

## Paraurethral cysts in two female infants: When opting for surgical procedure

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### Abstract

Paraurethral cysts (PC) or Skene's duct cysts are rare causes of urogenital masse in females, particularly in newborn or infant. It arise from obstruction of Skene's ducts and diagnosis is usually easy by physical examination. The management of PC is controversial, it can be conservative or surgical. Non regression of cyst after 6 months of following or difficulty in excretion of urine was the indication for surgery. We report two cases of paraurethral cyst in female infant treated by surgical procedure.

### Keywords

*Paraurethral cyst; children; incision-drainage, marsupialization; surgical treatment.*

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### Introduction

Paraurethral cysts (PC) or Skene's duct cysts are rare causes of urogenital masse in females, particularly in newborn and infant [1–8]. The paraurethral cyst arises from obstruction of Skene's ducts and diagnosis is usually easy by physical examination [1,4,5,9,10]. Their incidence varies between 1/1038 and 1/7246 live female birth [3,5,11].

While the etiology of PC is unknown in neonates and infant, it is may be caused by inflammation in adults [1,11]. This lesion almost under recognized and rarely reported, may resolve spontaneously after monitoring over several months. However, surgical procedures has been described because of difficulty in urination or when the PC failed to resolve after several months of following [1–3,9,12]. We report the management of two cases of paraurethral cyst in female infant by surgical procedure.

### Case 1

A healthy 3-month-old female infant, was referred to department of pediatric surgery with interlabial mass evolving since birth. She was born at pregnancy from full-term pregnancy, but not followed. Birth weight was 3200 grams and any particular pathological perinatal history was noted. Physical examination revealed a painless cystic mass of 15 mm in diameter, obstructing the vaginal introitus. Urethral meatus was deviated to left side and also causing difficulty of miction and the lateral deviation of the urinary stream [Fig. 1].



**Fig. 1.** Urethral meatus was deviated by para-urethral cyst to left side and causing the lateral deviation of the urinary stream.

An ultrasonography confirmed the cystic mass without other associated lesions. Diagnosis of paraurethral was made and incision and drainage of cyst was performed.

The postoperative course was uneventful and no recurrence was observed with a one-year follow-up.

### Case 2

A forty-nine-day old girl, caesarean section delivered, born from 40 weeks pregnancy, was referred to pediatric surgery for management of genital mass evolving from birth. She came from a non-consanguineous couple. The delivery room examination revealed an 8 mm rounded and whitish swelling, covered by fine vasculature near the external urethral meatus on its right side [Fig. 2].



**Fig. 2.** Para-urethral cyst whitish, covered in fine vasculature.

The diagnosis of Skene duct cyst was made and conservative treatment was proposed. After 6 month of follow-up, the diameter of cyst remains unchanged. Consequently,

marsupialization of cyst was performed. The postoperative course was uneventful with no recurrence after 3 months.

### Discussion

The paraurethral or periurethral cysts (PC) in female are acquired or congenital [13]. The acquired form is often found in adults, when the congenital PC is seen in newborn and infant [1,11,13]. These lesions arise from the periurethral glands and ducts. These are known to form as outpouching of urethra during the third month of pregnancy and are homologous of the male prostate [1,3,5,8,10]. There are 6 to 30 ducts in adult women that empties into the urethra [1,3–5]. Skene's ducts are the two largest of these and secrete mucus following sexual stimulation into the urethra's distal two-third [1,3,4,12–14].

The true etiology of PC in female infant and neonates is not fully understood [1,4,5,11,13]. Congenital PC arise from embryological components and vestigial remnants of the vagina and the female urethra [1,3,13]. Some authors also refer that maternal hormones are the basis of glandular secretion during the perinatal period, and thus causing the PC [1,7,11]. Several theories has been postulated for acquired and congenital PC, but the most plausible remains obstruction of Skene's ducts due to

infection or inflammation [1,4,6,13]. An obstruction of Skene's duct may lead to cyst mass adjacent to external urethral meatus, which appear as yellowish or whitish interlabial mass [12,14].

The paraurethral cysts are rare. There are few reports in newborn and infant [1,3,5,10,12]. The incidence of PC is between 1/1038 and 1/7246 live female births [1–3,5,8–11]. However, several authors suggest that the incidence of PC may be higher [1,3,4,12].

The clinical manifestations are almost nil, however, the deviation of the urethral meatus by a larger cyst (diameter greater than 1 cm) can cause difficulty in urination, a deviation of the urinary flow or blockage [5,10]. It is rarely cause of urinary obstruction [6]. The diagnosis of PC in neonates or infant is easily made, usually by physical examination. It's characterized by a cystic mass, whitish or yellowish, situated to right or left of external urethral meatus [3–5,7,9]. The PC can be evoked by antenatal ultrasound as a pelvic mass at the vaginal introitus, but differentials diagnosis for a pelvic cyst found on prenatal ultrasound are broad [7]. Indeed, this mass can be confusing with an imperforated hymen or others interlabial mass in newborn and infant female. In this case the abdominal palpation and ultrasonography in neonate

help in the differential diagnosis [1,2,5,7,14]. Definitive diagnosis of PC is based on the histological appearance of the lining of cyst wall, which may be an urothelium or squamous epithelium, which identifies its embryonic origin [1,3,6,10,13]. The management of PC is controversial, it can be conservative or surgical [1,2,12]. The lack of consensus about treatment is due to the fact that the PC can regress with time or rupture spontaneously, otherwise it becomes symptomatic and increases in diameter [2,8,10,12]. Although there are several options in treatment of PC, urethral obstruction, or delayed regression need a surgical intervention [2,9,12]. Excision, incisional drainage, marsupialization, and needle aspiration of the cyst are all effective methods of treatment [1-4,8-10,12]. For Nakurama and al [9], urgent surgical treatment of PC is not recommended during the early neonatal period. Recent studies recommend an expectant management, because these cysts are asymptomatic and spontaneously resolve within a few weeks, which is the likely outcome [1,6,7,11]. But this timing of regression cannot be predicted at birth, it can vary from few days to some

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## Conclusion

PC in female newborn or infant, are relatively few reported. Management remains controversial. Surgical approach is required if the cyst is symptomatic, not regressive or increases in volume. Incision and drainage or marsupialization are simple and effective procedures.

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