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Significant Breast Asymmetry in a Twelve Year Old Female Adolescent Secondary to Neonatal Breast Abscess

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Abstract

Introduction: Breast enlargement occurs commonly in term female neonates under the influence of maternal oestrogen. Neonatal mastitis results when there is a superadded bacterial infection on this physiologic neonatal breast enlargement with 50 to 70% of cases progressing to become breast abscess. One of the long term complications of neonatal breast abscess is poorly developed breast during and after puberty. Long term follows up of patients managed for neonatal mastitis and breast abscess is scarce. Case report: We present a 12 year old Nigerian female adolescent who presented with underdeveloped right breast following poorly managed neonatal right breast abscess. The hormonal study, Chest X-ray, ultrasonography and clinical examination revealed no other abnormality. The patient was reassured and offered cosmetic measures as a coping strategy while awaiting definitive surgical correction. Conclusion: Underdeveloped and asymmetric breast is a common and traditionally serious long term complication of neonatal mastitis and neonatal abscess.

Keywords: Neonatal, Breast, Mastitis, Abscess, Asymmetry

INTRODUCTION

Approximately 70% of newborn develops varying degrees of breast enlargement due to the effect of transplacentally transferred maternal estrogen on neonatal breast tissue [Amer and Fischer, 2009]. After delivery, prolactin secretion is triggered in the pituitary gland of the newborn by decreasing levels of maternal estrogen in the newborn [Amer and Fischer, 2009; McKiernan and Hull, 1981]. The resultant neonatal prolactinaemia stimulates the newborn breasts to secrete milk (often called witch's milk) in 5 to 20% of neonates [Madlon-Kay, 1986] and this neonatal breast milk resembles maternal milk in concentration of IgA, IgG, lactoferrin, lysozyme and lactalbumin [Yap et al., 1980]. Superadded bacterial infection of inadequately let-out or stagnated neonatal breast milk (galactocele) results in neonatal mastitis and breast abscess [Rudoy and Nelson, 1975]. Neonatal

mastitis occurs commonly during the 3rd and 4th week of life in term female neonates, usually affecting only one breast with no side predilection but rarely bilateral in less than 10% of cases [Ruwali and Scolnik, 2012; Stricker et al., 2005]. Staphylococcus aureus is the commonest isolated organism in more than 60% of cases [Stricker et al., 2005; Faden, 2005] with 50 to 70% of neonatal mastitis progressing to become breast abscess with or without pretreatment [Ruwali and Scolnik, 2012; Stricker et al., 2005; Faden, 2005; Raveenthiran, 2013]. Hospital admission for intravenous antibiotics and surgical treatment is needed in 30 to 60% of affected neonates [Ruwali and Scolnik, 2012; Stricker et al., 2005; Faden, 2005; Raveenthiran, 2013]. Systemic manifestation occurs in 8 to 28% of cases and serious life-threatening systemic complications like cerebral abscess have been documented in the literature [Mahapatra et al., 2001; Manzer, 2001]. Long term follow up of children who had neonatal mastitis or breast abscess is rare hence the relevance of this case report of a 12 year old adolescent presenting with significant breast asymmetry following neonatal breast abscess

CASE PRESENTATION

A 12 year old girl who presented to the children outpatient department with complaints of a very small sized right breast of eight months duration compared to the normally sized left breast for age. Patient noticed progressive development of both breasts ten months before presentation but two months later the right breast was surprisingly observed to have stopped increasing in size compared to the left breast which continued to develop normally. There was no trauma to the breast or abnormal discharge or lumps felt within the breast. She had a right breast swelling during the first one month of life which was managed with hot formentation. This swelling later ruptured to discharge pus for which she was given oral ampiclox by the mother. There is no asymmetry of other body parts. She attained menarche about three months before presentation and bleeds for five days although cycle length is yet to be established. No dysmenorrhea.

Examination revealed a healthy looking girl with normal anthropometry. Breast examination showed a small right breast measuring 8cm by 10.5cm with tanner stage 3 and the left breast measuring 18cm by 15cm in Tanner stage 4 (Figure 1). Pubic hair distribution was Tanner stage 3. Other systems were essentially normal.

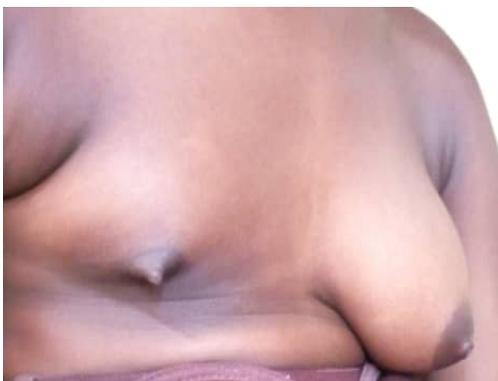


Figure 1: Disproportionately small right breast following neonatal right breast abscess

Breast ultrasound showed asymmetry of the breasts with right smaller than the left. The right breast had normal fibroglandular tissue with uniform parenchymal echopattern and significantly reduced volume compared to the left breast. Her chest x-ray and hormonal assay were essentially normal. An assessment of breast asymmetry following neonatal right breast abscess was made. Patient was counseled on diagnosis and cosmetic care by way of padded brassier or use of foam brassier to mask the breast asymmetry when out-door. She was also told of possibility of definitive correction by plastic surgery.

DISCUSSION

Neonatal abscess and its surgical treatment may damage developing breast buds resulting in a serious complication like underdevelopment and asymmetry of the breasts in adolescence and adulthood [Rudoy and Nelson, 1975; Raveenthiran, 2013]. The index patient has breast abscess during neonatal period treated at home with readily available syrup ampiclox and patient appeared to be doing well until she attained puberty and the

previously affected breast was observed to be underdeveloped and the disparity in size and shape was so embarrassing that the girl and her parents had to seek medical attention. It is a common practice in this part of the world to apply hot fomentation or manual pressure on physiologically enlarged neonatal breasts to 'force' them back to the normal size; in the process, the neonatal breasts become traumatized, or scalded and many got infected. Some of these babies will eventually need to be admitted and treated for sepsis and other complications. There is often no long term follow up of affected children. This case report will serve as a case study of long term complication of neonatal mastitis and neonatal abscess. Panteli et al [2012] in a 10-15 years follow-up study of eight neonates who had neonatal mastitis documented that 7 (87.5%) of them had surgical drainage of neonatal breast abscess, 50% of them had abnormal clinical and/or sonographic examination findings which include: reduced breast size (25%), altered breast texture (50%), and breast asymmetry (13%). There is therefore need for regular education of nursing mothers on proper management of physiologic neonatal breast enlargement, prompt intervention in management of neonatal mastitis/ neonatal breast abscess and long term follow-up of all affected neonates till adolescence and early adulthood for adequate support and holistic management.

CONCLUSION

Underdeveloped and asymmetric breast is a common and traditionally serious long term complication of neonatal mastitis and neonatal abscess. There is an urgent need for regular education of nursing mothers, prompt management of neonatal mastitis and long term follow up of affected neonates.

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