

# Candida Mastitis: A Case Report

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## Abstract

Breastfeeding has been demonstrated to have many benefits for both mother and child. Nipple pain in the breastfeeding woman is a common complaint; it is the second most common cause of breastfeeding discontinuation in the first six months after childbirth. This case report addresses the characteristics of breast pain induced by *Candida* mastitis and the risk factors for and treatment of mastitis. Educating family physicians and other clinicians about how to recognize and treat this often difficult-to-eradicate infection will hopefully increase the percentage of mothers who breastfeed their infants through the first six months of life.

## Introduction

The benefits of breastfeeding for both mother and child are extensive and have been well described. Breastfeeding has direct clinical benefits for the infant as well as potential long-term benefits that are realized after the breastfeeding period. The direct benefits of human milk include improvement in the infant's gastrointestinal function and host defense and prevention of acute illnesses (eg, acute otitis media) during breastfeeding. There is increasing evidence of the potential long-term benefits of breast milk for the child after breastfeeding ceases, including

possible reduction of the occurrence of acute illnesses, decreased risk of specific chronic conditions (eg, obesity, diabetes mellitus, cancer, cardiovascular disease, allergies, certain cancers), and improved neurodevelopmental outcomes compared with formula-fed infants.<sup>1</sup> Benefits to the mother include more rapid postpartum uterine involution than in mothers who do not breastfeed, weight loss, and reduced psychological stress. In the long term, women who have breastfed their infants have a decreased risk of breast cancer, ovarian cancer, and cardiovascular disease.<sup>2-5</sup>

Despite these benefits, there is a high rate of breastfeeding discontinuation. Of children born in 2006 in the US, 73.9% were breastfed for at least some time, but by age six months, only 13.6% of that group were exclusively breastfed.<sup>6</sup> Nipple pain is listed as the second most common reason for breastfeeding discontinuation, surpassed only by the maternal perception of insufficient milk supply.<sup>7</sup> Of breastfeeding women in the US who experience nipple pain, it is estimated that about 18% have *Candida* mastitis.<sup>8</sup> Although there are many causes of breast pain, *Candida* mastitis is likely an underdiagnosed and undertreated etiology.

## Case Report

A woman, age 29 years, who has two previous pregnancies and two

deliveries, underwent a cesarean section at term because of fetal intolerance to labor in her most recent pregnancy. Her immediate postpartum period was uneventful, and she was breastfeeding when she was discharged from the hospital.

Two weeks later, she presented to urgent care, where she was found to have a surgical wound infection and was given cephalexin (Keflex). She returned two weeks later, reporting that her infant son had oral thrush and that his pediatrician had recommended that she seek treatment. She reported experiencing intermittent mild breast pain, and the skin surrounding the areolas were pink. She was prescribed clotrimazole 1% topical cream and instructed to apply it after every breastfeeding session.

At her six-week postpartum visit, the patient reported continued painful breastfeeding. No breast examination was documented; the patient was prescribed topical nystatin and oral fluconazole, 150 mg to be taken orally each day for seven days.

Two weeks later, the patient called her primary care physician (PCP) to say that she had finished all treatments as prescribed and that although her nipple pain decreased while she was taking fluconazole, it had now returned and was becoming unbearable. The patient was promptly referred to a lactation consultant. At her lactation appointment, the patient's main concern

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was dry, itchy nipples. She said that she had no breast pain and was treated for dermatitis with Eucerin and with hydrocortisone cream as needed.

Two weeks later, the patient was evaluated for painful intercourse and vaginal discharge. It was found that she had a history of recurrent vaginal yeast infections. Her current condition was diagnosed as a yeast infection and was treated with miconazole vaginal cream.

One week later, the patient called her PCP to report that the skin around her areolas were still pink and that she still had stabbing breast pain during breastfeeding. She was instructed to take fluconazole orally for an additional seven days. On completion of the therapy, the patient's symptoms recurred, and she was evaluated in a clinic. She had been using a vinegar wash on her breasts to prevent recurrence of the yeast on her skin. A physical examination revealed mild erythema of the superomedial area of the right breast and no nipple discharge. She was instructed to stop using the vinegar solution, because it could be irritating her skin, and was advised to return for possible antibiotic treatment if her symptoms did not resolve. The patient later called and informed her PCP that the pain was not decreasing and that she now experienced a stabbing pain in her breasts during feedings. She was instructed to continue using topical nystatin.

At the most recent follow-up by phone, the patient reported that her son was nine months old and that she continued to breastfeed him in addition to giving him table foods. The patient reported that since her last office visit, she had sought the advice of additional lactation consultants and had stopped using the topical nystatin because it was not

helping. She attributed the resolution of her symptoms to extensive changes in her diet that included a reduction in her intake of processed sugars and the addition of daily yogurt and probiotics.

