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## PARAMEATAL URETHRAL CYST IN A 20-YEAR-OLD MALE PATIENT: A CASE REPORT

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KEYWORDS	ABSTRACT
parameatal urethral cyst, rare anomaly, male patient, case report	The parameatal urethral cyst is a rare anomaly and appears as a small blister in proximity to the urethral meatus. These cysts may result from occlusion of paraurethral ducts or, in other cases, from faulty preputial separation from the glans along the coronal sulcus. A 20-year-old male patient came to our outpatient clinic at dr. M. Soewandhie General Hospital Surabaya with a cystic lesion on the right side of the external urethral meatus. The patient only found out about his situation one year ago, and he did not experience any complaints except a branched urination. On physical examination, an 8 mm cystic lesion was found on the right side of the external urethral meatus. The patient consented to complete surgical excision of the cyst. The procedure was performed under regional anesthesia. The cyst was completely resected from the surrounding tissues. One month after surgery, there is no post-operative pain and good urine flow, and the patient is also satisfied with the post-operative condition. Histologic examination shows pieces of tissue in the form of polypoid lined with squamous epithelium underneath, stroma of fibrous tissue with proliferation of blood vessels and some inflammatory cells of lymphocytes in between. There are no signs of malignancy. Parameatal urethral cyst is an abnormal and rare case, usually asymptomatic. However, sometimes dysuria, urinary retention, branching urine, and cosmetic problems are the reasons that cause patients to seek a doctor's help. It can be diagnosed just on physical examination and can be cured by complete excision.

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### INTRODUCTION

The parameatal urethral cyst is a rare anomaly and appears as a small blister in proximity to the urethral meatus (Fischer, 2019; Zaontz & Long, 2022). It was first reported in two cases in 1956 by Thompson and Lantin, so far 50 cases have been published. These cysts may result from occlusion of paraurethral ducts or, in other cases, from faulty preputial separation from the glans along the coronal sulcus (Fahmy, 2015; Liu et al., 2018; Skrodzka et al., 2020).

Urethral parameatal cysts are rare anomalies that appear as small vesicular lesions near the urethral meatus but usually do not interfere with the urinary tract or sexual function (Agrogiannis et al., 2018; Partin et al., 2021). This cyst usually appears at birth or early childhood and usually appears in the ventral or lateral part of the urethral meatus (Shaw et al., 2018). Urethral parameatal cysts are urethral lesions that can occur in children and young adults (Fahmy, 2015; Cha et al., 2023). This condition is a rare case report, only less than 50 cases have been reported. The first case was reported by Thompson and Lantin in 1956 (Shaw et al., 2018; Tavukcu et al., 2017; Oktaviani & Hoetama, 2020; Lal & Ankur, 2013).

The largest series was published by Willis et al. in 2011, which reported 18 pre-pubertal boys. In addition to this series, Shiraki reported 9 cases in 1975 (Hodson et al., 2012; Saki et al., 2017; Tavukcu et al., 2017). Shiraki (1975) interpreted that this cyst may have formed from occlusion of the paraurethral duct or, in other cases, derived from incomplete preputial separation of the gland along the coronal sulcus (Yamada et al., 2013; Patil et al., 2015). Hill and Ashken refer to obstruction that occurs as a result of an infection (Mahato et al., 2014). The cyst wall can be transitional and squamous or columnar epithelium (Partin et al., 2021).

Urethral parameatal cysts are usually an incidental finding on physical examination (Tsili et al., 2023). They are mostly asymptomatic, although sometimes accompanied by several symptoms, including dysuria, frequency, distortion of urine flow, or urinary retention (Partin et al., 2021; Yu et al., 2022). Most cysts in the pediatric population are less than 1 cm in size and do not cause urinary problems (Nuari & Widayati, 2017). The differential diagnosis includes epidermoid cyst, pilosebaceous cyst, fibroepithelial polyp and juvenile xanthogranuloma (Shaw et al., 2018).

The action that can be performed is a surgical cyst excision procedure with the patient under anesthesia. Surgical procedures must be carried out carefully so as not to cause meatal stenosis, to prevent recurrence and obtain good cosmetic results (Partin et al., 2021; Shaw et al., 2018; Mahato et al., 2014; Tavukcu et al., 2017; Oktaviani & Hoetama, 2020; Lal & Ankur, 2013).

