Treatments for breast abscess in breastfeeding women

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Key findings

This review found that data on treatment for lactational breast abscess was scarce, of low quality and poorly reported. No meta-analysis was able to be conducted.

When compared needle aspiration to incision and drainage:

- Treatment failure was more common in women treated with needle aspiration.
- Faster time to resolution in women treated with needle aspiration, but this did not include women in whom treatment failed, and so these results were not considered informative by authors.
- More women satisfied with treatment by needle aspiration.

One study compared use to non-use of antibiotics at the time of surgery with no differences between groups seen in time to resolution on abscess, treatment failure and wound infection.

Evidence included in this review

Four small studies involving 325 women in total were included. Studies were conducted in Turkey, Pakistan and India. Three studies compared needle aspiration to incision and drainage and one study compared the use or non-use of antibiotics at the time of incision and drainage.

Quality assessment

Quality was assessed as low in all the studies. The overall risk of bias was unclear due to lack of data.

Clinical implications

There is not enough evidence to draw clear conclusions on the best way to manage lactational breast abscess. Needle aspiration may be less successful, but is able to be performed without hospitalization.

Further research

Further trials with high quality methodology and of adequate size and power are strongly recommended to inform policy regarding the appropriate technique for managing breast abscesses. Issues of necessity to address in future trials include technique and use of antibiotics, success of treatment, time to resolution, continuation of breastfeeding, cost analysis and women’s comorbidity and satisfaction with the procedure.
Cochrane review


Abstract

The benefits of breastfeeding are well known, and the World Health Organization recommends exclusive breastfeeding for the first six months of life and continuing breastfeeding to age two. However, many women stop breastfeeding due to lactational breast abscesses. A breast abscess is a localised accumulation of infected fluid in breast tissue. Abscesses are commonly treated with antibiotics, incision and drainage (I&D;) or ultrasound-guided needle aspiration, but there is no consensus on the optimal treatment.

To assess the effects of different treatments for the management of breast abscesses in breastfeeding women.

We searched the Cochrane Pregnancy and Childbirth Group’s Trial Register (27 February 2015). In addition we searched African Journals Online (27 February 2015), Google Scholar (27 February 2015), ProQuest Dissertations and Theses Databases (27 February 2015) and the WHO International Clinical Trials Registry Platform (ICTRP) search portal (27 February 2015). We also checked reference lists of retrieved studies and contacted experts in the field as well as relevant pharmaceutical companies.

Randomised controlled trials (RCTs) investigating any intervention for treating lactational breast abscesses compared with any other intervention. Studies published in abstract form, quasi-RCTs and cluster-RCTs were not eligible for inclusion.

Two review authors independently assessed studies for inclusion, assessed risk of bias and extracted data. Data were checked for accuracy.

We included six studies. Overall, trials had an unclear risk of bias for most domains due to poor reporting. Two studies did not stratify data for lactational and non-lactational breast abscesses, and these studies do not contribute to the results. This review is based on data from four studies involving 325 women.

Needle aspiration (with and without ultrasound guidance) versus incision and drainage (I&D;)

Mean time (days) to complete resolution of breast abscess (three studies) - there was substantial heterogeneity among these data (Tau² = 47.63, I² = 97%) and a clear difference between subgroups (with or without ultrasound guidance; Chi² = 56.88, I² = 98.2%, P = < 0.00001). We did not pool these data in a meta-analysis. Two studies excluded women who had treatment failure when they calculated the mean time to complete resolution. One study found that the time to complete resolution of breast abscess favoured needle aspiration over I&D; (mean difference (MD) -6.07; 95% confidence interval (CI) -7.81 to -4.33; n = 36), but excluded 9/22 (41%) women in the needle aspiration group due to treatment failure. Another study reported faster resolution in the needle aspiration group (MD -17.80; 95% CI -21.27 to -14.33; n = 64) but excluded 6/35 (17%) women in the needle aspiration group due to treatment failure. A third study also reported that needle aspiration was associated with a shorter time to complete resolution of breast abscess (MD -16.00; 95%CI -18.73 to -13.27; n = 60); however, the authors did not indicate the number of women involved.
who were lost to follow-up for either group, and it is unclear how many women contributed to this result. Considering the limitations of the available data, we do not consider the results to be informative.

**Continuation of breastfeeding, after treatment (success):** results favoured the needle aspiration group, but we did not pool data from the two studies because of substantial unexplained heterogeneity ($I^2 = 97\%$). One study reported that women in the needle aspiration group were more likely to continue breastfeeding (risk ratio (RR) 2.89; 95\% CI 1.64 to 5.08; n = 60), whereas the other study found no clear difference (RR 1.09; 95\% CI 0.97 to 1.22 n = 70).

**Treatment failure** was more common among women treated with needle aspiration compared to those who underwent I&D; (RR 16.12; 95\% CI 2.21 to 117.73; two studies, n = 115, low quality evidence). In one study, treatment with needle aspiration failed in 9/22 women who subsequently underwent I&D; to treat their breast abscess. In another study, treatment with needle aspiration failed in 6/35 women, who subsequently underwent I&D.; All abscesses in the I&D; group were successfully treated.

The included studies provided limited data for the review's secondary outcomes. No data were reported for adverse events. One study (60 women) reported that women in the needle aspiration group were more satisfied with their treatment than women who received I&D; to treat their breast abscesses.

**Incision and drainage (I&D;) with or without antibiotics**

One study (150 women) compared the value of adding a broad-spectrum cephalosporin (single dose or a course of treatment) to women who underwent I&D; for breast abscesses.

The mean **time to resolution of breast abscess** was reported as being similar in all groups (although women with infection were excluded). Mean time to resolution for women who received a course of antibiotics was reported as 7.3 days, 6.9 days for women who received a single dose of antibiotics and 7.4 days for women who did not receive antibiotics. Standard deviations, $P$ values and CIs were not reported and prevented further analysis. No data were reported for any **continuation of breastfeeding after treatment (success).** For **treatment failure,** there was no clear difference between the groups of women who received antibiotics (either a single dose or a course of antibiotics) and those who did not (RR 1.00; 95\% CI 0.36 to 2.76).

Included studies rarely reported this review’s secondary outcomes (including adverse events). For **post-operative complications/morbidity,** there was no difference in the risk of wound infections between the antibiotics and no antibiotics groups (RR 0.58; 95\% CI 0.29 to 1.17), irrespective of whether women received a single dose or a course of antibiotics.

There is insufficient evidence to determine whether needle aspiration is a more effective option to I&D; for lactational breast abscesses, or whether an antibiotic should be routinely added to women undergoing I&D; for lactational breast abscesses. We graded the evidence for the primary outcome of treatment failure as low quality, with downgrading based on including small studies with few events and unclear risk of bias.


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