Contraception in patients with medical conditions

Ibrahim Alsharaydeh
Asma Gharaibeh
Omar Thanoon
Tahir A Mahmood

Abstract

Four in ten pregnancies in the UK are unplanned. An unintended pregnancy can have serious health consequences in women with chronic medical conditions. Certain diseases can be worsened by pregnancy or are associated with adverse outcomes. Moreover, medications used to treat many chronic conditions are potentially teratogenic.

The maternal immune system during pregnancy undergoes adoptive changes and these physiological changes quite often affect the natural history of the maternal illness. Furthermore changes in the cardiovascular and haematological systems are exaggerated in certain chronic illnesses. Therefore pregnancy in women with coexistent medical conditions is associated with an increase in both maternal and foetal morbidity (such as women with epilepsy and on medical treatment have an increased risk of foetal developmental abnormalities and the pill may prevent an untimed pregnancy) and mortality (such as those patients with cyanotic heart disease). There are various methods of female contraception now available as tablet, implants, injectable and intrauterine systems. It is important that an informed discussion takes place between the clinician and the patient to decide upon the best possible method on an individualized basis.

Keywords combined hormonal contraception (CHC); depot medroxyprogesterone acetate (DMPA); female contraception; intrauterine systems; medical conditions; progestogens implants (IMP); progestogens only pill (POP)

This review provides information to help healthcare providers and women with coexisting medical conditions to make sound decisions regarding the appropriate selection of various hormonal contraceptives and facilitate use of contraceptive choices that do not exacerbate medical problems. This article focuses mainly on the medical methods of contraception.

Decisions regarding contraception for women with coexisting medical problems may be complicated. In some cases, medications taken for certain chronic conditions may alter the effectiveness of hormonal contraception, and pregnancy in these cases may pose substantial risks to the mother as well as her foetus. In addition, differences in content and delivery methods of hormonal contraceptives may affect patients differently with certain conditions.

When selecting one of the many effective contraceptive methods available, healthcare providers and women need to consider the risk/benefit profile of each method relative to the specific underlying illness. Although numerous studies have addressed the safety and effectiveness of hormonal contraceptive use in healthy women, data are far less complete for women with underlying medical disorders or other special circumstances.

The Faculty of Sexual and Reproductive Healthcare (FSRH) in the UK has published guidelines for the use of different contraceptive methods in the presence of different medical conditions; these guidelines have classified the risk for using various methods of contraception into four categories as shown in Table 1.

In this review we consider the use of various hormonal contraceptive methods in women who have the following conditions or risk factors:

- hypertension
- cardiac diseases
- diabetes
- epilepsy
- migrainous headaches
- venous thromboembolism and hypercoagulable states
- systemic lupus erythematosus
- sickle cell disease
- depression
- breast cancer
- fibrocystic breast changes, fibroadenoma, or family history of breast cancer BRCA1 or BRCA2
- human immunodeficiency virus (HIV) (acquisition, transmission, and progression)
- solid-organ transplant.

Hypertension

Hypertension is a known risk factor for cardiovascular disease and cerebrovascular accidents. These women are at an increased risk of developing super-imposed pre-eclampsia during pregnancy. The use of combined hormonal contraception (CHC) in healthy women is associated with an elevation in baseline blood pressure and this risk is further exaggerated in women with essential hypertension. The use of a combined hormonal contraception is contraindicated for women with a systolic blood pressure greater than 160 mmHg and/or a diastolic blood pressure of greater than 95 mmHg.

However, *in women with well controlled hypertension*, the use of low dose oestrogen combined hormonal contraception is not contraindicated as guidance from FRSH states that “ the risk of using of all types of combined hormonal contraception in women

Ibrahim Alsharaydeh MRCOG *is a Specialty Registrar in Obstetrics and Gynaecology at Victoria Hospital, Kirkcaldy, Fife, UK. Conflicts of interest: none declared.*

Asma Gharaibeh MRCOG *is a Specialty Registrar in Obstetrics and Gynaecology at the Royal Infirmary, Edinburgh, UK. Conflicts of interest: none declared.*

