

## CASE REPORT

### Neonatal Mastaxe (Breast Enlargement of the Newborn)

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#### ABSTRACT

Neonatal Mastaxe (NM) represents a common, well known and physiologic condition that requires simple observation and parental reassurance. "Giant" NM (exceeding 3 cm of diameter) is an infrequent clinical picture, potentially mimicking a bacterial infection. Being aware of this clinical entity and (in dubious cases) performing blood tests and/or ultrasound investigation may help clinicians in making the correct diagnosis and permits parental reassurance on one hand, and to avoid unnecessary therapies on the other hand.

**Key words:** Neonatal mastaxe; Neonatology; Dermatology; Infectious diseases

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#### Abbreviations

NM: Neonatal Mastaxe; CBC: complete blood count; CRP: C-reactive protein; PCT: Procalcitonin

#### BACKGROUND

Small nipple lumps due to submammary button enlargement are a common and physiologic skin finding in the newborn population (seen in approximately 70% of healthy neonates). When such breast enlargement exceeds 3 cm in diameter (so-called Giant "neonatal mastaxe" [NM]), it may cause parental anxiety on one hand, and mislead clinical diagnosis on the other hand.

#### OBJECTIVES

We present a case of giant NM; a discussion about possible differential diagnosis and a brief review of available literature on this topic follows.

#### PATIENT

A 13-day-old term infant came to our evaluation for bilateral breast enlargement (Figure 1). Perinatal history was unremarkable; breasts were only slightly swollen at birth, but continued to grow larger during the subsequent days. At admission she was feeding well and showed no signs of fever, pain or irritability. Chest examination revealed enlarged breast tissue with no evidence of tenderness, pain or discharge.

Complete blood count (CBC), C-reactive Protein (CRP), Procalcitonin (PCT), and blood culture turned out negative, therefore we decided for a "wait and see" strategy. One week later, repeat physical examination showed an unchanged breast enlargement,

without fever or any other cutaneous or extracutaneous symptom. The condition showed spontaneous complete regression in 6 weeks.

## DISCUSSION

Neonatal breast enlargement reflects a benign proliferation of mammary gland tissue. It is believed to be due to maternal oestrogens crossing the placenta to the fetal circulation, or to represent a normal response to dropping oestrogen levels in the maternal circulation towards the end of pregnancy, which may in turn trigger the secretion of prolactin from the fetal pituitary gland. Neonatal breast enlargement is asymptomatic, and more frequently bilateral. It usually presents in the first or second week of life, with spontaneous regression within 6 months of age (a bit longer in some babies). Sometimes some liquid or bloody discharge (due to mammary duct ectasia) may be seen, with spontaneous resolution over time with no need for treatment<sup>[1]</sup>. In examined literature, researchers have used interchangeably terms as ‘mastitis’, ‘galactorrhea’, ‘gynecomastia’, ‘galactocele’, ‘breast hypertrophy’, and ‘breast enlargement’ to refer to this physiologic neonatal breast swelling. The term “mastauxe”, a combination of the ancient Greek words *mastos* (breast) and *auxein* (increase in size may represent an appropriate definition to describe the uncomplicated, hormone-driven physiological breast enlargement of the newborn. Differently, terms like “neonatal mastitis”, “neonatal breast abscess” and “neonatal galactocele” denote a bacterial complication, which is actually the more important differential diagnosis of benign NM. Management of this common and physiological neonatal breast enlargement should substantially consist in parental reassurance. Only if a “giant” NM is spotted, or if some kind of superinfection is suspected (eg, when pain and nipple skin redness coexist), blood tests (CBC, CRP, PCT) and possibly soft tissue ultrasound may be considered in order to rule out infections (eg, mastitis or abscess) and avoid mistaken or delayed diagnosis<sup>[2,4]</sup>.



Figure 1 Giant neonatal mastauxe of the right breast in our patient.

## CONCLUSIONS

NM represents a common, well known and physiologic condition that requires simple observation and parental reassurance. “Giant” NM (exceeding 3 cm of diameter) is an infrequent clinical picture, potentially mimicking a bacterial infection. Being aware of this clinical entity and (in dubious cases) performing blood tests and/or ultrasound investigation may help clinicians in making the correct diagnosis and permits parental reassurance on one hand, and to avoid unnecessary therapies on the other hand.

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