International Journal of Contemporary Pediatrics
Choudhury KA et al. Int J Contemp Pediatr. 2025 Oct;12(10):1710-1713
http://www.ijpediatrics.com
pISSN 2349-3283 | eISSN 2349-3291

DOI: https://dx.doi.org/10.18203/2349-3291.ijcp20252971

Case Report

Self-resolving vaginal cyst in a neonate: a case report

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Received: 30 July 2025
Revised: 03 September 2025
Accepted: 11 September 2025

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ABSTRACT

Interlabial cysts in newborns are rare and typically benign, with causes ranging from simple retention cysts to congenital anomalies or malignancies. We report the case of a full-term newborn girl presenting with a 10 mm × 15 mm golden-colored, thin-walled cyst located anterior to the vaginal introitus. The urethral meatus was normally positioned and the infant exhibited normal voiding patterns without urinary obstruction. Over the course of 4 weeks, the cyst regressed significantly in size without intervention. The differential diagnosis included hymenal cysts, paraurethral gland cysts, prolapsed urethra, neonatal prolapsed ectopic ureterocele, Gartner duct cysts, hydrometrocolpos, botryoid rhabdomyosarcoma and other congenital anomalies. Physical examination is often sufficient for diagnosing simple cysts, while imaging modalities such as ultrasonography or MRI are reserved for atypical cases or suspected urinary tract anomalies. This case underscores the importance of careful differentiation between benign, self-resolving cysts and more complex conditions requiring medical or surgical intervention. Clinicians should remain vigilant for signs of associated anomalies or complications, ensuring timely and appropriate management.

Keywords: Ectopic ureterocele, Hydrometrocolpos, Hymenal cyst, Interlabial cyst, Neonatal cyst, Newborn genital anomalies, Paraurethral gland cyst, Vaginal mass

INTRODUCTION

Interlabial cysts in newborns are uncommon and often present as benign masses near the vaginal introitus.[1] These cysts can arise from various embryological remnants or glandular obstructions and are typically self-limiting. While most cases, such as hymenal cysts or paraurethral gland cysts, resolve spontaneously without intervention, other conditions, including ectopic ureterocele, Gartner duct cysts or botryoid rhabdomyosarcoma, may require further evaluation and treatment.

Distinguishing between these conditions is crucial to avoid unnecessary interventions and to identify anomalies that may impact the urinary or reproductive systems. This case report describes a newborn with a self-resolving interlabial cyst, highlights the differential diagnosis and emphasizes the importance of careful clinical assessment and follow-up in such cases.

CASE REPORT

A full-term newborn girl was observed to have a protruding, interlabial cyst, characterized by a distinctive golden colour and measuring approximately 10×15 mm. This cyst was located anterior to the vaginal introitus (Figure 1). Notably, the urethral meatus was in its normal anatomical position and showed no signs of displacement. The infant exhibited normal voiding patterns, with no signs of urinary obstruction or spotting. This condition is important to monitor, as interlabial cysts can occur in newborns and may require further evaluation to rule out any associated complications.

Key physical examination findings

Location

The cyst was positioned anterior to the vaginal introitus.

Size and appearance

At birth, the cyst was 10×15 mm in size, golden-colored and thin-walled.

Urethral meatus

Normally positioned and not displaced.

Voiding patterns

Normal voiding was observed, with no evidence of urinary obstruction.

Follow-up observation

By 4 weeks of age, the cyst had significantly regressed in size and appearance, consistent with self-resolving cysts.

Figure 1: Interlabial cyst at birth (10×15 mm).

Figure 2: Significant regression of the cyst after 4 weeks.

DISCUSSION

Interlabial cysts in newborn girls are rare, with reported prevalence ranging from 1:1000 to 1:7000.[1-3] The two most common types, hymenal cysts and paraurethral gland cysts, are characterized by their thin walls and golden or whitish appearance. These masses are generally self-resolving and rarely cause complications such as urinary obstruction.

Differential diagnosis

The differential diagnosis for interlabial cysts in newborns includes.

Hymenal cyst

Retention cysts arising from the hymen. Characterized by a thin-walled, golden or whitish appearance. These are self-resolving and require no intervention.[4]

Paraurethral gland cyst (Skene's duct cyst)

Cysts originating from the paraurethral glands due to ductal blockage. They are visually similar to hymenal cysts and typically resolve on their own. The distinguishing features are the displacement of the urethral meatus and a cyst containing milky fluid.[5]

Prolapsed urethra

Protrusion of urethral mucosa through the external meatus.[6] This can resemble a cyst but differs in texture and requires intervention.[7]

Neonatal prolapsed ectopic ureterocele

Prolapse of an ectopic ureterocele through the introitus. This condition is associated with urinary anomalies and requires further evaluation and treatment.[8,9]

Gartner duct cyst

A remnant of the mesonephric duct forming a cyst in the vaginal wall. It can occur in newborns but is more common in older children.[10]

Hydrometrocolpos

Fluid accumulation in the vagina and uterus due to an imperforate hymen. It presents as a bulging interlabial mass and often requires surgical correction.[11]

Botryoid rhabdomyosarcoma

A rare malignant tumor presenting as a polypoid or grape-like mass at the introitus. It requires urgent surgical and oncological management.[12]

Other congenital anomalies

Such as ectopic tissue remnants or embryologic anomalies, which may present as interlabial masses.[13]

Diagnostic tests

Although most interlabial cysts can be diagnosed based on physical examination alone, specific tests may be required in unusual cases or when other conditions are suspected.[14]

Ultrasound

To assess the structure, origin of the cyst and any associated urological anomalies (e.g., ectopic ureterocele, hydrometrocolpos).[14,15]

Magnetic resonance imaging

For detailed imaging of soft tissues and differentiation of benign cysts from malignancies.[16]

Cystoscopy

To evaluate the urethra and bladder if a urethral anomaly or ectopic ureterocele is suspected.[9]

Urinalysis

To detect urinary infections or hematuria.[14]

Biopsy

Reserved for atypical or malignant-appearing masses, such as botryoid rhabdomyosarcoma.[16]

Management and outcome

No aspiration of cyst contents or marsupialization procedure was performed, as the cyst was consistent with a simple hymenal or paraurethral cyst. It spontaneously resolved by 4 weeks of age without complications.

CONCLUSION

This case underscores the importance of a systematic physical examination in diagnosing interlabial cysts in newborns. Simple cysts, hymenal or paraurethral cysts, are self-resolving and require no intervention beyond observation. However, clinicians must remain vigilant for other conditions that may necessitate medical or surgical management.

This report highlights the self-limiting nature of simple interlabial cysts and the need for careful differentiation to avoid unnecessary interventions.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Choudhury KA, Sharma P, Agarwal S, Yadav S. Self-resolving vaginal cyst in a neonate: a case report. Int J Contemp Pediatr 2025;12:1710-3.