Omar Thanoon MRCOG *is a Consultant Obstetrician and Gynaecologist at Victoria Hospital, Kirkcaldy, Fife, UK. Conflicts of interest: none declared.*

Tahir A Mahmood MD FRCOG FRCPI MBA FACOG *is a Consultant Obstetrician and Gynaecologist at Victoria Hospital, Kirkcaldy, Fife, UK. Conflicts of interest: none declared.*

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Risk categorization to inform individualized prescribing of various methods of contraception

UK Category	Hormonal contraception, intrauterine devices, emergency contraception and barrier methods
1	A condition for which there is **no restriction for the use** of the contraceptive method
2	A condition where the **advantages of using the method generally outweigh the theoretical or proven risks**
3	A condition where the theoretical or proven risks generally outweigh the advantages of using the method. The provision of a method requires expert clinical judgement and/or referral to a specialist contraceptive provider, since use of the method is not usually recommended unless other more appropriate methods are not available or not acceptable
4	A condition which represents an **unacceptable risk** if the contractive method is used

Source: Faculty of Sexual and Reproductive Healthcare of the RCOG (2009).

Table 1

with hypertension outweighs the benefits" (UK category 3) (Table 2).

The use of depot medroxyprogesterone acetate (DMPA), OR Norethisterone enantate (NET-EN) is associated with a small increased risk of cardiovascular events compared with women who did not use this method.

The progestogen only pill (POP), progestogen implants (IMP), copper intrauterine devices (Cu-IUD) and levonorgestrel intrauterine systems (LNG-IUD) can be safely prescribed to women with well controlled hypertension.

Cardiac disease

Heart disease is one of the commonest causes of maternal deaths in the UK. Due to increasing maternal age, BMI and other risks, the number of women of childbearing age with congenital or acquired heart disease is increasing. It is important to consider the cardiovascular safety and contraceptive efficacy of each contraceptive method for each cardiac condition. In contrast to healthy women using contraception to space pregnancies, contraceptive efficacy is even more important for those with serious heart disease in whom pregnancy may be life threatening.

For women with cardiac diseases, combined hormonal contraception (CHC) are considered unsuitable for many women with heart disease. Additional risks factors such as smoking, migraine, hypertension, diabetes and obesity further increase the risk of thrombotic events. CHCs should be avoided in women in whom the risk of their use is UK category 3, 4 (Table 3).

LNG-IUS (Mirena)

The cardiovascular risk of the IUS is confined to the time of insertion, in particular to instrumentation of the cervix. About one in 1000 women have a fainting reaction at the time the coil is inserted. This can be dangerous for women with severe heart disease if there is no expert help available. So, if a coil is to be used, it should be inserted in hospital, with cardiac anaesthetic expertize on standby in case of this rare complication (an actual anaesthetic is not usually necessary). A rare complication of all coils is pregnancy in the fallopian tube (ectopic pregnancy), which usually have to be removed surgically. However, the risk of pregnancy is extremely low with the Mirena coil (even lower than after sterilization). Mirena coils are effective for up to 5 years. For the majority of women, the risk associated with the IUS insertion is categorized as UK 2 and would require antibiotic prophylaxis. For those with a particularly high-risk of endocarditis, its use should be considered as UK 3.

Progesterone-only pills (POP), depot medroxyprogesterone acetate (DMPA), and subdermal implants are safe and considered as UK category 1.

Caution: the drug bosentan, sometimes used for heart disease, can reduce the effectiveness of most hormonal contraception, including Cerazette and Nexplanon, so additional contraception should be used when taking bosentan.

Common reversible methods used for women with hypertension

Common reversible methods summary table

Condition	CHC	POP	DMPA/NET-EN	IMP	CU-IUD	LNG-IUD
Hypertension						
• Adequately controlled hypertension	3	1	2	1	1	1
• Consistently elevated blood pressure levels (properly taken measurements)						
○ systolic>140–159 mmHg or diastolic>90–94 mmHg	3	1	1	1	1	1
○ systolic≥160 mmHg or diastolic≥95 mmHg	4	1	2	1	1	1
• Vascular disease	4	2	3	2	1	2

Source: Faculty of Sexual and Reproductive Healthcare of the RCOG (2009).

Table 2

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