

Q&A 165.4

How should pubic lice be treated in a breastfeeding mother?

Prepared by UK Medicines Information (UKMi) pharmacists for NHS healthcare professionals
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Background

Pubic lice, also known as crab lice, or simply "crabs", are parasitic insects (*Phthirus pubis*) that generally live on the coarse hair of the pubic and perianal areas. However, they can infest any coarse hair, including that of the eyelashes, eyebrows, abdomen, back, arm pit and on the head around the scalp margins (1).

Itchy red papules are the most common presenting feature. Itching usually begins one to three weeks following first infestation and is due to hypersensitivity to the louse saliva or faeces. Possible complications include excoriation and skin infection due to scratching. As the eyelashes are occasionally infested, blepharitis, conjunctivitis, or corneal epithelial keratitis may occur (1).

The British National Formulary (BNF) states that permethrin and malathion are used to eliminate crab lice (*Phthirus pubis*). An aqueous preparation should be applied, allowed to dry naturally and washed off after 12 hours; a second treatment is needed after 7 days to kill lice emerging from surviving eggs. Alcoholic lotions are not recommended owing to irritation of excoriated skin and the genitalia (1,2,).

The NHS Clinical Knowledge Summaries (CKS) recommends the use of either malathion 0.5% aqueous lotion or permethrin 5% dermal cream for the treatment of pubic lice. Malathion is recommended as suitable for all patients, including breastfeeding women. Permethrin may be considered for a breastfeeding woman if malathion is ineffective or unsuitable (1)

Answer

Malathion

Derbac M® Liquid (malathion 0.5%) is licensed for the treatment of pubic lice (3). The Summary of Product Characteristics (SPC) for Derbac M® Liquid (SSL International) states no known effects in pregnancy and lactation. However, as with all medicines, use with caution (3).

Percutaneous absorption of malathion is limited. In vitro studies in isolated skin suggest the percutaneous absorption of malathion from a topically applied aqueous ethanolic solution to be approximately 10% (4). Similarly in a study of human volunteers, approximately 4% of the dose applied to the skin was absorbed and this proportion did not change with repeated daily application to the same site for 8 days (5).

Malathion is hydrolysed and detoxified by plasma carboxylesterases much more rapidly in man than in insects, giving rise to selective toxicity and a low potential for toxicity in man (6,7).

A small, open study investigated the safety of four malathion head lice preparations by applying a dose to the scalp and measuring any effects on plasma and erythrocyte cholinesterase. None of the preparations has any clinical effect on either plasma or erythrocyte cholinesterase activity irrespective of single or repeat dose treatment, or whether applied to damaged or intact skin (8).

Permethrin

Lyclear® Dermal Cream (permethrin 5%) is licensed for the treatment of pubic lice. The SPC for Lyclear® Dermal Cream (Omega Pharma) states that studies, following oral administration of permethrin in cattle have indicated that very low concentrations of permethrin are excreted in milk. It is not known whether permethrin is excreted in human breast milk. However, because only extremely small amounts of permethrin are absorbed systemically following treatment with Lyclear® Dermal

Cream, and in theory only a very small percentage of this systemic permethrin may pass into the breast milk, it is unlikely that the concentrations of permethrin in the milk will present any risk to the neonate/infant (9).

Hale notes that permethrin absorption through the skin following application of a 5% cream is reported to be less than 2%. Permethrin is rapidly metabolized by serum and tissue enzymes to inactive metabolites and rapidly excreted in the urine. Overt toxicity is very low. The WHO considers short-term topical use of permethrin as compatible with breastfeeding (7).

In a prospective study, no side effects were noted in 5 breastfed infants whose mothers were using permethrin (10).

Summary

- ◆ No studies of the passage of malathion or permethrin into human breast milk following topical application have been located.
- ◆ Percutaneous absorption of malathion is about 4%. Malathion is rapidly destroyed by plasma cholinesterases.
- ◆ Percutaneous absorption of permethrin is less than 2%. Permethrin is rapidly metabolised by serum and tissue enzymes to inactive metabolites and rapidly excreted in the urine.
- ◆ Theoretical considerations would indicate that the amount of drug passing into milk after topical application would be too low to present a hazard to the breastfeeding infant.
- ◆ Either malathion or permethrin topical preparations may be used to treat pubic lice infestations in breastfeeding mothers of full term, healthy infants.

Limitations

There is very limited clinical data on the use of pediculocides in human lactation. Where studies have documented the passage of these agents into human milk, it has been in the context of aerial insecticide sprays or powders used in gardening.

- The information relates to full term and healthy infants. Evidence in preterm infants is lacking. If the infant is pre-term, of low birth weight or has other concomitant pathology or medical problems, then specialist advice should be sought as this answer may not apply. *Contact the UK Drugs in Lactation Advisory Service (UKDILAS) provided by the Trent and West Midlands Medicines Information Services*

References

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Quality Assurance

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Search strategy

- Embase
 - [lactation or breast feeding or breast milk] + [louse or pediculosis or phthirus]
 - [lactation or breast feeding or breast milk] + permethrin
 - [lactation or breast feeding or breast milk] + malathion
- Medline
 - [milk, human or breast feeding or lactation] + [lice or lice infestations]
 - [milk, human or breast feeding or lactation] + malathion
 - [milk, human or breast feeding or lactation] + permethrin
- UKDILAS Database