

Prevalence, perceptions and practices surrounding neonatal breast enlargement - a South East Nigerian experience

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Abstract

Background: Newborns are often brought to the emergency room or outpatient department with a history of swelling of one or both breasts. Further inquiry usually reveals attempts at intervention, in form of massage, application of herbs and even scarification. These lead to increased morbidity such as abscess formation and cellulitis.

Objective: To document prevalence of, and perceptions about neonatal breast enlargement in newborns and interventions if any in south east Nigeria.

Results: Neonatal breast enlargement was present in 50.8% of the target population with females 53.1% and males 46.9%. There were attempts at treatment in 5% of patients and the common interventions were: use of hot water to massage the breasts as well as use of rubs/balms. Family members had significant influence on the decision to intervene. (Mothers/in-laws 58.3%, neighbours 39.6%). Most mothers did not have any idea of the possible cause and some were alarmed on noticing the swelling.

Conclusion: Since neonatal breast enlargement is prevalent in our environment and the tendency to intervene is high, health education will prevent this and thus the complications of intervention like abscess formation and sequelae in adult life. Also reassurance of mothers will help them to relax and take care of their babies optimally.

Key words: Breast enlargement, Neonate, Massage, Blood-letting

Introduction

Neonatal Breast Enlargement (NBE) is commonly reported with some studies reporting the prevalence as high as 70% (1). This is brought about by estrogen, the hormone responsible for material breast enlargement which is produced in large quantities during pregnancy and passes through the placenta into the baby's circulation. However, the levels of this hormone drastically fall following delivery an event that triggers prolactin secretion in the pituitary of the newborn (1-3). Resultant prolactinemia stimulates neonatal breasts and causes milk secretion in 5 to 20% of newborns (4). By the third postnatal day, breast swelling may be seen in newborns irrespective of the sex (2). Such newborn breast swellings resolve as the hormones levels decline but it may be a concern among new parents. One or both breasts may be affected and so far studies have not documented predilection for any side. Neonatal Breast Enlargement (NBE) requires simple observation and parental assurance. However, in some cultures the newborn's breasts are squeezed to release witch's milk (5). Other interventions include massage as a way of aiding resolution of the swelling and these can cause mastitis and abscess formation. Also traditional attempts at treatment through blood letting by scarification can lead to similar complications

as found in treatment for abscess (6,7). Mastitis or its surgical treatment may cause damage to developing breast bud. Impaired development and asymmetry of breasts in adulthood is traditionally considered to be a serious complication of neonatal mastitis (7,8). The objective of this study was to document prevalence of, and perceptions about neonatal breast enlargement in newborns and possible interventions with the aim determining the extent of these harmful practices that could lead to increased childhood morbidity and mortality.

Materials and Methods

A cross sectional study was undertaken in 2014, at the immunization unit of the Abia State University Teaching Hospital. This unit is patronized by mothers living in Aba metropolis made up of Aba North, Aba South, Osisioma, Ugwunagbo and Obingwa local government areas of Abia state. Most of the caregivers are of the Igbo extraction (Abia, Anambra, Enugu, Ebonyi, Imo States), in addition to Akwa Ibom and Rivers States. Oral interviews using precoded questionnaires were administered to all women who brought their babies for immunization within one month of delivery. The decision to conduct the interviews within a one month period was to reduce the chances of interviewing a

mother more than once since most immunizations are done every 4 weeks starting from the 6th week. The raw data were analyzed using simple statistical methods. The study obtained approval from the Hospital's ethical committee.

Results

A total of 126 babies were reviewed during the study. Maternal age for the mothers ranged from 21 to 45 years. Of the 126 babies, 64 (50.8%) were found to have NBE. The female to male ration of the affected babies was 1.1:1. Out of these 30 were Males and 34 were females. Thirty eight (59.4%) babies had the onset of NBE within the 1st one week of life while 26(40.6%) was in the 2nd week; 52 (81.3%) had bilateral enlargement while 12(18.7%) had unilateral enlargement with no predilection for any side. A majority, 48(75%) of the babies had had some form of intervention prior to the interview. The interventions undertaken are shown in Table 1.

Table 1: Types of intervention

Intervention	Frequency	(%)
Hot water massage	46	95.8
Hot balm or oil massage	12	25.0
Blood letting	4	8.3
More than one intervention	10	20.8

Among the mothers who had some form of intervention 28(58.3%) were influenced by family, especially older women like their mothers or mothers in law, 12 (25.0%) said they decided on their own while 19(39.6%) were influenced by a combination of influences.

Two of the babies (4.2%) had mastitis which were treated without further sequelae. Twelve (18.8%) of the women were alarmed at noticing the enlargement while the rest 54(81.2%) were not worried. Only 2 (3.1%) of the mothers knew the possible cause.