## CASE

A 20-year-old male patient came to our outpatient clinic at dr. M. Soewandhie General Hospital Surabaya with a cystic lesion on the right side of the external urethral meatus. The patient only found out about his situation one year ago, and he did not experience any complaints except a branched urination. On physical examination, an 8 mm cystic lesion was found on the right side of the external urethral meatus. The patient consented to complete surgical excision of the cyst. The procedure was performed under regional anesthesia. The cyst was completely resected from the surrounding tissues. One month after surgery, there is no post-operative pain and good urine flow, and the patient is also satisfied with the post-operative condition. Histologic examination shows pieces of tissue in the form of polypoid lined with squamous epithelium underneath, stroma of fibrous tissue with proliferation of blood vessels and some inflammatory cells of lymphocytes in between. There are no signs of malignancy.

## RESULTS AND DISCUSSION

Anamnesis and physical examination were carried out autonamnesis on Monday, July 25<sup>th</sup> 2022, at 02.00 PM.

### Patient identity

Name : Mr. AF  
No. MR : 690333  
Gender : Male  
Date of birth/age : November 7<sup>th</sup> 2001/20 years old  
Occupation : Student  
Religion : Islamic  
Address : Tambak Asri Gading

### Anamnesis

- Main complaint :  
Lump on the right side of the penis
- History of current illness :

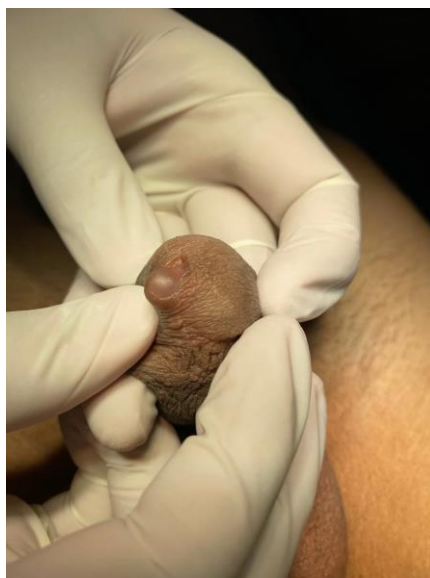
The patient came to the urology clinic at dr. M. Soewandhie General Hospital Surabaya with complaints of a lump on the right side of the penis. The patient said he only found out about his condition in the last year when he wanted to have a routine check-up. The patient said that there was no lump when the patient was small. The patient did not complain of anything other than branching of urine.

- Past medical history :  
Hypertension (-), Diabetes mellitus (-)
- Family history of illness :  
Hypertension (-), Diabetes mellitus (-)
- Treatment history :  
There is not any
- Operation history :  
Never had a history of previous surgery
- Allergy history :  
There is not any

### Physical examination

- Generalist status
  - General condition : sufficient
  - Consciousness : composmentis
  - GCS : 4-5-6
  - TTV
    - Blood Pressure : 110/70 mmHg
    - Pulse : 88x/minute, regular, strong lift
    - Respiration : 20x/minute, regular
    - Temperature : 36.8 °C
    - SpO2 : 99% spontaneous
  - Head
    - Conjunctiva : anemic (-/-)
    - Sclera : icteric (-/-)
    - Cyanosis : (-)
    - Dyspnea : (-)
  - Neck
    - Lymph nodes : no lymph nodes enlargement
  - Thorax
    - Heart
      - Inspection : ictus cordis was seen at the left midclavicular 5th ICS
      - Palpation : ictus cordis is palpable at the 5th ICS of the left mid-clavicle
      - Percussion : upper right border on the right parasternal 2nd ICS, lower right border on the right parasternal 4th ICS, upper left border on the left parasternal 2nd ICS and lower left border on the left midclavicular 4th ICS
      - Auscultation : single S1/S2, murmur (-), gallop (-)
    - Lungs
      - Inspection : symmetrical breathing movements, injury (-), mass (-)
      - Palpation : right and left fremitus are the same
      - Percussion : sonor/sonor

