Contraception in patients with medical conditions

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Abstract

Women suffering from underlying congenital or acquired medical or genetic disorders are at an increased risk of maternal morbidity and mortality during pregnancy. This group of women should have access to a reliable method of contraception. The risks associated with prescribing any form of contraception need to be balanced against the inherent risks related to unintended pregnancy and its sequelae for the individual women.

It is important to understand the natural history of the disease, its effects on the cardio-vascular and the haematological systems, and impact of current medical treatment on the progression of the disease. All that should be taken into account when considering the interaction of various types of contraception with the patient's current drug therapy and the disease progression.

This article provides a patient focused review of the risk factors which need to be considered when advising patients with underlying medical problems with the most reliable form of contraception.

Keywords combined hormonal contraception (CHC); cupper intrauterine device (Cu-IUD); depot medroxyprogesterone acetate (DMPA); levo-norgestrel releasing intrauterine system (LNG-IUD); progestogen implants (IMP); progestogen only pill (POP)

Introduction

The maternal immune system during pregnancy undergoes adoptive changes and these physiological changes quite often affect the natural history of the maternal illness. Viral illnesses during pregnancy can adverse effect maternal effect. Furthermore changes in the cardiovascular and haematological systems are exaggerated in certain chronic illnesses. Therefore pregnancy in women with underlying medical problems is associated with an increase in morbidity and mortality. It is crucial to understand the needs of the individual women for an effective contraception.

When recommending a preferred method of contraception for women with underlying medical disorder, we should consider the effect of the type of contraception on natural history of the pre-existing medical condition and any interaction which this contraceptive method may have with the patient's current drug therapy.

The faculty of sexual and reproductive healthcare in the UK have published guidelines for the use of different contraceptive methods in the presence of different medical conditions; these guidelines categorize the risk of using these contraception into four categories as shown in Table 1.

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Case 1

A 35-year-old woman who has been recently diagnosed with essential hypertension is requesting contraception. She is a non-smoker with a body mass index (BMI) of 29. Her blood pressure is well controlled on a single antihypertensive drug.

Discussion

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 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 of >160 mmHg and or a diastolic blood pressure of > 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 the faculty of sexual and reproductive healthcare (UK) states that "the risk of using of all types of combined hormonal contraception in women with hypertension outweighs the benefits" (UK category 3) (Table 2).

The use of depot medroxyprogesterone acetate is associated with a small increased risk of cardiovascular events compared with women who did not use this method.

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 nor acceptable
4	A condition which represents an **unacceptable risk** if the contraceptive method is used

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

Table 1

Common reversible methods summary – hypertension

Condition	CHC	POP	DMPA/NET-EN	IMP	Cu-IUD	LNG-IUD
Hypertension						
a) Adequately controlled hypertension	3	1	2	1	1	1
b) Consistently elevated blood pressure levels (properly taken measurements)						
(i) Systolic >140–159 mmHg or diastolic >90–94 mmHg	3	1	1	1	1	1
(ii) Systolic ≥160 mmHg or diastolic ≥95 mmHg	4	1	2	1	1	1
c) Vascular disease	4	2	3	2	1	2

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

Table 2

The progestogen only pill, progestogen implants, copper intrauterine devices and levonorgestrel intrauterine systems can be safely prescribed to women with well controlled hypertension.

Case 2

A 36-year-old para1, with a diagnosis of type 1 diabetes mellitus for the past 20 years, is well controlled on insulin therapy and wishes to explore different methods of contraception.

Discussion

Effective contraception is very important for women with diabetes mellitus (type 1 or 2), as an unplanned pregnancy can adverse effect the natural history of the disease. Furthermore there are increased risks for the baby (fetal abnormalities, macrosomia, preterm labour) and the mother (increased insulin requirement, pre-eclampsia, increased obstetric intervention rates), with increased neonatal and maternal mortality. Women with diabetes mellitus need good glycaemic control prior to getting pregnant in order to lower the risk of congenital abnormalities, so effective contraception for these women is crucial.

The metabolic effect of various constituents of hormonal contraception should be taken in consideration when choosing the appropriate method of contraception for women with diabetes mellitus (Table 3).

A number of studies with a variable period of follow up in women with well controlled diabetes mellitus without renal or vascular disease have shown that the use of combined hormonal contraception and progestogens-only contraception are safe. These preparations have a minimal effect on the diabetic control and do not increase the cardiovascular risks.

Hormonal therapy	Effect on glucose
Oestrogen	No effect
Progestogen	Increase insulin resistance
Depot medroxyprogesterone acetate	Increase insulin resistance
Progestogen implants	Minimal effect

Table 3

There are no long term studies on the use of depot medroxyprogesterone acetate in women with diabetes.

Woman with type 1 or 2 diabetes and considering using oral contraceptives should be monitored closely for changes in blood pressure and weight. A baseline evaluation of weight, blood pressure, and fasting lipids is recommended. They should also be investigated for detection of any long term complications of diabetes mellitus like retinopathy, vascular and renal complication.

If her diabetic control is satisfactory and there is no evidence of renal, vascular and retinal disease, then combined hormonal contraceptives, progestogen only contraception, progestogens implants, depot medroxyprogesterone acetate, copper intrauterine device and the levonorgestrel releasing intrauterine system can be used (UK category 2) (Table 4).

Some practioners are reluctant to use the copper intrauterine device in women with diabetes because of the theoretical increased risk of pelvic infection which may lead to ketoacidosis. However, a number of prospective studies on the use of copper intrauterine devices in women with diabetes mellitus did not report an increased risk of pelvic infection rates as compared with non-diabetic women. Copper intrauterine devices should be considered as the first choice of contraception in diabetic women with underlying vascular or renal complications and in this group of women, combined hormonal contraception and depot medroxyprogesterone acetate should be avoided (UK category 3).

Case 3

A 19-year-old woman with well controlled epilepsy with phenytoin is asking for contraception. She has been seizure free for the past 12 months.

Discussion

Epilepsy is characterized by chronic, recurrent paroxysmal changes in neurologic function produced by abnormalities in the brain cortex.

All contraception methods can be used in epileptic patients with no restrictions; however, some antiepileptic medications act to induce the hepatic microsomal oxidase system which