Which emergency contraceptives can be used while breastfeeding?

Prepared by UK Medicines Information (UKMi) pharmacists (or other as appropriate) for NHS healthcare professionals
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Summary

- It is possible for a woman to get pregnant again very soon after the birth of a baby, even if breastfeeding, and even if periods have not returned. If emergency contraception is required, women can be advised that progestogen-only emergency contraception (levonorgestrel or ulipristal acetate) can be used from day 21 postpartum and the emergency copper intra-uterine device from day 28.

- A copper intra-uterine device can be inserted up to 120 hours (5 days) after unprotected intercourse or contraceptive failure. No restriction on breastfeeding is required. The copper IUD has the additional benefit of providing long term, reversible contraception to women who wish to prevent pregnancy. The Faculty of Sexual and Reproductive Healthcare recommend that the copper IUD be offered to women first line in the majority of cases where emergency contraception is indicated, including breastfeeding women.

- A single dose of 1.5mg levonorgestrel is licensed to be taken within 72 hours (3 days) of unprotected intercourse or contraceptive failure. No restriction on breastfeeding is required.

- A single dose of 30mg ulipristal acetate is licensed to be taken within 120 hours (5 days) after unprotected intercourse or contraceptive failure. Ulipristal is not the preferred emergency contraceptive during breastfeeding, however, based on pharmacokinetic data, UKDILAS do not consider it necessary to withhold breastfeeding if a single dose has been taken.

Background

Emergency contraception can be used after unprotected intercourse but before ovulation.

Hormonal emergency contraceptives include levonorgestrel and ulipristal; either drug should be taken as soon as possible after unprotected intercourse to increase efficacy. Levonorgestrel is effective if taken within 72 hours (3 days) of unprotected intercourse. Ulipristal acetate, a progesterone receptor modulator, is effective if taken within 120 hours (5 days) of unprotected intercourse (1).

Levonorgestrel is less effective than insertion of an intra-uterine device. Ulipristal is as effective as levonorgestrel, but its efficacy compared to a copper intra-uterine device is not yet known (1).

A Cu-IUD can be inserted up to 120 hours (5 days) after unprotected intercourse. If intercourse has occurred more than 5 days previously, the device can still be inserted up to 5 days after the earliest likely calculated ovulation regardless of the number of episodes of unprotected intercourse earlier in the cycle (1).

It is possible for a pregnancy to occur again very soon after the birth of a baby, even in breastfeeding women, and even if periods have not returned (2). If emergency contraception is required, women can be advised that progestogen-only emergency contraception can be used from day 21 onwards and the emergency Cu-IUD from day 28 onwards (3).

Answer

Levonorgestrel

Evidence indicates that daily low dose levonorgestrel as a contraceptive does not adversely affect the composition of milk, the growth and development of the infant, or the milk supply (4). Data regarding the use of a single 1.5mg dose of levonorgestrel for emergency contraception whilst breastfeeding are limited.

A study evaluated the pharmacokinetics of a single dose of 1.5mg levonorgestrel administered to 12 breastfeeding woman. Concentrations in breast milk were lower than serum concentrations with peak milk levels seen 2–4 hours after dosing. The authors estimated, based on an infant receiving 800mL of breast milk per day, that they would be exposed to 1.6 micrograms of levonorgestrel on the day of maternal dosing, 0.3 micrograms on the second day, and 0.2 micrograms on the third day. Breastfeeding was interrupted for 72 hours after which time it was resumed, therefore infant levels were not measured during this time. Based on these data the authors recommended that, to limit exposure to a breastfed infant, withholding breastfeeding for 8 hours after dosing should be considered (5).

In a later observational cohort study, the effect of levonorgestrel on breastfeeding and on breastfed infants was investigated. Breastfeeding women who used levonorgestrel as an emergency contraceptive (n=71) were compared to breastfeeding women who used either ethynodiol diacetate or desogestrel daily (n=72). The majority of women who received levonorgestrel recommenced breastfeeding within 8 hours. No obvious decrease in milk supply and no adverse effects in the infant were reported. The authors concluded that they found no evidence to support withholding breastfeeding for 8 hours following use of levonorgestrel for emergency contraception (6).

