NIGERIAN JOURNAL OF PAEDIATRICS

VOLUME 53 | NUMBER 1 | JANUARY - MARCH 2026

https://www.njpaediatrics.com

PRINT: ISSN 0302-4660

ONLINE: ISSN 2814-2985

OFFICIAL JOURNAL OF THE PAEDIATRIC ASSOCIATION OF NIGERIA

CASE REPORT

Nigerian Journal of Paediatrics 2026 (March); Volume 53(1):86-90.
https://dx.doi.org/10.63270/njp.v53i1.2000051.

Giant Mastauxe in a Nigerian Neonate: A Case Report

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Abstract

Giant neonatal mastauxe is an uncomplicated physiological enlargement of the breasts in newborns, characterised by a breast bud diameter greater than 3 cm. While most newborns have some degree of breast enlargement, giant mastauxe is rare, which may be unnecessarily intervened upon.

A six-week-old term infant presented with bilateral breast enlargement and a history of milky nipple discharge. The mother had an uneventful pregnancy and postnatal experience. The examination revealed firm, non-tender, non-erythematous bilateral breast swellings measuring 9 × 8 cm on the left and 11 × 9 cm on the right. Ultrasonography confirmed their hypoechoic nature with minimal vascularisation. There was no laboratory evidence of an infective process. The baby was discharged home, and while on follow-up care, the breast swellings spontaneously regressed. Giant neonatal mastauxe is rare. Meticulous clinical examination, along with the use of ultrasonography and laboratory investigations, is crucial to differentiate giant mastauxe from neonatal mastitis or breast abscess.

Keywords: Breast enlargement, Mastauxe, Mastitis, Neonatal breast hypertrophy, Oestrogen.

Introduction

Giant neonatal mastauxe is a rare, uncomplicated physiological enlargement of the breasts in newborns, characterised by a breast bud diameter greater than 3 cm. [1] On the other hand, neonatal mastauxe is the physiological breast enlargement of newborns with a breast bud of less than 3 cm in diameter. [2]

The underlying mechanism for giant neonatal mastauxe is unclear, and it can occur in either sex, unilaterally or bilaterally. Maternal hormonal exposure during pregnancy, mainly estrogen, is known to cause varying degrees of breast enlargement. The transplacental transfer of maternal estrogens or declining levels of estrogens toward the end of pregnancy leads to hyperprolactinaemia, which stimulates breast enlargement. However, the exact reasons for the occurrence of giant mastauxe in some newborns remain incompletely understood. It may be due to increased sensitivity of the neonatal breast tissue to estrogens. [2.] The diagnosis is largely clinical, supported by normal laboratory and imaging findings, excluding other pathologies.[3] Misdiagnosis as mastitis is common, leading to unnecessary antibiotic use and invasive procedures. No specific treatment is required, as the condition usually resolves spontaneously within weeks. [1,4]

This case of bilateral giant mastauxe in a 6-week-old Nigerian infant is reported to highlight diagnostic and management challenges.

Case Presentation

A six-week-old term female infant was brought to the Paediatric Outpatient Clinic in a private specialist clinic in Benin-City, Nigeria with bilateral breast enlargement present from birth and associated with milky nipple discharge. The breast swellings progressively increased in size within the first three weeks of life. There was no history of redness of the breasts, fever or

trauma. Prior interventions included daily massage by the mother in an attempt to reduce their size, a five-day course of oral antibiotics, anti-inflammatory drugs, and a needle aspiration that yielded whitish fluid resembling breast milk was performedin another private clinic. Despite these measures, the swellings persisted. The mother received routine antenatal care with no pregnancy-related complications. The infant was delivered at term spontaneously through the vaginal route, with no adverse perinatal events. She passed both urine and meconium within 24 hours of life.

On examination, the infant appeared well with normal body temperature and appropriate growth for age, with a body weight of 4.5kg, corresponding to a weight for age Z score of greater than -1SD using the WHO Child Growth Standards. The heart rate was 132 beats per minute, the respiratory rate was 40 breaths per minute, and the capillary refill time was less than 3 seconds. The oxygen saturation level was 99% in room air. The systemic examination revealed no abnormalities or signs of systemic illness. Examination of the chest revealed bilateral and symmetrical breast enlargement measuring 9 × 8 cm on the left and 11 × 9 cm on the right. The swellings were firm, non-tender, with normal overlying skin. There was no active nipple discharge at the time of presentation.

Laboratory investigations showed a normal leucocyte count (14.8 × 10^3/µl) but an elevated C-reactive protein (17.2 mg/L). The normal values in this age group are 5,000-21,000 cells/mm^3 and <10mg/L, respectively. Ultrasound scan of the breasts demonstrated hypertrophy of glandular and stromal tissue appearing as a well-defined retroareolar hypoechoic mass without loculated fluid collections or increased vascularisation. The findings are consistent with a benign breast enlargement.

A conservative approach was adopted for the management of the infant, and the baby was discharged home. The mother was reassured and advised on stopping breast massage and expression, and she was counselled on signs of infection, such as fever, erythema, tenderness, or purulent discharge. During the follow-up visits at the ninth and twelfth weeks of life, there was marked regression of the breast swellings, with near-normal gland size by week twelve.

