



Intrauterine Copper Contraceptive

Revised: June 21, 2021.

Drug Levels and Effects

Summary of Use during Lactation

The copper IUD is acceptable to use during breastfeeding as a long-term contraceptive. It has been studied extensively during lactation in comparison with other forms of contraception and does not affect lactation performance or the milk copper concentration. In women who are breastfeeding, insertion of the device should be after 4 weeks postpartum. A meta-analysis found that uterine perforation with IUD insertion was 6 to 10 times more likely in breastfeeding mothers than in non-breastfeeding women, but that the risk of expulsion was no greater in breastfeeding mothers.[1] A more recent prospective study found a slight increase in the risk of expulsion of intrauterine devices with breastfeeding,[2] and the American College of Obstetrics and Gynecology recommends that women be counseled that immediate postpartum insertion may have a higher expulsion rate than later insertion.[3] The copper IUD is considered to be the most effective emergency contraceptive when inserted up to 5 days after unprotected intercourse.[4]

Drug Levels

Maternal Levels. The effects on maternal copper metabolism during breastfeeding were compared in 3 groups of women. Two groups used copper-containing intrauterine devices (Copper 380A [n = 33] and Copper 200B [n = 29]), and a third group that did not use any IUD (n = 33) served as control. Milk samples were collected at 10 weeks postpartum before insertion and 6 weeks after insertion of the devices from 21 women in the first study group, 22 in the second study group and 20 women in the control group. Milk copper concentrations ranged between 0.25 and 0.31 mcg/gram of milk in the various groups before and after insertion. No statistically significant difference in milk copper levels were found before and after 6 weeks in the IUD groups and between the copper IUD groups and in women who did not receive a copper IUD.[5]

Infant Levels. Relevant published information was not found as of the revision date.

Effects in Breastfed Infants

An open-label, two-center, randomized study in breastfeeding women compared a copper-containing IUD (Multiload Cu250) with an oral progestin-only contraceptive (lynestrenol 500 mcg). There were no statistically

Disclaimer: Information presented in this database is not meant as a substitute for professional judgment. You should consult your healthcare provider for breastfeeding advice related to your particular situation. The U.S. government does not warrant or assume any liability or responsibility for the accuracy or completeness of the information on this Site.

Attribution Statement: LactMed is a registered trademark of the U.S. Department of Health and Human Services.

significant differences between groups with regard to infant anthropometric parameters and child health, except a lower incidence of child illness after 6 months in the lynestrenol group.[6]

Three hundred twenty lactating women were randomized to either a copper-containing IUD (Copper T380A; n =157) or to an IUD containing levonorgestrel (Mirena; n =163). Follow-up of infants for 1 year found no differences in growth and development or in duration of breastfeeding.[7]

A study compared the performance of a copper-containing IUD (Copper T 380A; n = 122), progesterone vaginal rings (n = 187), an oral progestin-only contraceptive (lynestrenol 500 mcg; n = 117), and levonorgestrel implants (Norplant; n = 120) in lactating women. After the first year of use, none of the methods affected the rate of infant growth.[8]

In a multicenter study, women who received a (Copper T 380A; N = 734) intrauterine device were compared to women who received a vaginal ring that released about 10 mg daily of progesterone (N = 802) beginning at day 29 to 63 postpartum. After the first year of use, no significant differences were found in the health and weight gain of the infants in the 2 groups.[9]

Effects on Lactation and Breastmilk

A study compared prolactin serum concentrations in 40 women using a copper-containing intrauterine device (Copper T, Copper 7 or Soonawalla Y) to those of 20 women who were using condoms or practicing abstinence. Serum prolactin levels were higher in lactating women using a copper IUD (n = 7) than in lactating controls (n = 5) and in nonlactating women using a copper IUD (n = 33) than in lactating controls (n = 15). The authors also noted that they had seen 12 women with galactorrhea who were using a copper IUD, although they did not establish a cause-and-effect relationship. None of the study patients had galactorrhea.[10]

A 30-year-old woman had been using a copper IUD (Gravigard) for 19 months when she noted spontaneous galactorrhea, mostly from the left breast. Thyroid function and basal serum prolactin levels were normal and a brain tumor was ruled out. Three months later, the IUD was removed and milk production stopped 7 months after removal. The patient used no IUD for 3 months, then the copper IUD was replaced. Mild spontaneous lactation began 3 days after IUD placement, mainly from the right breast. The patient was taking no medications that would cause galactorrhea. The galactorrhea was probably caused by the IUD.[11]

Eighty-four women had 6 subdermal implants containing 100 mg each of progesterone inserted between days 30 to 35 postpartum as a contraceptive. Compared to women who received either a placebo or a Copper T intrauterine device, no difference was found in the breastfeeding rates during the first 9 months postpartum. At 1 year postpartum, more women in the Copper T group were breastfeeding than in the progesterone or placebo groups.[12]

An open-label, two-center, randomized study in breastfeeding women compared a copper-containing IUD (Multiload Cu250) with an oral progestin-only contraceptive (lynestrenol 500 mcg). There were no statistically significant differences between groups with regard to the amount of milk production or number of daily breastfeedings.[6]

