the effect of PID associated with IUCDs on subsequent fertility, it is known that tubal damage is the main cause of infertility, and treatment is unlikely to be successful. Women who are particularly concerned about their future fertility, especially nulliparous women, should choose OCs in preference to IUCDs. Cramer (1985) showed that women who had only one sexual partner had no increased risk of primary tubal infertility associated with IUCD use.

Injectable contraceptives may disrupt the menstrual cycle - but it is not health hazard

Bleeding: Women must be told to expect an increased blood loss particularly in the first few months, as this is unlikely to be tolerated if it is not anticipated. Guillebaud (1980) reported an increase of mean blood loss of about 50% with copper devices and about 100% with Lippes loops. The greatest increase in amount and duration of menstrual bleeding occurs in the first two to three months after insertion. The duration and amount may decrease up to 6 months with no subsequent improvement (Guillebaud, 1978).

Treatment: Prostaglandin synthetase inhibitors (mefenamic acid) result in 50% reduction of volume of blood loss (Davies, 1981), but do not appear to effect the duration of bleeding significantly (Guillebaud, 1978). Treatment should start at the onset of symptoms of pain or bleeding and continue for 3-5 days.

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Perforation: The rate of perforation should not be greater than 0.3% in the hands of trained physicians (Hawkins, 1979). If perforation occurs, the device must be removed from the abdominal cavity because of the risks of adhesions and damage to bowel.

Pregnancy: If a patient falls pregnant with an IUCD in place, the device should be removed once the diagnosis is confirmed, if the threads are available. Removal decreases the risk of septic and spontaneous abortion and other obstetric problems, e.g. prematurity, antepartum bleeding (Liskin, 1982). The absolute risk of *ectopic pregnancies* among IUCD users remains constant, and is not increased compared to women not using contraception, but because the IUCD is so effective in preventing intrauterine pregnancies, the *ratio* of extra- to intrauterine pregnancies is increased.

The IUCD is convenient, and is the only reversible contraceptive which requires only one decision and one action and minimal patient involvement. Older parous women tolerate IUCDs best, and nulliparous women are least successful. Patients should be screened carefully for contraindications (Part 1, Table 2) and follow-up should be done by personnel who are aware of complications and are able to cope with them. In this way many of the problems associated with IUCDs should be eliminated.

New experimental versions of *progestin-releasing IUCDs* using levonogestrel have a lower failure rate and carry a lower risk of pelvic infection and ectopic pregnancy than with other IUCDs.

The withdrawal of IUCDs in the United States of America is linked more to the fear of litigation than medical problems and follows on the problems associated mainly with the Dalkon Shield.

Conclusion

It is unlikely that there will be any major breakthrough in contraceptive technology in this century and it is extremely important that the available methods are made as safe as possible, and that individuals are helped to

choose the most acceptable, effective, medically safe method appropriate at different phases of their reproductive lives. Doctors have an important role to play in conveying a balanced picture of the benefits and risks of contraception and must bear in mind that for most women pregnancy is far more "dangerous" than using contraception.

The new generation feminine pill

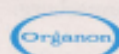


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