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Test Your Knowledge

ISSUES IN EMERGENCY CONTRACEPTION FOR THE ADOLESCENT

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Maria, a 17-year-old single nulliparous college student, presents at the general practitioner (GP) clinic with this request: "Doctor, I did 'something' with my boyfriend. Can you give me some medication? I don't want to become pregnant?"

What is the reason for her consultation?
She is seeking emergency contraception (EC) to prevent an unwanted pregnancy.

What further history should you elicit?
Before prescribing emergency contraception, it is important to establish that unprotected coital intercourse has indeed taken place. Young naive adolescents sometimes think that heavy petting, touching, kissing or oral sex can lead to pregnancy. Conversely, sexual encounter without penetration but with ejaculation around the female genitalia can occasionally result in pregnancy.

Next, it is important to ensure that she is not already pregnant because emergency contraception will not be effective then.

Following that, it is important to determine the duration lapsed since the unprotected coitus. This is to determine whether emergency contraception is still possible and the appropriate emergency contraceptive method to recommend.

Emergency contraception with high-dose combined (oestrogen & progestogen) contraceptive pills or progestin-only pills are effective up to 72 hours after unprotected coitus with effectiveness highest if used as soon as possible after coitus.[1-3] Emergency contraceptive pills (ECP) should not be given to women who are already pregnant as the pills would no longer be effective. Otherwise, there are no other contraindications unlike regular hormonal contraception.[1,3,4] Levonorgestrel (LNG) pills can still be prescribed up to 120 hours after coitus,[1,3,4] but its effectiveness falls rapidly after 72 hours.

The antiprogestin pill, ulipristal, is superior to LNG pills being effective for up to 120 hours. Unfortunately, it is not available in Malaysia.[1] Beyond 120 hours, other emergency contraceptive methods should be considered. Mifepristone can be used but it is considered an abortifacient.[1,4]

The intrauterine copper device (IUCD) is effective for emergency contraception if inserted up to five days after intercourse or up to Day 12 of the menstrual cycle if it is reasonably sure that the woman is not pregnant.[1] Its advantage is that it can be inserted beyond the window period of 72 hours for ECP and can be continued as a long term non-permanent contraceptive for three to ten years depending on the type of IUCD.

Unlike ECP, the use of IUCD for emergency contraception requires an assessment for medial eligibility. The IUCD should not be inserted into women having pelvic infections or who are at high risk to sexually transmitted infections (STI). It is also not suitable for women with anaemia, heavy or irregular periods, severe dysmenorrhoea, cervical dysplasia or copper allergy.

It is important to explore Maria's sexual history. This includes previous sexual exposures, number of partners, type of sexual practice, practice of safe sex using condoms, contraceptive history and history of STI.

From the medico-legal aspect, the doctor needs to establish whether Maria had sexual intercourse before the age of 16 years. In Malaysia, this is the age for legal consent for coitus and intercourse with consenting partners below this age is tantamount to statutory rape.

Maria had her first sexual encounter at the age of 17 when she started a relationship with her college mate. He did not use any condoms but had always been very careful in withdrawing before ejaculation. She had broken up with him two months ago after discovering that he has been cheating on her with several college mates.

Her current boyfriend is a 28-year-old sales executive she had met recently. They had sexual intercourse the night before. He had refused to use a condom and could not

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withdraw in time, resulting in partial spillage of ejaculate intravaginally.

Maria has never practised any form of contraception before and has no known allergies. She has no significant past medical or surgical history and denies ever having had any STI. Her last normal menstrual period was ten days ago.