Ethical consideration

Written informed consent, including permission to use the infant's data and accompanying images, was obtained from the infant's parents.

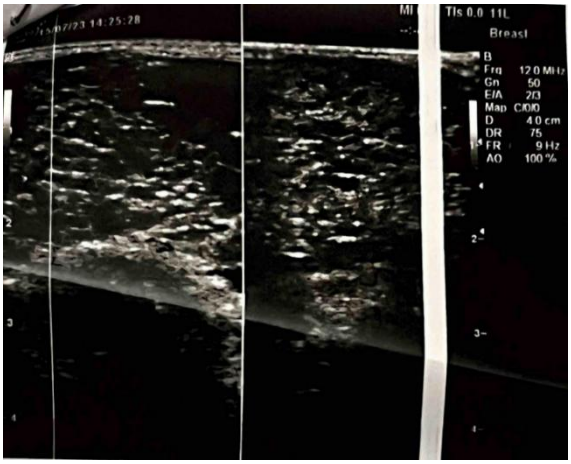

Figure 1: Ultrasound scan of the right and left breasts of a 6-week-old infant with Giant mastauxe

Discussion

The term "mastauxe" derives from the combination of two Greek words: 'mastos' (breasts) and 'auxein' (to increase in size). Neonatal mastauxe is the physiological breast enlargement in newborns with a breast bud of less than 3 cm in diameter.[5] This enlargement of the breasts is a common occurrence in newborns, visible in the early weeks of life and has been reported among 65-90% of infants in the neonatal period. [2,6] Giant Mastauxe, on the other hand, is rare and refers to an exaggerated form of neonatal mastauxe with the breast bud diameter of the newborn exceeding 3cm. [1] The reason for this exaggerated response is unclear, and there is no sex predilection. Giant neonatal

mastauxe can occur either unilaterally or bilaterally.

Figure 2: Clinical images of the breasts at 6 weeks, 8 weeks and 12 weeks showing regression of breast swelling.

During the period of in-utero growth, the foetus is exposed to circulating maternal hormones; however, a decline in the serum level of maternal oestrogen in the latter stages of pregnancy and postpartum period causes a release of prolactin from the newborn's pituitary gland.[7] This stimulates neonatal breast enlargement and causes milk production or galactorrhoea in 5 to 20% of these newborns. This is popularly known as witch's milk. [1] This milk is similar in enzymatic and chemical composition to maternal milk, including concentrations of IgA, IgG, lactoferrin, lysozyme and lactalbumin. [1,8] Although breast enlargement is known to result from sensitivity of the breast tissue to oestrogen and or prolactin, the reason for the exaggerated response in giant mastauxe remains unclear.

The most common presentation of neonatal mastauxe is a unilateral or bilateral breast swelling. There are usually no skin changes or signs of local or systemic inflammation. Some neonates may also have milk production for a variable duration during the breast enlargement. [9] The index patient presented with symmetrical bilateral breast swelling associated with a history of milk production without signs of local inflammation or systemic disease.

The diagnosis of neonatal mastauxe is made after a physical examination, laboratory tests,

and, occasionally, ultrasonography, a non-invasive technique used to exclude complications such as inflammation or a collection of pus in the enlarged breast tissue. [3] On ultrasonography, poorly marginated hyperechoic tissue with increased vascularisation favours neonatal mastitis. In contrast, neonatal mastauxe is characterised by heterogeneous, well-defined hypoechoic breast tissue or hypoechoic retroareolar tissue with central star-shaped or linear hypoechoic areas and minimal vascularisation.[3] The management of neonatal mastauxe is mainly supportive, while observing for spontaneous regression.[4] The index case was followed up for six weeks, and the breast swelling showed a progressive and significant spontaneous reduction in size.

In resource-poor settings such as Nigeria, where levels of maternal education are often low, it is common for caregivers to resort to traditional practices when confronted with neonatal breast enlargement. frequently reported intervention is vigorous breast massage and manual expression of the so-called "milk," to reduce the swelling, as it occurred in the index case. [7] This culturally rooted practice persists despite health education efforts highlighting its role as a recognised risk factor for secondary infectious complications, including mastitis and abscess formation. [10,11] Beyond the risk of infection, repeated squeezing or manipulation of the enlarged neonatal breast may further stimulate glandular tissue, potentially exaggerating the hypertrophy and prolonging milk secretion. [2] These mechanical actions may therefore not only worsen the clinical course but also obscure the natural, self-limiting trajectory of neonatal mastauxe. Consequently, inappropriate handling remains an important preventable contributor to complications in affected infants, underscoring the need for targeted community education and early clinical evaluation.

Conclusion

Giant neonatal mastauxe is a rare but benign condition. Accurate diagnosis, parental reassurance, and avoidance of unnecessary interventions are essential to ensure favourable outcomes and prevent complications. Regardless of the size of the breast tissue, only supportive care and observation for possible complications are recommended.

Authors' Contributions: IE conceived the research, while IP did the literature review. Both authors analysed the relevant data; IE drafted the manuscript, and IP revised it for sound intellectual content. Both authors approved the final version of the manuscript.
Conflict of Interest: None declared.
Financial support: The authors did not receive any financial support for the research or the preparation of the manuscript.
Accepted for publication: 10th March 2026.

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