Unusual association of diseases/symptoms

Bloody nipple discharge in a 7-month-old boy

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Summary

Isolated bloody nipple discharge is rare in infancy and is usually idiopathic. Discharge commonly resolves spontaneously, and ultrasonography is a useful diagnostic technique to detect the cause of discharge. The authors report a 7-month-old boy who presented with unilateral spontaneous bloody nipple discharge for 1 month without signs of infection or mass.

BACKGROUND

Isolated bloody nipple discharge (BND) in infancy has been rarely reported in the literature. BND is a worrying complaint in adult patients, as it may represent an underlying cancer. This case report is important as there is a paucity of publications on this topic

CASE PRESENTATION

A 7-month-old boy presented with a 1 month history of left-sided spontaneous bloody nipple discharge. There was no history of trauma or history of bleeding disorder in his family. There was no palpable mass, breast enlargement or signs of infection. The systemic examination was otherwise normal.

INVESTIGATIONS

Complete blood count and coagulation profile were normal. Hormonal assay including prolactin, oestradiol, testosterone, gonadotrophins and thyroid function levels were all within normal ranges. Abdominal and left breast ultrasonographic examinations were normal.

OUTCOME AND FOLLOW-UP

The nipple discharge diminished gradually and ceased completely within a month. The patient was followed in the outpatients clinic over the next 12 months, there was no repeat symptoms over this time period.

DISCUSSION

Case reports of bloody nipple discharge in infancy most commonly attribute a cause to infantile mammary ductal ectasia.^{1–4} This process involves dilation of the mammary ducts and periductal inflammation and fibrosis, however exact aetiology in children is not understood. Maternal hormones, including oestrogen, progesterone and prolactin, and fetal hormones such as prolactin appear to influence the ductal hyperplasia and secretion.^{2–3} However, it has been suggested that the early development of the

breast is influenced more by the infant's than the mother's endocrine activity.⁵

Sigalas *et al*,⁶ reported a 7-month-old male infant with bloody discharge from the right nipple. The progesterone level was high and normalised after the discharge ceased. They suggested that the temporarily elevated progesterone level might be responsible for the bloody nipple discharge.⁶ Other causes of bloody nipple discharge could be acute or chronic mastitis.

Although pathologic breast conditions are rare in infancy and childhood and exceedingly rare in adolescence, malignant breast tumours have been reported in children who presented with BND and palpable mass.^{7–8}

The aetiology of adult and infantile bloody nipple discharge is different and all reported cases during infancy have been benign in nature. Unilateral nipple discharge in adults is more suspicious for underlying disease than bilateral.⁹

Kelly *et al*¹⁰ have reported that both bilateral and unilateral discharge is likely to be benign in infants despite the higher correlation of unilateral discharge with pathologic changes in adults.^{11–12} The authors therefore propose a similar investigation and follow-up pattern for bilateral and unilateral in infants in the absence of other findings. Although there is little evidence to dictate the necessity of an ultrasound, it is painless, non-invasive, and without adverse effects. Additional investigations such as ductography and additional cytology have been used in the evaluation of nipple discharge; however, they have not been shown to have a significant diagnostic benefit in adults.^{11–13}

There has been no clear benefit from excision of breast tissue as excised specimens have consistently revealed benign duct ectasia, and the procedure may cause permanent deformity or dysfunction of the breast tissue.^{2–3} Interestingly, most reported cases of ductal ectasia resolved within approximately 9 months. If the discharge does not resolve in 6–9 months, further referral to paediatric surgical services has been advised.

Learning points

- ▶ BND in infancy is therefore a rare condition.
- ▶ The aetiology of adult and infantile bloody nipple discharge is significantly different.
- ▶ All reported cases of isolated bloody nipple discharge in infants have been benign.
- ▶ Ultrasonography is the ideal initial imaging modality to study the paediatric breast.
- ▶ Resolution may take 6 months and possibly longer.^{1 3 13} Close clinical monitoring of infants with BND is advisable to avoid unnecessary invasive investigations.^{1 4 13}

Competing interests None.

Patient consent Obtained.

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