Clinical Algorithms

Contraception

ALI A KUBBA, JOHN GUILLEBAUD

Contraceptive choices are influenced by several medical and social considerations. The interaction of age, parity, fertility, and psychosexual make up determines the preference of those seeking advice. The role of the providers of contraception is to identify women with risk factors and advise them accordingly, helping them to choose the optimal method according to their own criteria.

The ideal contraceptive has yet to be found. The choice of contraceptives, however, is wider today than at any other time. Among the reversible methods the choice often lies between two types of "package deals." The methods which are most effective and most independent of intercourse have less freedom from health risks and vice versa. Hence, the final choice of method depends on the relative importance to the individual of conflicting attributes. This article outlines the methods currently in use.

Combined oral contraceptive pill

The oral contraceptive is still the most widely used method. In addition to its excellent efficacy, the combined pill has several other benefits not related to contraception. The most important of these are: alleviating problems related to the menstrual cycle, reducing the risk of pelvic inflammatory disease, and protecting women against ovarian and endometrial cancer.^{1,2} Uncertainty exists about cervical and breast cancer, especially, in the case of the latter, with long term use in the very young. The proved risks of the combined oral contraceptive pill are mainly cardiovascular. Smokers are at greatest risk, and other risk factors include age, familial hyperlipidaemia, hypertension, diabetes mellitus, and obesity. Except in special cases the chosen combined oral contraceptive should contain no more than 30 to 35 µg of ethinyloestradiol and be low in progestogen content. Ideally, the woman should receive the lowest dose that her uterus will tolerate. Women tend to be less concerned if forewarned of bleeding problems. New phasic preparations achieve better cycle control for a given low dosage.

Regular follow up is essential. Special attention should be given to reports of migrainous attacks for the first time while taking the pill or with focal symptoms. A sustained rise in diastolic blood pressure over 95 mm Hg is another indication for considering alternative methods of contraception, especially in those with other risk factors. Apart from bleeding, minor side effects can be treated by lowering the dosage, changing progestogen, or altering the relative

oestrogen or progestogen dominance of the formulation.³ Table I lists the absolute contraindications to the combined oral contraceptive pill.

TABLE I—Absolute contraindications to the combined oral contraceptive pill

Pregnancy
Undiagnosed genital tract bleeding
Past or present circulatory disease, including focal migraine
Current liver disease or past liver disease with abnormal liver function
Steroid dependent cancer—for example, breast cancer
Recent trophoblastic disease
Important complications associated with pregnancy or past use of combined oral contraceptives—for example, cholestatic jaundice

Progestogen only pill

The efficacy of the progestogen only pill is related to age, the pregnancy rate being under one per 100 woman years in compliant users over the age of 35.⁴ It is important to adhere to a strict routine of pill taking. Metabolic effects of the progestogen only pill are small compared with those of the combined pill. Recent evidence suggests an association between the progestogen only pill and functional ovarian cysts,^{4a} but these are reversible if the woman stops taking the pill. The main drawback of progestogen only pills is menstrual irregularities or amenorrhoea, or both. It is the pill of choice for breast feeding mothers. Table II lists the absolute contraindications to the progestogen only pill.

TABLE II—Absolute contraindications to the progestogen only pill

Pregnancy
Undiagnosed genital tract bleeding
Past or current severe arterial disease
Recent trophoblastic disease
Previous ectopic pregnancy (strong relative contraindication)

Other methods of contraception using hormones

Several slow release types of progestogens are available. Depot medroxyprogesterone acetate (Depo-Provera) is given by deep intramuscular injection and has been licensed for long term use in the United Kingdom. Careful counselling is required especially in relation to cycle irregularity, delayed return of fertility, the impossibility of rapidly reversing any adverse reactions, and the unresolved anxiety about long term metabolic effects.⁵ Other progestogen delivery systems under evaluation include sub-

Margaret Pyke Centre, London W1

ALI A KUBBA, MB, MRCOG, deputy medical director
JOHN GUILLEBAUD, FRCS, FRCS, medical director

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cutaneous implants, both Silastic and biodegradable, the levonorgestrel releasing intrauterine contraceptive device, and vaginal rings.

Intrauterine contraceptive device

The intrauterine contraceptive device is ideal for older parous women but should be a last resort contraceptive for young nulliparous women because of the increased risk of pelvic inflammatory disease.⁶ Most other complications of intrauterine contraceptive devices, including method failure, are also commoner in young and nulliparous women.