- Auscultation : vesicular (+/+), rhonchi (-/-), wheezing (-/-)
- Abdomen
  - Inspection : supple, mass (-), injury (-)
  - Auscultation : normal bowel sounds
  - Percussion : tympanic throughout the abdominal area
  - Palpation : no tenderness was foundThe entire abdominal area, liver and spleen are not palpable.
- Extremities
  - Upper extremities : warm dry red, edema (-/-), CRT <2 seconds
  - Lower extremities : warm dry red, edema (-/-), CRT <2 seconds
- Urological status
  - Right costovertebral region :  
kidney ballottement not palpable, tumor mass (-), knocking pain on costovertebral angle (-)
  - Left costovertebral region :  
kidney ballottement not palpable, tumor mass (-), knocking pain on costovertebral angle (-)
  - Suprapubic region :  
flat, buldging (-), hematoma (-), tumor mass (-), tenderness (-)
  - External genitalia region
    - Penis : a cyst appears on the external urethral meatus dextra measuring 8 mm
    - Scrotum : tumor mass (-), tenderness (-)
  - Perineal and anorectal regions
    - Rectal Touche : Good anal sphincter tone, smooth rectal mucosa, prostate not palpable, tenderness (-), mucus (-), feces (-)
- Clinical Photo



**Figure 1. Cystic mass formation in the right external urethral meatus**

#### **Supporting investigation**

- Pre-OP complete blood & urine (07-05-2022)

**Table 1. Complete Blood & Complete Urine pre-OP**

Inspection	Results	Reference Value
<b>Complete Blood</b>		
Hemoglobin	15.0 g/dL	13.2-17.3
Erythrocyte Count	5.79 10 <sup>6</sup> /uL	4.40-5.90
Hematocrit	45.8 %	40.0-52.0
Leukocyte Count	9.33 10 <sup>3</sup> /uL	3.80-10.60
Count Types		
Eosinophils	2.1 %	2.0-4.0
Basophils	0.3 %	0-1
Neutrophils	59.6 %	50-70
Lymphocytes	32.6 %	20-40
Monocytes	5.4 %	2-8
Eosinophil #	0.20 10 <sup>3</sup> /uL	0.00-0.40
Basophil #	0.30 10 <sup>3</sup> /uL	0.00-10
Neutrophil #	5.56 10 <sup>3</sup> /uL	1.50-7.00
Lymphocytes #	3.04 10 <sup>3</sup> /uL	1.0-3.7
Monocytes #	0.50 10 <sup>3</sup> /uL	0.00-0.70
N/L Ratio	1.83	<3.13
Platelet Count	360 10 <sup>3</sup> /uL	150-400
MCV	<b>79.1 fL (L)</b>	81.0-96.0
MCH	<b>25.9 pg (L)</b>	27.0-36.0
MCHC	32.8g/L	31.0-37.0
RDW-CV	12.9 %	10.0-15.0
RDW-SD	<b>36.2 fL (L)</b>	37-54
MPV	8.6 fL	6.5-11.0
HFLC	0.1 %	0-1.4
Random Blood Glucose	99 mg/dL	70-200
HBsAg (CMIA)	0.33 Non-Reactive S/CO	MRR
Blood Potassium	4.6 mg/dL	3.5-5.0
Blood Creatinine	0.8 mg/dL	0.6-1.3
Blood Sodium	146 mmol/L	136-146
PT	9.9 seconds	9.7-13.1
INR	0.87	
APTT	29.4 seconds	24.5-32.8
BUN	10 mg/dL	7-22
SGOT	19 U/L	15-37
SGPT	34 U/L	12-78
Anti-HCV	Negative	Negative
<b>Complete Urine</b>		
Color	Yellow	Yellow
Specific gravity	1,015	1,000-1,030
pH	6.5	4.5-8.0
Leukocytes	Negative	Negative
Nitrite	Negative	Negative
Proteins	Negative	Negative
Glucose	Negative	Negative
Ketones	Negative	Negative
Urobilinogen	Normal	Normal (<1.0)
Bilirubin	Negative	Negative
Erythrocytes	Negative	Negative
Erythrocyte Sediment	0-1/lpb	0-2
Leukocyte Sediment	0-1/lpb	0-1
Epithelium	0-1/lpb	0-2
Cylinder	-	-
Crystal	Negative	Negative

