Current issues in hormonal contraception

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This article has been compiled in response to some questions that have been raised recently by readers.

How do you manage breakthrough bleeding on the combined oral contraceptive pill?

This **D**epends on the cause and, for ease of recall, John Guillebaud and others have suggested various categories starting with ***D***.

Default

Missed pills, late pills, irregular taking. Probably the commonest cause of breakthrough bleeding. Especially seen with low dose pills. There is a large individual variation in the bioavailability of contraceptive hormones especially when taken by the oral route. Some women need to be more reliable in their pill taking. They will get better cycle control if they take their pills at about the same time each day.

Duration of use

Breakthrough bleeding is more common in the first six months and will often settle. Patients can be reassured that as long as they have taken their pills correctly they are not at an increased risk of pregnancy. More hormones are needed for cycle control than for contraception.

Diseases

Diseases, especially chlamydia which not infrequently presents with a history of abnormal bleeding. Other forms of cervicitis may present with bleeding, especially postcoital bleeding. Examine the cervix to exclude ectropion, erosion or polyp and take swabs and a smear as required. Post-abortion bleeding may require assessment.

Diarrhoea

Diarrhoea and vomiting or any other digestive disturbance. Gastrointestinal upsets are well recognised as a cause of breakthrough bleeding due to impairment of absorption. The bowel flora plays an important role in the entero-hepatic recirculation of oestrogen. Women should be using the seven day rule of abstinence or barrier methods while they have the gastrointestinal upset and for the next seven days.

Drugs

Drugs, especially enzyme inducers which increase the metabolic transformation of the hormones as they pass through the liver thereby decreasing contraceptive blood levels. Rifampicin is a powerful enzyme inducer. Others include some anti-epileptics (but not sodium valproate, clonazepam and newer types) and griseofulvin. Care should also be taken with antibiotics (but not with co-trimoxazole and erythromycin). When enquiring about drugs remember to ask about over-the-counter medicines. There have been some pregnancies in women taking St John's Wort. Smoking has also been associated with breakthrough bleeding and there are other good reasons for discouraging smoking in pill takers. Grapefruit juice increases the level of oestrogen so there is less risk of breakthrough bleeding.

Diet

Some foods are enzyme inducers. Ask if there have been any major changes in eating patterns or unusual dieting.

Dose

The formulation may need changing but think of this last rather than first. Breakthrough bleeding is more common with the low oestrogen pills but may settle if given time. A triphasic formulation will often give good cycle control. Try changing the type of progestogen. Does it occur at a particular time in the cycle – early, mid or late? Late breakthrough bleeding may settle with more progestogen. Go to a higher dose pill if side effects have not been a problem in the past.

How do you manage secondary amenorrhoea on the combined oral contraceptive pill?

This occurs less frequently than unscheduled bleeding. Absence of the withdrawal bleed is often the first indication of a pregnancy especially if pill taking has been unreliable.

Rarely, pregnancy can occur in reliable pill takers. For these women the standard seven day pill free interval may be too long. Studies have

shown significant follicular activity in this period. For these women extra precautions need to be taken such as changing to a tricycle regime (taking three packets of pills in a row) or reducing the seven-day break to four days or using another method in addition to the pill such as intravaginal spermicide or condoms.

Apart from pregnancy, there is usually no indication for further investigations if the cycles were regular before going on the pill. Absence of withdrawal bleed is an end organ response to the steroid hormones. There is individual variation in the effect on the endometrium and if there is little building up of the lining there will be little or no bleeding when the hormones are withdrawn. This tends to occur more with norethisterone containing pills than with levonorgestrel containing pills.

Reliable pill takers may welcome the reduction in menstrual loss. Others will be worried about a pill failure and may need to carry out a home pregnancy test. Some women feel it is unnatural not to have a bleed and will request a change of pill to ensure withdrawal bleeding. Changing to a different progestogen or to a low progestogen triphasic pill which mimics the natural cycle will usually give a withdrawal bleed.

How do you change from the progestogen-only pill (POP) to the combined oral contraceptive pill (COC) when amenorrhoeic?

First of all exclude pregnancy by careful history taking and pregnancy tests. The switch can be made at any time. The simplest rule for switching from one pill to another is to switch from a hormone pill in one packet to a hormone pill of the new packet without a break in between. Two track COCs with no placebo pills at the start, are the easiest to use in this situation.

Women who are amenorrhoeic on the POP are more likely to be those with pituitary suppression of the cycles as opposed to others on the POP who have regular bleeds indicating pituitary activity. There is no need to advise additional precautions (abstinence or condoms) for the first seven days of the new pill.

What are the indications for third generation COCs if any?

The Ministry of Health's advice is that COCs with third generation progestogens, gestodene or desogestrel carry a higher risk of deep vein thrombosis (DVT) and should not be used as first choice pills. Pills containing cyproterone acetate carry a warning that the risk of DVT may be even higher.

There is some evidence that pills containing the third generation progestogens have a more favourable effect on the lipid profile, but more studies are needed to confirm these findings. Blood group O also has some protective effect on cardiovascular disease.