Discussion

The prevalence of neonatal breast enlargement in our study population was 50.8%, as compared to 65-90% quoted elsewhere (1,7). Male babies are as equally affected as the females (1,2,9) A majority of women chose to intervene either on their own volition or as a result of undue influence by other family members. Such practices have been known to be associated with neonatal complications (10).

Most lesions were bilateral (81.4%), with no side predilection for the unilateral ones (2). The early manifestation of these lesions, usually with the first

week in 59.4% of the babies is in keeping findings from other works (1). Drugs ingested during pregnancy did not seem to have a link with NBE as only 2 (3.1%) of mothers whose babies were affected, ingested drugs other than prenatal vitamins.

Various types of interventions were noted in 75% of the population a practise that was reported over 50 years ago with ignorance and folklore being cited as reasons for tampering with the enlarged breast (11). It was interesting to note that these myths still exist. The slight difference being that scarification and massaging with balms to reduce the swelling was commoner than attempts at expressing or emptying the breast of milk. The high incidence of intervention/manipulation is worrisome as some of these interventions may lead to mastitis and other sequelae that have consequences in later life as noted in some studies (12-17). Twenty five percent of mothers of affected babies admitted to being worried and this is in keeping with previous findings (3,7). Other indices checked but which did not have impact are age of mother at parturition of index baby and the level of education of mother.

Conclusions

Neonatal breast enlargement is prevalent, with maternal misconceptions leading to practices that may be harmful to the babies. Women and other care givers should be educated on neonatal breast enlargement so as to reduce the panic among women of affected babies.

We hereby declare no conflict of interest.

References

1. Amer, A. and Fischer, H. Neonatal breast enlargement. *N Engl J Med.* 2009; **360**:1445. April 2, 2009 DOI: 10.1056/NEJMicm0707832
2. Sainsbury, R. Mastitis of infants. In: Bailey and Love's Short Practice of Surgery Williams NS, Bulstrode C.J.K., O'Connell P.R. (eds). 25th edition. Edward Arnold (Publishers) Ltd. 2008; 831-832.
3. The neonatal breast. In: Kliegman, R.M., Behrman, R.E., Jenson, H.B., Stanton, B.F., eds. *Nelson Textbook of Pediatrics*. 19th ed. Philadelphia, Pa: Saunders Elsevier; 2011: chap XX
4. Gusterson, B.A. and Stein, T. Human breast development. *e-medicine-Semin Cell Dev Biol.* 2012 Jul; **23**(5):567-73. doi: 10.1016/j.semdb.2012.03.013. Epub 2012 Mar 16.
5. Ramachandraiah, A. Neonatal mastitis. *Indian Pediatrics.* 2000; **37**: 1021.
6. Afeyodion, A. and Chuck, P.O. Neonatal breast abscess. A case report and review of literature. *Continental J. Trop Med.* 2010; **4**: 6 – 8.

7. Raveenthiran, V. Neonatal masteauxe (Breast enlargement of new borns. *J Neonatal Surg.* 2013; **2**(3):31.
8. Panteli, C., Arvaniti, M. and Zavitsanakis, A. Long-term consequences of neonatal mastitis. *Arch Dis Child.* 2012; **97**: 673-674.
9. Mckiernan, J.F. and Hull, D. Breast development in the newborn. *Archives Dis Child.* 1981; **56**(7):525-529.
10. Montague, E.C., Hilinski, J., Andresen, D., et al. Evaluation and treatment of mastitis in infants. *Pediatr Infect Dis J.* 2013; **32**(11): 1295-6.
11. Bluestein, D.D. and Wall, G.H. Persistent neonatal breast hypertrophy. *Am J Dis Child.* 1963;**105**(3): 292-294.
12. Efrat, M., Mogilner, J.G., Iujtman, M. et al. Neonatal mastitis: diagnosis and treatment. *Israel J Med Sci.* 1995; **31**(9): 558-560.
13. Rudoy, R.C. and Nelson, D.N. Breast abscess during the neonatal period. *Amer J Dis Child.* 1975; **129**(9): 1031-4.
14. Walsh, M. and McIntosh, K. Neonatal mastitis. *Clinical Pediatrics.* 1986; **25**(8): 395-399.
15. Tahlat, M., Gowhar, N.M., Jahveed, I.B., Rubina, L., Syed, A. and Syed, K.A. Neonatal mastitis: A clinico-microbiological study. *J Neonat Surg.* 2014;**3**(1):2.
16. Karagol, B.S., Karadag, N., Dursun, A., Okumus, N. and Zenciroglu, A. Breast massage and neonatal mastitis: A case report. *Cocuk Dergisi.* 2012; **12**: 95-97.
17. Ruwaili, N.A. and Scolnik, D. Neonatal mastitis - controversies in management. *J Clin Neonatol.* 2012; **1**(4): 207-210.