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Case report on Neonatal Mastitis: A Guide for New Parents

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Abstract

Neonatal mastitis is a rare condition encountered in Pediatric departments of hospitals. This is a case report of 26 days old female neonate admitted from emergency room to neonatal intensive care unit with complains of fever and increased swelling in right breast for last two days. On examination, she was found to have right breast swelling and was admitted to the hospital for three days and kept on parental antibiotics. After a comparatively better condition, she was discharged on oral co-amoxiclav. Neonatal mastitis is not a serious illness, requiring only oral or parental antibiotic care for treatment, as reported in this case. However it can lead to breast abscess if left untreated or any delay in seeking medical attention. Parents should be made aware about the ill effects of cultural practices of breast massage. Early treatment of mastitis ensures better outcomes and reduced chances of abscess formation.

Key words: Mastitis, neonatal, report

Introduction

By the 34th gestational week, breast bud becomes palpable (1). The occurrence of palpable breast bud is due to stimulation by maternal estrogen (2). After birth, waning off effect by maternal estrogen leads to breast bud regression. However, in some instances, the breast tends to enlarge beyond usual size in neonates. This phenomenon is known as neonatal breast hypertrophy or mastitis (3). Etiology of neonatal breast mastitis is associated with high levels of maternal hormones in neonatal circulation. It can occur in either gender of neonates, however incidence among female neonates tends to remain higher (4). Furthermore, it tends to occur more often in term neonates in comparison to preterm neonates (5). The enlarged breasts might produce nipple discharge, clear, milky or cloudy. It is also known as witch's milk and might be secreted in both males and females (6). In some cultural practices, manual manipulation leads to exacerbated neonatal breast hypertrophy and results in mastitis. Neonatal mastitis might take place de novo because of

infection caused by multiple organisms, most commonly being *Staphylococcus aureus* (7). Mastitis normally responds well to treatment but might progress to formation of breast abscess if left untreated. If an abscess forms, then surgical drainage might be needed (8).

The Case

This is a case report of 26 days old female neonate admitted from emergency room to neonatal intensive care unit with complains of fever and increased swelling in right breast for last two days. The neonate had developed fever a week ago for which she was consulted at the same hospital. On examination, she was found to have right breast swelling and was admitted to the hospital for three days and kept on parental antibiotics. After a comparatively better condition, she was discharged on oral co-amoxiclav.

In the last two days, the mother noticed increase in size of swelling and recurrence of fever; therefore she brought the neonate to our hospital for further evaluation and management. On examination, there was no discharge from nipple or surrounding areas.



Figure 1: Showing the case of neonatal mastitis

On examination, her body weight was 4.2 kg; temperature was 38.4 C, heart rate- 112 beats/ minute, respiratory rate 22 breaths/ minute and O₂ saturation- 99 % in room air. According to the

mother, the neonate's grandmother massaged the breast at home in order to reduce the swelling.

The neonate was mildly dehydrated, throat and ears were normal, chest auscultation was normal with bilaterally good air entry, cardiovascular examination revealed normal capillary refill, S1 and S2 audible and no murmur. Abdomen was soft non-tender with no visceromegaly and gut sounds were audible.

Central Nervous System examination revealed active, conscious and responsive neonate with normotensive anterior fontanelle, good muscle power and tone, DTR was equal on both sides; no signs of meningeal irritation were noted.

Local examination of right breast swelling revealed a 1.5-2 inches sized swelling which was warm, tender and erythematous.

Investigations revealed; On complete blood count- WBCs- 21.06 mm^3 , RBCs- 4.81, Hb- 17.2 gm/dl, platelets- $424,000 \text{ mm}^3$ and CRP- 44.64.

Ultrasound of right breast mastitis showed poorly defined focus of missed echogenicity located behind the areola which revealed increased vascular flow in Doppler study, surrounding sub-cutaneous fat which was hyper echoic and thickened.

Neonate was admitted and kept on parental fluids along with intravenous Ceftriaxone and Flucloxacillin. Fucidin ointment was locally applied and paracetamol was given for fever. After 48 hours of incubation, blood culture revealed no organism.

Vitals were strictly monitored during hospital stay. The condition of the neonate gradually improved and she was finally discharged in a very stable condition.

Discussion

Neonatal mastitis is an uncommon condition encountered in Pediatric departments of hospitals (9). The condition usually tends to remain mild in nature, responding to antibiotics, although, when abscess forms, surgical drainage might be required (10). In this study, the condition in the female

neonate remained mild, with the neonate being successfully discharged on oral antibiotics. Furthermore, blood culture revealed no organism. In a case series of 11 neonates with mastitis admitted to the hospital over a period of one year reported male to female ratio of 1:1.17 and the ratio of neonates admitted beyond second week of life was 1:2 (11). Likewise in our study, the admitted neonate's age was 26 days. It is well known fact that females in the first to third week of life are commonly reported with neonatal mastitis (12). Females are known to have prolonged physiological hypertrophy of neonatal breast. This is probably the reason why neonatal mastitis is more often observed in females than males. The median age of neonatal mastitis reported in a study was 14 days (11).

The most common complaint noticed by parents was red, swollen breasts. None of the neonates with mastitis reported hemodynamic instability (13). As the condition is not termed as a serious disease, majority of the patients tend to remain asymptomatic and show only localized signs and symptoms (14). Some studies have even reported around 67 % of patients developing breast abscesses. The reason behind development of breast abscess in all the neonates was due to delay in seeking medical care (15). Fever is reported a common entity in neonatal breast mastitis. However other systemic features might not be present in majority of neonates. This is a reason why a study recommended no need for extensive work up such as lumbar puncture or blood cultures in such neonates since the disease is localized (16).

Conclusion

Neonatal mastitis is not a serious illness, requiring only oral or parental antibiotic care for treatment, as reported in this case. However it can lead to breast abscess if left untreated or any delay in seeking medical attention. Parents should be made aware about the ill effects of cultural practices of breast massage. Early treatment of mastitis ensures better outcomes and reduced chances of abscess formation.

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