Briefly discuss the different types of emergency contraception available in Malaysia. What emergency contraception will you offer Maria?
In Malaysia, three types of emergency contraception are available:

i. progestin-only pills
ii. combined contraceptive pills (also known as the Yuzpe regimen)
iii. IUCD

i. Progestin-only pills

Currently, the progestin-only pills available in Malaysia are:
Escapelle 1.5 mg levonorgestrel (LNG) (in a one tablet packing) and
Postinor-2, Estinor, ME tablet and Pregnon (in a package of two pills of 0.75 mg LNG each)

These ECP are available over the counter in pharmacies and from some private primary care clinics. However, it is not available in Government clinics. The drug pamphlet Postinor-2 states that it can be used up to 72 hours after unprotected coitus. Although ECP are sometimes known as the "morning after pills", they are most effective when ingested as soon as possible after unprotected coitus with effectiveness declining up to five days when it is no longer effective.[1,3]

Following the findings from the 2002 trials,[5] World Health Organisation (WHO)[3] recommends that LNG ECP be given as a single dose of 1.5 mg instead of two divided doses as the pregnancy rate was lower at 1.5% compared to 1.8% although the difference is not statistically significant (p=0.83, CI 0.46-1.76).

ii. Yuzpe regimen

The Yuzpe regimen uses combined oral contraceptive pills for emergency contraception. Two tablets each containing 50 mcg ethinyloestradiol and 0.25 mg LNG are given 12 hours apart within 72 hours of unprotected coitus. In Malaysia, these pills used to be easily available as Eugynon, Neogynon and Nordiol. But it would be difficult to find them nowadays as these high dose pills have been phased out for regular contraception.

WHO currently recommends the use of LNG-ECP[3] only because their 1998 trials[2] found that the Yuzpe regimen had more side effects of nausea and vomiting (57% vs. 85%) and were less effective in preventing pregnancies when compared with two doses of 0.75 mg levonorgestrel (LNG) taken 12 hours apart.

iii. IUCD

The Multiload Cu 250 IUCD is available in Malaysia for long term reversible contraception. It has the advantage that it can be used beyond the 72 hours period for emergency contraceptive pills and it can be continued for long term contraception.

What emergency contraception will you offer Maria?
The IUCD is not suitable for Maria as she has multiple partners. In addition, the Multiload Cu 250 available in Malaysia has a long stem which is not suitable for nulliparous uterus. As Maria had unprotected coitus less than 24 hours ago, she should be offered a single dose of 1.5 mg LNG taken straightaway.

The GP counsels Maria and instructs her to take one Postinor pill immediately at the clinic and instructs her to take the second pill 12 hours later as per the instructions supplied by the manufacturer.

Comment on the instructions given by the GP.
It is not wrong for the GP to instruct Maria as such since the difference in the pregnancy rate between 'two dose' and 'single dose' LNG regime is not statistically significant. But based on best evidence,[3,5] a single dose of 1.5 mg LNG is preferred and Maria should be advised to take the two pills together.

Maria consumes the first pill but returns an hour later because she feels nauseous and had vomited out the medication she had taken.

What are the common side effects of ECP? Should Maria have been prescribed antiemetics earlier?
The most common side effect for levonorgestrel-only users reported by WHO's Task Force in 1998[2] is nausea (23.1%) followed by vomiting (5.6%). But WHO trials in 2002[3] report a lower rate of 14.3% for nausea and 1.4% for vomiting. Hence, antiemetics should not be routinely prescribed with LNG ECPs.

If vomiting occurs within two hours of ingestion,[5] the patient should be given an antiemetic (metoclopramide 10 mg or dimenhydrinate 50-100 mg) and instructed to take a repeat dose of ECP half an hour later.

Other known side effects are abdominal pain, fatigue, headache, dizziness and breast tenderness reported by less than 20% of levonorgestrel-only users.[2,3] The side effects usually do not persist for more than a day.

The patient should also be warned of significant but temporary menstrual cycle disruption following LNG ECP. Both Gainer *et al*.[6] and Raymond *et al*.[7] found that LNG ECP causes early withdrawal and intermenstrual bleeding when it is taken before ovulation.

When LNG ECP is taken after ovulation, the results differ for the two studies. Gainer found that ECP lengthens the luteal phase, thus delaying menstruation by a few days but subsequent cycle lengths are not significantly affected.[6] Raymond,[7] however, found that users had no change in the current cycle length but experienced prolonged bleeding in the subsequent cycle.