A study compared the performance of a copper-containing IUD (Copper T 380A; n = 122), progesterone vaginal rings (n = 187), an oral progestin-only contraceptive (lynestrenol 500 mcg; n = 117), and levonorgestrel implants (Norplant; n = 120) in lactating women. After the first year of use, none of the methods affected breastfeeding performance. Users of the progestin-only methods experienced a period of lactational amenorrhea 4 to 5 months longer than did users of Copper T or untreated women.[8] In a multicenter study, women who received a (Copper T 380A; N = 734) intrauterine device were compared to women who received a vaginal ring that released about 10 mg daily of progesterone (N = 802) beginning at day 29 to 63 postpartum. No differences were found in the rate of breastfeeding between the 2 groups over the first year postpartum.[9]

A nonblinded, nonrandomized study compared a copper-containing IUD (Multiload Cu375; n = 40) to oral desogestrel 75 mcg daily (n = 42) begun 28 to 56 days postpartum for contraception. During the 7-month trial period, 1 woman dropped out of the trial because of diminished lactation compared with none in the IUD group. At the end of the first and fourth treatment cycle, there were no differences in the amount of milk produced between the desogestrel and IUD groups. No differences in triglyceride, protein or lactose content of milk were found at the end of 1, 4, and 7 cycles of therapy.[13]

Alternate Drugs to Consider

Etonogestrel, Oral Levonorgestrel, Intrauterine Levonorgestrel, Levonorgestrel Implant, Medroxyprogesterone Acetate; Norethindrone; Progesterone

References

1. Berry-Bibee EN, Tepper NK, Jatlaoui TC, et al. Safety of intrauterine devices in breastfeeding women: A systematic Review. *Contraception*. 2016;94:725–38. PubMed PMID: 27421765.
2. Eggebrotten JL, Sanders JN, Turok DK. Immediate postpartum intrauterine device and implant program outcomes: A prospective analysis. *Am J Obstet Gynecol* 2017;217:51.e1-.e7. PMID: 28342716
3. American College of Obstetrics and Gynecology. Committee Opinion No. 670: Immediate Postpartum Long-Acting Reversible Contraception. *Obstet Gynecol*. 2016;128:e32–7. PubMed PMID: 27454734.
4. ACOG Practice Bulletin No. 121: Long-acting reversible contraception: Implants and intrauterine devices. *Obstet Gynecol*. 2011;118:184–96. PubMed PMID: 21691183.
5. Rodrigues da Cunha AC, Dorea JG, Cantuaria AA. Intrauterine device and maternal copper metabolism during lactation. *Contraception*. 2001;63:37–9. PubMed PMID: 11257247.
6. Sinchai W, Sethavanich S, Asavapiriyant S, et al. Effects of a progestogen-only pill (Exluton) and an intrauterine device (Multiload Cu250) on breastfeeding. *Adv Contracept*. 1995;11:143–55. PubMed PMID: 7491855.
7. Shaamash AH, Sayed GH, Hussien MM, et al. A comparative study of the levonorgestrel-releasing intrauterine system Mirena(R) versus the Copper T380A intrauterine device during lactation: breastfeeding performance, infant growth and infant development. *Contraception*. 2005;72:346–51. PubMed PMID: 16246660.
8. Díaz S, Zepeda A, Maturana X, et al. Fertility regulation in nursing women IX. Contraceptive performance, duration of lactation, infant growth, and bleeding patterns during use of progesterone vaginal rings, progestin-only pills, Norplant® implants, and Copper T 380-A intrauterine devices. *Contraception*. 1997;56:223–32. PubMed PMID: 9408703.
9. Sivin I, Díaz S, Croxatto HB, et al. Contraceptives for lactating women: A comparative trial of a progesterone-releasing vaginal ring and the copper T 380A IUD. *Contraception*. 1997;55:225–32. PubMed PMID: 9179454.
10. Mehta S, Pawar V, Joshi J, et al. Serum prolactin levels in women using copper IUDs. *Contraception*. 1977;15:327–34. PubMed PMID: 560285.
11. Giampietro O, Ramacciotti C, Moggi G. Normoprolactinemic galactorrhea in a fertile woman with a copper intra-uterine device (copper IUD). *Acta Obstet Gynecol Scand*. 1984;63:23–5. PubMed PMID: 6539040.
12. Croxatto HB, Díaz S, Peralta O, et al. Fertility regulation in nursing women. II. Comparative performance of progesterone implants versus placebo and copper T. *Am J Obstet Gynecol*. 1982;144:201–8. PubMed PMID: 7114130.
13. Bjarnadóttir RI, Gottfredsdóttir H, Sigurdardóttir K, et al. Comparative study of the effects of a progestogen-only pill containing desogestrel and an intrauterine contraceptive device in lactating women. *BJOG*. 2001;108:1174–80. PubMed PMID: 11762658.

Substance Identification

Substance Name

Intrauterine Copper Contraceptive

Drug Class

Breast Feeding

Lactation

Intrauterine Devices, Copper

Contraceptive Devices

Contraceptive Agents, Female

Contraceptives, Postcoital