## Diagnosis

External Urethral Parameatal Cyst

## Planning

- Therapy : Cyst excision
- Monitoring : Patient complaints (cosmetics, urinary tract problems improved)
- Education : Disease education, action plan, goals and risks of surgery, complications that may occur, informed consent

## Durante OP & Follow Up

On physical examination, a cystic mass measuring  $\pm 8$  mm was found on the right side of the external urethral meatus. The patient agreed to undergo surgical excision of the cyst. This procedure is performed under regional anesthesia. The cyst is resected from the surrounding tissue and then examined in the anatomical pathology laboratory to determine the cell type of the cyst. After one week, the patient came back to the clinic for control with complaints that had improved. There is no pain, and the urination has not branched. One month later, the patient was in control, there was no post-operative pain, urine flow was good, and the patient was also satisfied with the post-operative condition. Histological examination showed polypoid-shaped pieces of tissue lined with squamous epithelium, beneath which fibrous tissue was visible with proliferation of blood vessels and some lymphocytic inflammatory cells among them. There were no visible signs of malignancy. This is in line with case report discusses about a 5-year-old male with a cystic lesion around the urethral meatus, which is a rare congenital condition. The patient underwent complete excision of the cyst, and the management aligns with the findings in the provided case, where the patient underwent surgical excision of the cyst, leading to post-operative improvement and satisfaction (Oktaviani & Hoetama, 2020). Urethral parameatal cysts are urethral lesions that can occur in children and young adults (Fahmy, 2015; Cha et al., 2023). This cyst usually appears at birth or early childhood and usually appears in the ventral or lateral part of the urethral meatus (Shaw et al., 2018).



**Figure 2. Surgical procedure for cyst excision**



**Figure 3. Clinical photo 1 week post-op**



**Figure 4. Clinical photo 1 month post-op**

RSUD DR. M. SOEWANDHIE  
Jl. Tambakrejo No. 45 - 47, KOTA SURABAYA

No RM : 690333  
No Register : H.0718/22  
Nama : ACHMAD FAKIH  
Alamat : TAMBAK ASRI GADING 4/14 SBY  
Jenis & Tgl Lahir : L / 2001-11-07  
Permitaan : EKSTERPASI TUMOR JINAK  
Unit Asal : OK ELEKTIF  
Dokter Pengirim : dr. Taufik Indrawan, Sp.U

UNIT PATOLOGI ANATOMI  
Tanggal Terima : 26-07-2022 14:00:00  
Tanggal Hasil : 01-08-2022 09:30:00

HASIL PEMERIKSAAN

**LOKASI** : Uretra  
**DIAGNOSA** : Kista Parameatal Uretra  
**KLINIK** :  
**ICD** :

**LAPORAN PEMERIKSAAN:**  
**MAKROSKOPIK :**  
Diterima 1 potong jaringan dilapisi kulit berat 0.16 g, ukuran 0.8 x 0.8 x 0.4 cm, kulit ukuran 0.8 x 0.4 cm, warna putih abu - abu kecoklatan padat kenyal  
Semua diproses dalam 1 kaset.

**MIKROSKOPIK :**  
Menunjukkan potongan jaringan berbentuk polipoid dilapisi epitel squamous di bawahnya tampak stroma jaringan fibrous dengan proliferasi pembuluh darah dan beberapa sel radang limfosit diantaranya.  
Tidak tampak tanda keganasan.

**KESIMPULAN :** Uretra, Operasi :  
**FIBROEPITHELIAL POLYP**

Terimakasih,  
dr. Vinna Christiana, Sp.PA

Figure 5. Lab Results. Anatomical Pathology

## CONCLUSION

The research objective for studying parameatal urethral cysts is to understand the clinical presentation, diagnosis, and treatment outcomes of this rare condition. The conclusion drawn from the research should provide clear insights into the management and prognosis of parameatal urethral cysts, particularly focusing on the effectiveness of complete excision as a curative treatment. The available literature on parameatal urethral cysts indicates that this condition is rare and often asymptomatic, but it can lead to issues such as dysuria, urinary retention, and cosmetic concerns. Diagnosis can typically be made through physical examination, and complete excision is reported to be an effective treatment, with low recurrence rates. The main objective of treatment is to achieve good cosmetic results and prevent recurrence.

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