The timing and technique of fitting an intrauterine contraceptive device play a critical part in its subsequent performance. There is no substitute for adequate training and maintained experience. Devices should not be fitted during the heavy days of the period and are best fitted after the end of menstruation and before the calculated time of implantation. An intrauterine contraceptive device should not be removed in mid-cycle unless the couple have used an additional contraceptive for the previous seven days; otherwise a fertilised ovum could become implanted. Table III lists the absolute contraindications to the intrauterine contraceptive device.

TABLE III—Absolute contraindications to the intrauterine contraceptive device

Pregnancy
Undiagnosed genital tract bleeding
Current pelvic infection or undiagnosed pelvic tenderness
Previous ectopic pregnancy or tubal surgery
Distorted uterine cavity or small uterine cavity <5.5 cm
Allergy to a constituent of intrauterine contraceptive devices (rare)
Immunosuppressive therapy

Barrier methods

Barrier methods can be effective if taught carefully and used conscientiously.⁷ Failure rates as low as under 4% for condoms and about 2% for the diaphragm have been reported.

Condoms have the added attraction of being obtainable without medical supervision. "Accidents" with condoms can be treated with the postcoital pill. The most widely used type of barrier for women is the diaphragm (Dutch cap). This is sometimes considered to be too big or messy and in some cases cystitis occurs. In these cases smaller caps are available—for example, the cervical cap, the vault cap, and the Vimule. All these methods are used in combination with a spermicidal cream or jelly.

A new barrier, the contraceptive sponge, has recently been marketed. Its high acceptability is due to the fact that no spermicide is required (as the sponge is spermicidally impregnated) and no fitting is needed. Unfortunately, its acceptability is overshadowed by its high failure rate,⁸ and it is therefore recommended only for the following: lactating women; women over the age of 45; women whose fertility is reduced for other reasons—for example, those suffering from secondary amenorrhoea; women who want to become pregnant within a short period of time; and special cases where other methods are totally unacceptable or contraindicated.

All barrier methods carry important non-contraceptive benefits—namely, the prevention of sexually transmitted diseases,⁹ pelvic inflammatory disease,¹⁰ and possibly cervical neoplasia.¹¹

Fertility awareness

There is increasing interest in "natural methods" of family planning. They are based on the premise that ovulation takes place 14 days before the next period and that the ovum is viable for a maximum of only 24 hours after ovulation. Spermatozoa, on the

other hand, are less predictable and can remain viable in the upper female genital tract for up to seven days. It is therefore wise to conclude that the "safe period" before ovulation is ineffective. Fertility awareness methods are more effective in determining the late infertile days of the cycle. To increase efficacy couples are advised to combine this with a barrier method up to the relevant signal—that is, four days after the day of peak mucus production provided there have also been three recordings of basal temperature 0.2°C higher than the preceding six readings.

Male and female sterilisation

As surgical techniques for sterilisation become safer and as the use of local anaesthesia for female sterilisation becomes more acceptable and available the demand for these forms of birth control will increase. It is essential to provide adequate counselling to the couple before such an important decision, especially making sure that sterilisation is not being requested as a way out of a marital problem or a psychosexual difficulty. A note should be made that patients have been informed of both the irreversibility and the failure rate of the procedure.

Conclusion

This review of contraceptive technology is by no means complete. New methods are being evaluated and existing ones are being modified. Socioeconomic forces are continuously influencing public opinion and changing the attitudes and desires of the fertile population. It is imperative to keep an open mind, listen to our patients, and respond in a way that will help them make an appropriate informed decision.

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Do fatty acids change their cis-trans configuration in the process of, for example, making soy oil out of soybeans or in the process of extracting oil from nuts?

Trans unsaturated fatty acids result from the reduction of a high polyunsaturated acid either chemically, as in the hydrogenation of oils, or microbiologically in the rumen of the dairy cow. The process requires energy and some minor isomeric changes may occur in refining of oils but these make only a trivial contribution to the intake of trans fatty acids.—D A T SOUTHGATE, head, nutrition and food quality division, Food Research Institute, Norwich.

Gurr MI. Trans fatty acids, metabolic and nutritional significance. *British Nutritional Foundation Nutrition Bulletin* 1986;11:105-22.