

## CASE REPORTS

## Neonate with Interlabial Mass

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## ABSTRACT

The case of a term female neonate found to have a congenital paraurethral cyst is reported here. The cyst was a non-tender smooth interlabial mass filled with white fluid with visible surface blood vessels, and was diagnosed based on physical examination. The cyst ruptured spontaneously on day 2 after birth and resolved without complications. Although congenital paraurethral cysts usually resolve without intervention, some cases may require surgical management.

## Case Report

A term female neonate was born via repeat cesarean section at an estimated gestational age of 39 weeks to a 33-year-old G4P3013. The pregnancy was uncomplicated with unremarkable prenatal laboratory studies. During an otherwise normal initial physical examination, a mass was observed protruding from the infant's vaginal introitus. The labia majora and minora were normal. The smooth interlabial mass was located slightly inferior and lateral to the infant's urethral meatus (Figure 1). The mass had an approximate diameter of 1.5 cm and was white-yellow in color with delicate blood vessels on the surface. The location of the mass created mild displacement of the urethral meatus without obstructing the vaginal opening. Based on its characteristics, the mass was identified as a congenital paraurethral cyst.

The infant voided within 24 hours of birth and maintained normal urine output. On day two after birth, the mass spontaneously ruptured and decreased to 1 cm in diameter (Figure 2). The site of the rupture was found on the posterior surface of the mass. Contents leaked slowly and had a thick, milky quality. The mass had almost completely resolved by the time the infant left the hospital. The infant had routine outpatient follow up with her primary pediatrician.

## Discussion

Congenital paraurethral cysts are uncommon interlabial masses identified in newborn infants. The reported incidence ranges from 1 in 500 to 1 in 7,000 births of female infants.<sup>1,2</sup> The true incidence may be higher due to lack of identification or reporting of congenital paraurethral cysts.

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**Image 1:** Congenital paraurethral cyst prior to rupture.



**Image 2:** Congenital paraurethral cyst after rupture (arrow indicates point of rupture).

Congenital paraurethral cysts are derived from the paraurethral (Skene) gland ducts. In normal females, the paraurethral glands provide urethral meatus lubrication. The exact mechanism of development of congenital paraurethral cysts from these glands is not known. Proposed causes include exposure to maternal estrogen, obstruction of the paraurethral glands, and displacement of tissue from the urogenital sinus transitional epithelium. Such cysts can be lined with transitional, cuboidal, or columnar epithelial cells.

The physical examination of congenital paraurethral cysts is usually diagnostic. Proper examination technique includes the use of cotton-tipped applicators to evaluate the entire mass. Identification of anatomic landmarks under good lighting is also essential.<sup>3</sup> These cysts are usually non-tender, white or yellowish with smooth borders. Delicate blood vessels are usually prominent on the surface and the cyst is filled with a white fluid. The cyst can displace the urethral meatus or deviate the urinary stream without causing obstruction.

The differential diagnosis for an interlabial mass in newborn female infants also includes hymenal cyst, sarcoma botyroides, urethral prolapse, prolapsed ectopic ureterocele, and imperforate hymen with congenital hydrocolpos.<sup>1,2,3</sup> Hymenal cysts are the most common diagnosis associated with neonatal interlabial masses. These solitary, flesh-colored masses protrude directly from the hymen at the vaginal opening. They are most commonly found at the six o'clock position.<sup>3</sup> The urethral meatus remains visible with no urinary obstruction. Hymenal cysts are lined by stratified squamous epithelium. Sarcoma botyroides usually appears as a dull red mass resembling a "cluster of grapes" protruding from the vagina.<sup>3</sup> Other symptoms of this malignant genitourinary tumor can include vaginal bleeding and vaginal discharge. Masses of urethral prolapse are typically red or cyanotic in color with friable tissue. The prolapsed tissue surrounds the urethral meatus and is more common in older girls. An ectopic ureterocele is red or purple in color and protrudes from the urethral meatus, without surrounding it. Ureteroceles are often identified through antenatal ultrasound because they are frequently

associated with duplicated ureters.<sup>3</sup> Congenital hydrocolpos is characterized by an oval, bulging, blue or white-colored imperforate hymen. In these cases, the urethral meatus remains in the normal position, but significant distention of the vaginal cavity or abdomen can also be present.

Congenital paraurethral cysts are generally asymptomatic, self-limited, and benign. Because physical examination is diagnostic, imaging studies of the upper urinary tract and aspiration of the cyst are not required. Ultrasound can be used to rule out upper urinary tract anomalies if urinary obstruction develops. Spontaneous resolution of the cysts is most commonly seen within days to weeks of birth.<sup>1</sup> However, paraurethral cysts can persist for months and may ultimately require surgical interventions (e.g. aspiration, unroofing, or marsupialization) for resolution. If urinary obstruction, significant parental anxiety, or other concerns exist, surgical intervention may be desirable.

## Conclusion

Congenital paraurethral cysts are an uncommon cause of neonatal interlabial masses in newborn female infants. Other causes of interlabial include hymenal cysts, sarcoma botyroides, urethral prolapse, prolapsed ectopic ureterocele, and imperforate hymen with congenital hydrocolpos. Diagnosis of congenital paraurethral cysts is made by physical examination, and additional imaging and aspiration of the cyst are not typically necessary. Congenital paraurethral cysts are self-limited and benign with spontaneous resolution observed days to weeks after birth. However, the treatment of congenital paraurethral cysts remains controversial, and surgical intervention may be preferred in certain situations.

## References:

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