CLINICAL CASE

Partial prolapse of the urethral mucosa in young females: review of two cases surgically treated using a new approach

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Abstract

Background: Prolapse of the urethral mucosa in young girls is an uncommon condition. It occurs most often in prepubertal black girls between 3 and 10 years of age but also occurs in other races. Constipation, urinary infection and vaginal bleeding accompany this pathology. It is classified as circular or partial. We report the surgical performance for the circular type of prolapse using the Kelly-Burnham technique.

Case report: We report the cases of partial urethral prolapse in two Latino children (aged 9 and 19 months) who were surgically treated by excision of the prolapsed mucosa and suture of the remaining mucosa with vicryl 3-0. Surgery was performed under general anesthesia at Gómez Palacio General Hospital in Durango, Mexico.

Conclusion: Partial urethral prolapse in young girls surgically treated using a different approach has not been published in the literature. The procedure obtained favorable results in both patients and there were no postoperative complications. After 1-year of follow-up, there were no recurrences.

Key words: mucosa urethral prolapse, partial type, surgical approach.

Introduction

Prolapse of the urethral mucosa is a benign and rare disease that is presented more frequently in pre-pubescent black girls, although it also occurs in other races.¹⁻⁴ It is the eversion of the distal urethral mucosa through the external meatus.¹⁻³,⁵ It has been described in females aged 1.5-10 years and most commonly between 3 and 5 years and 5 to 9 years of age.¹⁻²,⁶ The proposed etiology includes an inadequate perineal muscle junction and a poor union between the muscle layers of the urethra in association with periods of increased intra-abdominal pressure.¹⁻⁶ Differential diagnosis is made in females with vaginal bleeding and vulvar masses, bleeding from trauma, prolapsed ureterocele, condyloma, peri-urethral cyst, polyps and sarcoma botryoides. The prolapse is classified according to four grades depending on the extension of the mass and intensity of inflammation.¹ The proposed medical treatment has been sitz baths and local application of estrogen cream (0.5%) or antibiotic ointments.¹⁻⁶ Surgery is indicated when conservative treatment is ineffective and when there is a recurrence of the prolapse and development of complications such as necrosis of the prolapsed mucosa.¹⁻⁶ There have been reports of the surgical resection with the Kelly-Burnham technique of circular prolapse, which involves the intro...
duction of a catheter into the urethra of a thickness according to the age of the patient. References are then placed in the four cardinal points, incised between sutures of reference to the beginning of the prolapsed mucosa. The edges are sutured with chromic catgut, splitting with small cuts, immediately followed by reconstruction of the edges to total mucosal resection.1,3

We propose an approach with resection of the prolapsed mucosa and suturing of the remaining mucosa with 3-0 vicryl, in a partial type that is not reported in the literature.

Case reports
Case 1
A female infant 9 months of age was seen in the outpatient pediatric department with a history of chronic constipation and urinary tract infections. She received multiple treatments with antibiotics, adding discomfort when urinating and stained diapers with small amounts of a yellow discharge. Physical examination revealed the infant to be in good general condition with age-appropriate weight and height. At the level of the genitalia, a small reddish mass was found at the posterior edge of the external urethral orifice, which occupies the central part of the vulvar introitus and two thirds of its anteroposterior length. From the clinical evolution and physical examination, condylomata, paraurethral cyst and polyps were ruled out. Pelvic ultrasonography was requested, which reported no tumors in the uterus or pelvic floor. Only a mass was seen that was dependent on the urethra; therefore, the possibility of prolapsed was considered. We initiated treatment with locally applied estrogen ointment and sitz baths twice a day for 4 weeks, with no response. The mass remained the same size, which led us to intervene surgically under general anesthesia, prior aseptic techniques and antisepsis of the region. From a gynecological position, a Foley #Fr 8 catheter was placed to confirm the post-situation of the mass in relation to the opening of the urethra and then removed. We then proceeded to resect the mass in the same position where it affects the lower posterior edge of the mass. The mucosal defect was sutured with 3-0 vicryl continuous suture throughout its 8-mm length. Postoperative analgesics and urinary antiseptic were administered for 72 h. The patient urinated 2 h after surgery, with good postoperative results and without complications. One-year follow-up demonstrated a good outcome.

