



Lanolin

Revised: December 3, 2018.

CASRN: 8006-54-0

Drug Levels and Effects

Summary of Use during Lactation

Lanolin is a yellow fat obtained from sheep's wool. It has traditionally been used topically to treat sore, cracked nipples during breastfeeding. Highly purified modified lanolin (Lansinoh) has the pesticide and detergent residues removed and the natural free alcohols reduced to below 1.5% to improve safety and reduce the allergic potential.[1] However, it should be avoided in patients with a known allergy to wool.

Although lanolin appears to be effective for the prevention and treatment of nipple pain from breastfeeding,[2] studies, most of which used Lansinoh, have not found lanolin to be consistently different in efficacy from application of breastmilk, hydrogel dressings, peppermint gel, aloe vera or warm compresses.[3][4][5][6][7][8] [9] A metaanalysis concluded that application of nothing or breastmilk may be superior to lanolin, but good studies are lacking.[10] One small nonblinded study found olive oil to be superior to lanolin for prevention of sore nipples,[11] and another small, single-blinded study found that lanolin application to painful nipples did not decrease nipple pain compared to usual care.[12] A study in women with nipple trauma and pain comparing application of lanolin after each feeding to application of breastmilk plus a nipple shell found that the breastmilk and shell were more effective than lanolin.[13] A randomized study comparing highly purified lanolin (Lansinoh) to expressed breastmilk in 180 mothers, found lanolin to be superior to breastmilk over a 7-day period in reducing pain and the nipple trauma score.[14]

Drug Levels

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

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

Effects in Breastfed Infants

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

Effects on Lactation and Breastmilk

In a randomized, double-blind trial, lanolin was compared to an all-purpose nipple ointment containing mupirocin 1%, betamethasone 0.05%, and miconazole 2% for painful nipples while nursing in the first 2 weeks postpartum. The two treatments were equally effective in reducing nipple pain, nipple healing time, breastfeeding duration, breastfeeding exclusivity rate, mastitis and nipple symptoms, side effects or maternal satisfaction with treatment.[15]

A randomized trial in nursing women with damaged, painful nipples compared lanolin application to usual care, which was a variable mix of education or assistance by health professional, application of warm or cool compresses, analgesics, air drying the nipples or the use of breast shields. A blinded observer assessed healing via telephone calls to the mothers several times after randomization. No differences were found in nipple pain between the groups 4 to 7 days after randomization. No difference was found in breastfeeding self-efficacy at 4 days post-randomization or in the breastfeeding rates of the two groups at 4 and 12 weeks postpartum. Patient satisfaction with care was higher in the women who received lanolin.[12]

References

1. Mohammadzadeh A, Farhat A, Esmaeily H. The effect of breast milk and lanolin on sore nipples. *Saudi Med J.* 2005;26:1231-4. PubMed PMID: 16127520.
2. Vieira F, Bachion MM, Mota DD, Munari DB. A systematic review of the interventions for nipple trauma in breastfeeding mothers. *J Nurs Scholarsh.* 2013;45:116-25. PubMed PMID: 23452043.
3. Morland-Schultz K, Hill PD. Prevention of and therapies for nipple pain: a systematic review. *J Obstet Gynecol Neonatal Nurs.* 2005;34:428-37. PubMed PMID: 16020410.
4. Sayyah Melli M, Rashidi M R, Nokhoodchi A et al. A randomized trial of peppermint gel, lanolin ointment, and placebo gel to prevent nipple crack in primiparous breastfeeding women. *Med Sci Monit.* 2007;13:CR406-11. PubMed PMID: 17767120.
5. Abou-Dakn M, Fluhr JW, Mo G, Woeckel A. Positive effect of HPA lanolin versus expressed breastmilk on painful and damaged nipples during lactation. *Skin Pharmacol Physiol.* 2010;24:27-35. PubMed PMID: 20720454.
6. Shanazi M, Farshbaf Khalili A, Kamalifard M et al. Comparison of the effects of lanolin, peppermint, and dexpanthenol creams on treatment of traumatic nipples in breastfeeding mothers. *J Caring Sci.* 2015;4:297-307. PubMed PMID: 26744729.
7. Dodd V, Chalmers C. Comparing the use of hydrogel dressings to lanolin ointment with lactating mothers. *J Obstet Gynecol Neonatal Nurs.* 2003;32:486-95. PubMed PMID: 12903698.
8. Pugh LC, Buchko BL, Bishop BA et al. A comparison of topical agents to relieve nipple pain and enhance breastfeeding. *Birth.* 1996;23:88-93. PubMed PMID: 8826172.
9. Saeidi R, Tafazoli M, Gholami M et al. New treatment for nipple soreness in breastfeeding mothers: A clinical trial study. *Iran J Neonatol.* 2015;6:48-51. Available at: http://ijn.mums.ac.ir/issue_626_671_Volume+6%2C+Issue+2%2C+Spring+2015.html
10. Dennis CL, Jackson K, Watson J. Interventions for treating painful nipples among breastfeeding women. *Cochrane Database Syst Rev.* 2014;12: CD007366. PubMed PMID: 25506813.
11. Gungor AN, Oguz S, Vurur G, Gencer M, Uysal A, Hacivelioglu S et al. Comparison of olive oil and lanolin in the prevention of sore nipples in nursing mothers. *Breastfeed Med.* 2013;8:334-5. PubMed PMID: 23249138.
12. Jackson KT, Dennis CL. Lanolin for the treatment of nipple pain in breastfeeding women: A randomized controlled trial. *Matern Child Nutr.* 2017;13:e12357. PubMed PMID: 27477840.
13. Vieira F, Mota DD, Castral TC et al. Effects of anhydrous lanolin versus breast milk combined with a breast shell for the treatment of nipple trauma and pain during breastfeeding: A randomized clinical trial. *J Midwifery Womens Health.* 2017;62:572-9. PubMed PMID: 28887855.

14. Neto CM, de Albuquerque RS, de Souza SC et al. Comparative study of the use of HPA lanolin and breast milk for treating pain associated with nipple trauma. Rev Bras Ginecol Obstet. 2018;40:664-72. PubMed PMID: 30372779.
15. Dennis CL, Schottle N, Hodnett E, McQueen K. An all-purpose nipple ointment versus lanolin in treating painful damaged nipples in breastfeeding women: A randomized controlled trial. Breastfeed Med. 2012;7:473-9. PubMed PMID: 22428572.

Substance Identification

Substance Name

Lanolin

CAS Registry Number

8006-54-0

Drug Class

Breast Feeding

Lactation

Cosmetics

Pharmaceutic Aids

Waxes