## Discussion

### General

This case illustrates several important points regarding *Candida* mastitis. Many clinicians are not aware of the characteristic presentation, risk factors, and recommended treatments for *Candida* mastitis. It also illustrates the difficulty of eradicating this infection.

Several different *Candida* species may be found both in the oral cavities of infants and as part of breast skin flora. One study identified *Candida* species in the mouths of 34.55% of exclusively breastfed infants and in the mouths of 66.67% of strictly bottle-fed infants. *Candida* was found on the breasts of 34.55% of lactating women and on the breasts of 17.65% of nonlactating women. This information highlights the widespread colonization of *Candida* species both in infants' oral cavities and on lactating mothers' breasts. It also points to the use of artificial nipples (from either a pacifier or a bottle) as a risk factor for *Candida* colonization.<sup>9</sup>

*Candida* colonization of the lactating mother's breast is often asymptomatic, but overgrowth may cause it to become symptomatic. Symptoms can be anywhere along a continuum from red sore nipples that do not heal to debilitating breast pain. Breast candidiasis may start as a superficial infection but may spread to the ductal system. Once a ductal infection is present, treatment may become more challenging, given the poor absorption of topical antifungals. Pain may be

the only presenting symptom; it is typically described as a stabbing pain associated with feedings.<sup>10,11</sup>

### Risk Factors

Several maternal risk factors for the development of *Candida* mastitis have been identified, including intake of large amounts of dairy products, heavily sweetened foods, and artificial sweeteners, for which the evidence is mostly anecdotal and patient-reported. Other maternal risk factors include recent antibiotic use and a history of recurrent yeast infections (eg, vaginal yeast infections).<sup>12</sup> The patient whose case is reported here had recently taken antibiotics and had a history of recurrent yeast infections. She also reported a reduction in her symptoms after reducing her intake of dairy products and processed sugar and adding yogurt and probiotics to her daily diet.

### Treatment

The treatment of *Candida* mastitis initially consists of the application of topical antifungals such as nystatin, clotrimazole, ketoconazole, or miconazole by gentle massage into the mother's nipples after every breastfeeding session, for 14 days, plus giving nystatin suspension to the infant. One study, a collaboration of lactation specialists and dermatologists, showed that nystatin cream may be less effective than clotrimazole, ketoconazole, or miconazole.<sup>13</sup> Another study randomized 227 immunocompetent infants with oral thrush to either 25 mg of miconazole as an oral gel four times daily or 100,000 IU of nystatin suspension four times daily after meals. Miconazole gel was significantly superior to nystatin suspension with regard to efficacy, rapidity of achieving cure, and oropharyngeal yeast eradication.

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Relapses and adverse effects did not occur more frequently with miconazole than with nystatin.<sup>14</sup>

If the pain persists beyond the course of treatment, 500,000 U/day of oral nystatin (Mycostatin) or 200 mg/day of fluconazole for two to four weeks is recommended for the lactating mother. Clinicians often hesitate to prescribe oral fluconazole to breastfeeding mothers because of a concern that it will pass into breast milk; however, oral fluconazole has long been used in neonates and immunocompromised children. This makes its use less concerning, given that <5% of the recommended pediatric dose passes from the mother into her breast milk.<sup>15</sup> Therefore, even if the mother is given oral fluconazole, the infant still must be treated for thrush, because the amount of medication that passes into the breast milk is insufficient to treat the infant.

As evidenced by the high rates of *Candida* colonization in infants who use artificial nipples, eradication of the yeast on bottles, pacifiers, and breast pumps is an important part of treatment. It is commonly believed that this may be accomplished by boiling rubber nipples and by washing bras, bedding, and cloth diapers in hot water, possibly adding 1 cup (approximately 236.6 mL) of distilled vinegar to the rinse water.<sup>16</sup>

## Conclusion

*Candida* mastitis in lactating women is an underrecognized and undertreated cause of breast pain. Some of the sources cited in this article date back to 1986 because there is a paucity of evidence-based data on diagnosis, risk-factor management, and treatment for this condition. Even when appropriate treatment is initiated, it is an often difficult to eradicate infection. Be-

cause of this, clinicians who treat breastfeeding mothers must be alert to the possibility of *Candida* mastitis in patients with characteristic stabbing breast pain and erythematous or dry nipples. Being aware of the risk factors for the condition will lead to increased accuracy in diagnosis and treatment. The hope is that with an increased awareness of this infection, more mothers will be appropriately treated and will thus be more likely to continue breastfeeding. ❖

## Disclosure Statement

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