Case 2
We present the case of a 19-month-old infant female who was admitted to the emergency department with severe pain and bleeding originating from the vulva. The mother noticed the tumor that same day. On examination the tumor was found to be round, red in color, with small dark areas. Diameter was 5 cm at its largest area and occupied the entire vulvar region. Preoperative studies were conducted and found results within normal limits. According to the patient’s clinical history, it was revealed that there was vaginal bleeding at birth that continued for 2 days, followed by extended constipation since 3 months of age. The patient had a bowel movement every 2 or 3 days, for which she received medical treatment. She had a urinary infection of 3 months of evolution with fever and discomfort when urinating, confirmed by general urine test results. She received medical treatment for 15 days the month prior to admission. Due to her pain, she was examined under general anesthesia, with prior aseptic techniques and antisepsis of the region. From a gynecological position, a Foley #Fr 8 catheter was placed to confirm the situation of the tumor posterior to the opening of the urethra. Tumor was not in the superior area but was resting on the lower posterior area of its pedicle. The defect was sutured with 3-0 vicryl continuous sutures to the length of 1 cm. The catheter was removed at 12 h postoperatively, and pain medication and urinary antiseptic were administered for 72 h. Urination was achieved after the removal of the urethral catheter without complication. One-year follow-up showed good evolution and no complications.
Discussion

Prolapse of the urethral mucosa is an infrequent entity and has been described principally in pre-pubertal black girls, although it has also been observed in other races.\textsuperscript{1-4} It is reported that this disease occurs most frequently at the ages of 3 to 5 and 5 to 9 years old,\textsuperscript{1,5} although there is a report in the literature of a case of a patient who was 14 months old.\textsuperscript{2}

In this study we describe two female patients with partial type prolapse, although the circular type prolapse is more often described.\textsuperscript{1-6,8}

We present two female infants of 9 and 17 months of age. The patients presented with the following predisposing factors: chronic constipation and urinary tract infection as well as vulvar bleeding as described in literature.\textsuperscript{1,2,9} The first patient at 9 months was seen at the outpatient clinic. During physical examination she was found to have a small mass located in the posterior portion of the urinary meatus. From the clinical and physical examination we ruled out condylomata, prolapsed ureterocele, ectopic ureter, paraureteral cyst and polyp and, to rule out the possibility of carcinoma botryoides, we requested an ultrasound of the pelvic floor that reported uterus and pelvic floor muscles free of injury (Fig. 1). The second patient, at 17 months of age, arrived at the emergency room with bleeding and pain in the vulvar region. Examination of the tumor found it to be of reddish color and with dark areas. It was 5 cm in diameter in the largest portion, which occupied the entire vulvar region, rejecting the larger labia. Other pathologies were ruled out due to the size of the tumor (Fig. 2). The two patients had a history of being treated for urinary tract infections by their attending physician, at 2 and 4 weeks, respectively. The first case was managed with locally applied estrogen ointment and sitz baths for 4 weeks without response. Preoperative tests were performed and were within normal limits. The same

Figure 1. Grade II partial urethral prolapse. (A) Before: tumor of pinkish color of 1 cm in diameter in the vulvar introitus. (B) After: tumor-free introit.

Figure 2. Grade IV partial urethral prolapse. (A) Before: dark-colored tumor of 5 cm in diameter occupying the vulvar introitus, which rejects the labia. (B) After: tumor excision showing opening of the urethra with a Foley catheter.
technique was performed in both patients. Under general anesthesia, a Foley catheter was used to define the tumor that was found in the posterior portion of the urinary meatus. We removed the mass towards the top, incising in the postero-inferior part of the mass. What remained was sutured continuously with 3-0 vicryl. We continued with the resection of the tumor and suture of the urethral mucosa until completing the uninvolved mucosa. In the first case we removed the catheter upon locating the tumor and in the second case catheter removal was done 12 h after surgery. Both patients were treated with urinary antiseptic and analgesic, with good postoperative results. Previous reports regarding other studies such as urography, cystography and cystoscopy concluded that they are not useful in diagnosis and other studied concluded that they are not necessary for diagnosis. We should always rule out other diseases such as tumors or bleeding from the vulva area possibly due to genital trauma, prolapsed ureterocele, condylomata, paraurethral cyst, ectopic ureter, polyps, sarcoma botryoides, etc. Urethral prolapsed was confirmed, which occurs so infrequently. In our first case we used pelvic ultrasound to rule out botryoides carcinoma. In the case of the second patient, we did not perform any other diagnostic procedure because prolapse was found during physical examination.

The Kelly-Burnham technique is described for resection of circular prolapse. We carried out a resection of the prolapsed mass of a partial type with good results in both patients (Fig. 3) with no complications or any recurrence. Histopathological findings confirmed those already reported in the literature and are not specific.

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References