Although milk levels are higher during the first 24-hour period, and levonorgestrel is almost completely bioavailable (7, 8), there is no risk of accumulation in the infant after a one-off dose. Therefore, the overall exposure to levonorgestrel remains low, and advising a mother to suspend breastfeeding for 8 hours after the dose does not offer significant benefit over the impracticalities this may cause.

The Faculty of Sexual and Reproductive Healthcare, and Family Planning Association recommend that there are no restrictions on a single dose of levonorgestrel 1.5mg whilst breastfeeding (3, 9).

Ulipristal acetate

Ulipristal acetate is a small molecule, with an oral bioavailability of approximately 100%, and it is highly bound to plasma proteins (>98%) (7). Following oral administration of a single 30mg dose, it is rapidly absorbed with a peak plasma concentration occurring approximately 1 hour after ingestion . The terminal plasma half-life of ulipristal acetate is about 32 hours after a single 30mg dose (10). Therefore, passage of ulipristal acetate into breast milk should be expected with some infant absorption. However, as it is a steroid, levels in milk will probably be low since this has been shown with other steroids (7).

The manufacturers currently recommend that, after ulipristal acetate dosing, breastfeeding should be withheld for at least one week (10). Ulipristal is not the preferred emergency contraceptive during breastfeeding, however, based on pharmacokinetic data, UKDILAS do not consider it necessary to withhold breastfeeding if a single dose has been taken.

Copper intra-uterine device

The copper IUD has the additional benefit of providing long term, reversible contraception to women who wish to prevent pregnancy. The Faculty of Sexual and Reproductive Healthcare recommend that the copper IUD be offered to women first line in the majority of cases where emergency contraception is indicated, including breastfeeding women (3).

The effects of a Cu-IUD on maternal copper metabolism during breastfeeding was studied in 95 mothers who chose to use non-hormonal contraceptive methods. They were divided into two groups: group one were inserted with a Cu-IUD (n = 62), and a second group that did not use any IUDs served as the control (n = 33). Endometrial biopsies, blood, and milk samples were collected before (at 10 weeks postpartum) and 6 weeks after insertion of the device for detection of metabolites associated with copper metabolism (serum ceruloplasmin and copper concentrations in breast milk and endometrium). Endometrial copper concentration increased in women using Cu-IUDs, however this did not affect serum ceruloplasmin or milk copper concentrations (11).

A further study looked at the effects of a Cu-IUD on parameters of lactation in breastfeeding woman and on the growth of their breastfed infant, over a 3-year period. Healthy lactating women (n=38) 28–56 days postpartum, chose to have a Cu-IUD inserted. The mean duration of breastfeeding coinciding with treatment of the mothers was 423.4 days (range 1–1099 days). No treatment related adverse effects were reported and all infants were developing normally at the end of the study period. (12)

Limitations

- Evidence on the secretion of medicines into breast milk, and its safety in breast-fed infants, is generally limited to relatively small studies with limited numbers of mothers and infants.

The above information applies to maternal monotherapy and a full-term, fit and healthy infant only. Should the infant be premature, unwell, or the mother taking multiple medication, an individual risk assessment is required. Please contact the UK Drugs in Lactation Advisory Service for advice on 0116 258 6491**/** 0121 424 7298 or ukdilas.enquiries@nhs.net.

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Search strategy

For lactation evidence:

- Embase and Medline (Standard UKDILAS Search Patterns)
- Medications and Mothers' Milk Online: levonorgestrel and ulipristal acetate
- Drugs and Lactation Database (LactMed). Toxnet Toxicology Data Network, United States National Library of Medicine. Available from http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT . Levonorgestrel, Ulipristal and Intrauterine Copper Contraceptive monographs
- Manufacturers (eMC) of levonorgestrel and ulipristal acetate products
- Faculty of Sexual and Reproductive Healthcare

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