

## Case Report

# Bloody Nipple Discharge in Infants: Case Report

Karabayır N<sup>1\*</sup>, Eren A<sup>2</sup>, Canbeyli G<sup>3</sup>, and Çelebi M<sup>1</sup><sup>1</sup>Department of Pediatrics, Istanbul Medipol University, Turkey<sup>2</sup>Department of Radiology, Istanbul Medipol University, Turkey<sup>3</sup>Department of Medicine, Istanbul Medipol University, Turkey**\*Corresponding author**

Karabayır N, Department of Pediatrics, Faculty of Medicine, Istanbul Medipol University, Turkey

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**Abstract**

**Background:** Bloody nipple discharge is extremely rare in children. The etiology and pathophysiology remain uncertain, with the most common cause being mammary ductal ectasia. In this paper, we present two cases with nipple discharge bleeding.

**Case presentation:** Two baby girls presented with bleeding from the nipple. The baby who was six-months-old presented with bilateral bleeding and the baby who was three-months-old presented with bleeding from the right nipple. Physical examination and laboratory evaluations of the patients did not show any features. Both of the patients had bilateral fibrocystic changes found in the mammary ultrasonography. In both cases, breast nipple bleedings disappeared spontaneously.

**Conclusion:** Breast nipple discharge is rarely seen in infants. Its etiology and pathophysiology is still unclear. Primarily these cases should be followed conservatively.

**ABBREVIATIONS**

BND: Bloody Nipple Discharge; MDE: Mammary Duct Ectasia

**INTRODUCTION**

Nipple discharge is rare in infancy, except for physiologic discharge in newborns. Furthermore, bloody nipple discharge (BND) in children is extremely rare and presents a challenge for the management of nipple discharge in children; however, its etiology and pathophysiology remains unclear [1]. In this article, we report the case of 2 female children presenting with bleeding from the nipple.

**CASE PRESENTATION****Case 1**

A six-month-old female child who was examined for having bleeding in the breast nipples bilaterally did not have any other pathological finding. Complete blood cell count, Platelet: 306 10e3/uL Prothrombin time: 12.2 sec, aPTT: 31.6 sec, Prolactin: 14.71 ng/mL (normal 4.2-20.2 ng/mL) and Estradiol: <5.00 pg/mL (normal <22 pg/mL) levels were revealed as normal. There were bilateral fibrocystic changes found in the mammary ultrasonography of child who did not have any trauma in her history (Figure 1). The fibro cysts were 6.5 x 4.2 mm on the right breast and 9.6 x 3.6mm on the left breast. Then, the bleeding disappeared in the following 2 months.

**Case 2**

A three-month-old female child who was examined for

having a hemorrhage in the right breast did not have any other pathological finding. Complete blood cell count; Platelet: 420 10e3/uL, Prothrombin time: 12.6 sec, aPTT: 34.1, Prolactin and Estradiol: <5.00 pg/mL levels were evaluated as normal. There were bilateral fibrocystic changes found in the mammary ultrasonography of child who did not have any trauma in her history (Figure 2). The fibrocysts were 15.8 x 6.3mm on the right breast and 13.7 x 4 mm on the left breast in the following month, it was observed that the hemorrhage in the breast tissue disappeared spontaneously.

**DISCUSSION**

Milky nipple discharge frequently occurs in neonates and is linked to an infant's endocrine changes in the first few months of life [1]. Conversely, BND is a rare finding that is distressing for parents and older children and presents a challenge for management to the consulting physician [2]. The underlying pathology of BND differs by age group. In adulthood, BND is associated with benign pathologies, such as intraductal papilloma, MDE (mammary duct ectasia), and breast nodularity, as well as malignant pathology, such as invasive or intraductal carcinoma [3]. Possible causes of bloody nipple discharge in children include benign conditions such as an abnormal response of the breast tissue to maternal hormones, high levels of progesterone, MDE, intraductal papilloma, intraductal cyst, or mammary ductal hyperplasia. In children, BND is most often caused by MDE [4]. The pathogenesis and etiology of mammary duct ectasia with bloody nipple discharge are unclear. There have been some reports of bacterial growth in the nipple discharge [3]. There were no infections or endocrine disorders in our cases.



**Figure 1** Breast ultrasonography of the case 1 showing retroareolar dilated ducts.



**Figure 2** Breast ultrasonography of the case 2 showing retroareolar dilated ducts.

Bloody nipple discharge often occurs in children under 4 years of age. While there is a male predominance in an under-aged child, both genders are seen at equal frequency in children over 1 year [1]. Our cases were under 1 year old.

The typical clinical presentation in children includes intermittent unilateral or bilateral BND, without any inflammatory signs and with or without associated breast hypertrophy or a palpable mass. The ultrasonographic findings of mammary duct ectasia include tubular anechoic structures or dilated ducts filled with debris. The cystic lesions may be small and simple, or larger

and multiseptated or complex [4]. Bilateral ductal dilatations were detected on ultrasonography in our two cases.

Duct ectasia accompanied by BND is a self-limiting condition occurring in the neonatal and childhood periods. Criteria for surgery include suspicious cytological results, lesions that continue to bleed, ultrasonographic findings of a mass or abnormality other than MDE, lesions that expand in size, the presence of pain or tenderness and BND that does not resolve within 9 months [5].

Forty- six cases reported in a review of children with BND shows that symptoms are caused by benign, self-limiting disorders, mostly MDE. BND is likely to resolve spontaneously within 10 months [4]. Therefore invasive intervention including biopsy should be avoided. Noninvasive investigations such as the culture of the discharge and ultrasonographic evaluation are recommended as well as a careful physical examination and close clinical follow-up [5].

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## COMPETING INTERESTS

The funding organization (s) played no role in the study design; in the collection, analysis, and interpretation of data; in the writing of the report; or in the decision to submit the report for publication.

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