If women have tried other pills and have found the side effects unacceptable, they may request to restart a pill with a third generation progestogen. They must be informed of the risks and provided with the patient information from the Ministry and this should be documented in the notes. If there are no significant risk factors in their personal or family history, pills containing a third generation progestogen can be prescribed when this is their informed choice.

What are the guidelines for the use of the COC when there is a history of migraine or severe headaches?

Ordinary headaches are not a contraindication but if they are very severe or the severity worsens after starting the COC the woman may prefer a progestogen-only method (POP, Depo-Provera or Mirena) or a non-hormonal method.

If the headaches are mainly menstrual headaches and if the woman is a careful pill taker she may prefer the tricycle regime taking three packets of a low oestrogen monophasic pill in a row before having a seven day break, thereby reducing the number of withdrawal bleeds and the number of headaches per year.

Classic migraine with nausea and photophobia is not a contraindication. When there is an aura starting before the headache, some specialists consider that this alone is a contraindication. Others advise that the COC is contraindicated in the following situations:

1. When there is any change in the character of migraine suggesting focal neurological symptoms in the aura which may indicate transient cerebral ischaemia. Such symptoms are asymmetrical and include loss of vision on one side, bright scotoma, any unilateral sensory disturbance e.g. paraesthesia of face or arm, any speech disturbance or less commonly any motor disturbance.
2. Migraines which are exceptionally severe or prolonged.
3. Migraine without aura plus more than one additional risk factor for

Key Points

- When enquiring about drugs (for breakthrough bleeding in women taking oral contraceptives) remember to ask about over the counter medicines. There have been some pregnancies in women taking St John's Wort.
- If headaches are mainly menstrual headaches and if the woman is a careful pill taker she may prefer the tricycle regime taking three packets of a low oestrogen monophasic pill in a row before having a seven day break.
- The COC is contraindicated if the total cholesterol is above 8mmol/l.
- Long-term use of Depo Provera has been associated with a significant reduction in bone density and this may have implications for women at risk of osteoporosis.

stroke such as age over 35 yrs, cigarette smoking, hypertension, obesity, diabetes, known atherogenic lipid profile or a strong family history of arterial cardiovascular disease in a parent or sibling <45 years of age.

4. Concurrent treatment with an ergot alkaloid due to the vasoconstrictive action.

What are the guidelines for the use of the COC when there is hyperlipidaemia?

The COC is best avoided if there is a known atherogenic lipid disorder. The COC is contraindicated if the total cholesterol is above 8mmol/l.

Low dose COCs increase the fasting plasma levels of triglycerides but have minor effects on low density lipoproteins (LDL) or total cholesterol. The effect on high density lipoproteins (HDL) depends on the balance of oestrogen and progestogen, oestrogen dominance having a more favourable effect.

How do you manage the woman who attends late for her Depo-Provera injection?

If she has been told to have her injection in 12 weeks (84 days) and reports a few days later she can be reassured that she is still safe up to 90 days. No extra precautions are needed.

If she attends after 90 days her management will depend on the risk of pregnancy. If there has been no unprotected sexual intercourse she can be given her next injection. She should also use extra precautions (abstinence or condoms) for the next seven days.

If she attends within 72 hours of unprotected sexual intercourse she should be offered the emergency contraceptive pill and advised to use extra precautions for seven days.

If she attends up to 96 days after her last injection she could be offered an intrauterine device but this is not a common solution except for the woman who has been thinking of changing her method for other reasons.

If she has had unprotected intercourse a pregnancy test should be done and repeated in three weeks after the last unprotected intercourse. If she is prepared to use abstinence or condoms until this is done, this is the optimum management plan. However, this is often unacceptable to the woman or she may not be able to afford the extra visit. There may be a concern that she will not return and may become pregnant while waiting for pregnancy to be excluded.

If there is a possibility that she is already pregnant, her views on continuing the pregnancy (if it is confirmed) should be ascertained. If a pregnancy would definitely be unwanted and she would seek a termination then the next injection can be given with a follow-up pregnancy test in three weeks. If she changes her mind and continues the pregnancy she can be reassured that the risk of foetal abnormality is very low.

If she is unsure of her feelings or would definitely continue the pregnancy then she should be advised to wait until pregnancy is excluded before having her next injection.

What are the special considerations for Depo-Provera in the peri-menopausal woman?

Depo-Provera can be used up to the time of the menopause but amenorrhoea, which is common in this age group, may mask the menopause. Irregular bleeding may require diagnostic endometrial sampling.

A typical management plan for the peri-menopausal woman would be to stop the injection at 50 years or earlier if menopausal symptoms occur. If menses return after stopping the injection, Depo-Provera can be restarted or she may prefer to change to another method. If menses do not return use non-hormonal methods and take FSH levels on two occasions separated by three months. Continue to use contraception for at least 12 months from the time of stopping Depo-Provera.

Long-term use has been associated with a significant reduction in bone density and this may have implications for women at risk of osteoporosis e.g. those who are smokers or underweight. Other studies have been more reassuring about the risk of osteoporosis and its reversibility.

Potentially hypo-oestrogenism may have other adverse effects. There may be an increase in LDL and a reduction in HDL. Whether this has a significant effect clinically will depend on other risk factors for arterial disease. Caution is advised in women with known lipid abnormalities or arterial disease.