Maria wants to know how effective is ECP in preventing pregnancy.
WHO states that LNG ECP taken within five days after unprotected coitus reduces a woman's chance of pregnancy by 60-90%.[4] Maria's chances of not getting pregnant should be good as she took the ECP within 24 hours and ovulation has probably not occurred (her menstrual period was ten days ago).

As the contraceptive effect of LNG ECP is not 100 per cent, a pregnancy test should be done to exclude pregnancy if there is a two-week delay in the next menstruation.

Maria wants to know if her baby will have congenital deformities related to the hormone should ECP fail and she does get pregnant. How would you respond?
ECP has not been known to cause any teratogenicity even if accidentally given in pregnancy[1,3,5,8]. However, Maria should also be told that there is a 1-2% background risk of foetal abnormalities even among women with normal pregnancies with no exposure to EC.

Maria has heard from friends that LNG ECP causes abortion. How would you respond?
LNG ECP is **NOT** an abortifacient.[5,9] A joint statements from the International Federation of Gynaecology and Obstetrics and International Consortium of Emergency Contraception states that LNG ECPs work primarily by preventing or delaying ovulation.[9] This correlates with its success rate in preventing pregnancies if taken prior to ovulation. It further states that LNG ECPs do not prevent implantation. Hence, it does not cause an early medical abortion.

Maria comes from a single parent family. Her father deserted her mother when the latter was pregnant with Maria. Her mother works as a cleaner. She has invested all her hard-earned savings for Maria's education. Maria wants to complete her studies without interruption. Her mother is very strict and will be devastated if Maria makes a similar mistake. Maria wants information about getting an abortion if ECP fails.

Briefly discuss how you would address her concern.
Pregnancy may not even occur with Maria as she probably has not ovulated on Day 10 of her menstrual cycle and LNG ECP works best before ovulation. At this stage, the most appropriate action is to reassure and offer support.

In the unlikely event that she does become pregnant, her physical and mental status should be assessed. It is the requirement in public hospitals for two specialists, a gynaecologist and psychiatrist, to recommend abortion because in Malaysia, abortion can only be performed on grounds of mental and physical health of mother.

In case she opts to continue pregnancy, family counselling involving her mother may be done with her permission. Bringing in the male partner should be a point to be borne in mind to establish a formal partnership. After delivery, she can either bring up the baby herself or offer the baby for adoption. Referral to the appropriate support groups must be considered.

Would a follow-up visit be warranted after successfully consuming LNG ECPs? Provide justification for your answer.
A follow-up visit is mandatory to exclude pregnancy, screen for STI and provide appropriate counselling on sexual behaviour and future contraception.

As she had her menstruation 10 days ago, an appointment to return in three to four weeks' time is suitable to exclude pregnancy.

In view of her history of multiple partners, she should be screened for STI after pre-test counselling. Screening includes tests for VDRL, Rapid test for HIV, HBAg and Ab, endocervical swab for gonorrhoea and first pass urine for Chlamydia using PCR method.

Maria should be advised that ECP will not prevent transmission of STI and it is best to practice abstinence. If that cannot be achieved, she should opt for monogamous relationship to avoid risks of STI which can lead to pelvic inflammatory diseases, ectopic pregnancies and subsequent infertility. She should also insist on safe protected sex through the use of condoms.

At follow-up, she should also be asked regarding her intention to continue with her current sexual relationship and counselled on the benefits of abstinence, having a monogamous relationship and safe sex.

If she still intends to have coitus, the issue of contraception has to be discussed. She should be advised that ECP cannot be used as a substitute for long term contraception because it is less effective and has more side effects if overused.[1,5]

In order to provide holistic management for Maria, what other biopsychosocial issues peculiar to adolescents/ young adults need to be addressed?

Teenagers and young adults should be explored for risk-taking behaviour and to screen for certain problems peculiar to their age group.[10] A mnemonic for this is HEADSS.

H Home including family and social environment
E Education including school and or employment
A Activities including friends and hobbies
D Drugs including substance abuse, cigarettes and alcohol
S Sexuality including sexual history and relationship
S Suicide and depression including dealing with anger and hurt

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