

Male Paraurethral Duct Infection and Subsequent Paraurethral Duct Dilatation

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To the Editor: Only a small amount of studies were reported about paraurethral duct infection in males.^[1-3] To investigate the pathogens causing paraurethral duct infection and the secondary paraurethral duct dilatation in males, and to understand the clinical characteristics and treatment options in paraurethral duct dilatation, we retrospectively analyzed the data of male patients with paraurethral duct infection and subsequent paraurethral duct dilatation who were treated at the Department of Dermatology of Changshu First People's Hospital from January 2000 to October 2013.

Twenty-three patients (age range, 17–65 years; mean age, 31.5 years) with paraurethral duct infection and subsequent paraurethral duct dilatation were enrolled in this study. All were presented with erythematous swelling of the external urethral orifice with a pinhead-like ostium at the center of the swollen area, through which pus could be expressed with pressure. The mean duration of paraurethral duct infection symptoms was 17 days (range: 9–39 days). All lesions were solitary. All the patients experienced tenderness, and 17 felt spontaneous pain. Among the purulent excretion specimens from the patients' paraurethral ducts, 10 had detectable gonococci, 6 had *Staphylococcus aureus*, 5 had *Chlamydia trachomatis*, and 2 had *Escherichia coli*. Rapid plasma reagin test, *Treponema pallidum* hemagglutination assay, and human immunodeficiency virus antibody test results were also negative in all the patients.

Patients with gonococcal infection were given intramuscular ceftriaxone sodium (1 g once daily for 5 days). Patients with *S. aureus* infection were treated with levofloxacin (0.5 g once daily for 8 days). Patients with *C. trachomatis* infection were treated with azithromycin (0.5 g once daily for 5 days). Patients with *E. coli* infection were treated with nitrofurantoin (0.1 g 3 times a day for 10 days). Re-evaluation was performed after 6 weeks and results showed that erythematous swelling of the external urethral orifice and the purulent excretion from the ostium were eliminated. However, the ostium did not close and transparent liquid could be expressed with pressure [Figure 1a and b]. None of the patients felt pain or had tenderness.

The discharge from paraurethral duct was re-collected for Gram-staining. The discharge results were negative for trichomonads

and Gram-negative diplococci were not visible within phagocytes, direct microscopic fungi tests were negative, and cultures for general bacteria, gonococci, *Ureaplasma urealyticum*, and fungi showed negative results. Fluorescence quantitative polymerase chain reaction for the DNA of gonococci, *C. trachomatis*, *U. urealyticum*, and herpes simplex virus types 1 and 2 also yielded negative results.

All lesions were examined using an ultrasound system (ACUSON X300®, Siemens, Erlangen, Germany) with a probe frequency of 7.5–10.0 MHz. All patients' examinations showed a tubular hypochoic area with well-defined borders and smooth margins. One end was blind and the other was open to the environment. The mean lumen diameter was 1.1 ± 0.1 mm (range: 0.96–1.4 mm), and the mean length was 8.2 ± 0.8 mm (range: 7.1–11.7 mm).

Thirteen patients were elected to undergo surgical treatment. Wedge excision was performed to remove the lesion. Postoperative histopathological examination revealed a tubular structure in the dermis connected to the epidermis and lined with stratified squamous epithelium. The peripheral stroma was fibrous and infiltrated by inflammatory cells. In all the 13 patients, the ostium had disappeared at 6-month follow-up and the glans penis showed no defects. Ten patients did not undergo excision; their lesions did not resolve over 6 months, and there continued to be a discharge of transparent liquid from the ostium with pressure.

The male paraurethral duct is lined with columnar epithelium.^[4] However, postoperative pathological examination in the current study showed that paraurethral ducts were all lined with squamous epithelium, and it is possible that the columnar epithelium had been destroyed by pathogens and replaced by squamous epithelium.^[4]

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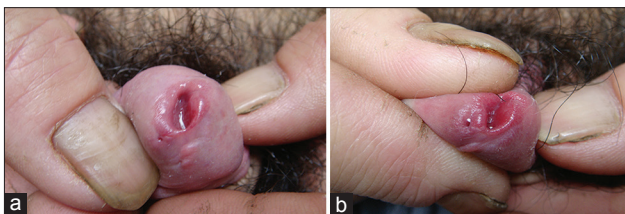


Figure 1: (a) A pinhead-like ostium was present at the 8 o'clock position on the right side of the external urethral orifice. (b) The ostium did not close, and an overflow of transparent liquid was still visible after squeezing the lesion.

The present study showed that in addition to gonococci, *S. aureus*, *C. trachomatis*, and *E. coli* also infected the paraurethral duct and caused secondary paraurethral duct dilation. In the present study, two patients infected with *E. coli* had a history of anal intercourse before symptom onset. *E. coli* that had colonized the intestinal tract might have been transferred to the paraurethral ducts by anal intercourse and caused paraurethral duct infection. We consider

local excision^[1] to be a reasonable treatment strategy if the patient finds the symptoms distressing or if the dilated paraurethral duct is persistently infected.

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Conflicts of interest

There are no conflicts of interest.

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