

Cystofix catheter (14F) knotting within the bladder: an unusual complication

Cavit Ceylan*, Hakan Artaş**.

*Elazığ Eğitim Araştırma Hastanesi, Üroloji Kliniği, Elazığ.
**Elazığ Eğitim Araştırma Hastanesi, Radyoloji Kliniği, Elazığ.

Özet

14 F sistofix kateterin mesane içinde düğümlenmesi: olagandışı bir komplikasyon

Sistofix genellikle mesaneden geçici olarak idrarın direnajaında kullanılır. Sistofixin olağan komplikasyonları arasında kateterin kendi etkisine bağlı olarak, hematüri, mesane duvarında ödem, mesane spazmı olur. Burada mesaneye yerleştirilen sistofix kateterin çapından ziyade, mesaneye 10 cm'den daha uzun yerleştirilen kateterdeki dönmeye bağlı olarak düğümlenme olgusunu bildirdik.

Anahtar Kelimeler: Mesane, sistofix, düğümlenme.

Abstract

Suprapubic bladder catheter (Cystofix) is commonly used to drain urine temporarily from the bladder. Common complications are hematuria, bladder wall edema, and bladder spasm due to the irritation by the catheter itself. Here a case is described where a suprapubic bladder catheter (Cystofix) became curled and knotted inside the bladder, probably the reason was the overdistended bladder and insertion of more than 10cm length of catheter inside the bladder rather than the diameter of the catheter.

Key words: Bladder, cystofix, knotting.

Introduction

Suprapubic catheterization is a common procedure in lower genital tract surgery to temporarily divert urine. Most complication relate to the duration of the catheterization (1). The most common complications are hematuria, edema, bladder spasms with contractions, urinary tract or kidney infections, septicemia, urine leakage around the catheter (2). In the medical literature, there are few reports of urethral catheter knotting in the bladder (3) and only two cases of a suprapubic catheter knotted inside the bladder (4,5). In this case, we report the first 14F spontaneous catheter knotting in the literature.

Case Report

A 74-year-old man with a history of prostate hyperplasia had undergone a few operations including open prostatectomy 10 years ago, transurethral prostatectomy 1 year ago. He was admitted to our urology clinic with an acute urinary retention. Retrograde urethral 18F catheter could not be inserted within the bladder. Following this process, retrograde urethrocytography was performed, but no contrast material transition into the bladder was seen. The patient was taken to the operating room and a minicystotomy was inserted percutaneously with a 14F suprapubic bladder catheter (Cystofix) under percutane local anesthesia. Then, obstructive posterior urethral passage was achieved by visual optical urethrotomy under regional anesthesia and 18F urethral catheter was inserted. At the 1st postoperative day, we tried to remove the cystofix, but we could not. After this procedure, 3D sonography (Figure 1), abdominal X-ray with contrast material was administrated through the catheter (Figure 2), cystographic evaluation and cystoscopy (Figure 3)

Corresponding Address: Op. Dr. Cavit Ceylan
Ankara Yüksek İhtisas Eğitim ve Araştırma Hastanesi Üroloji
Kliniği, Sıhhiye / Ankara
E-mail: ceylancavit@yahoo.com

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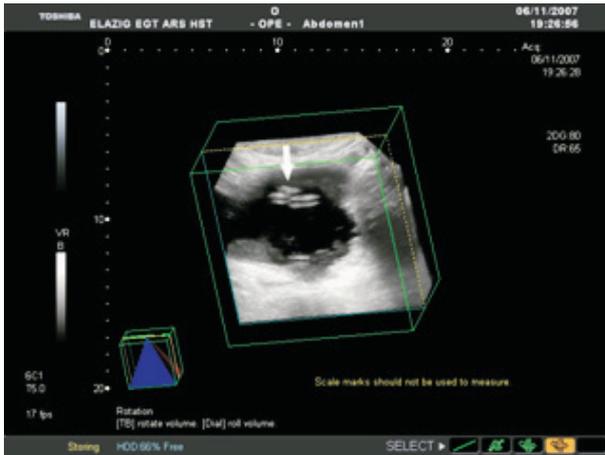


Figure 1 : The view of 3D sonography



Figure 4: Postoperative view of the knotted suprapubic catheter



Figure 2: Abdominal X-ray with contrast material that injected through the catheter

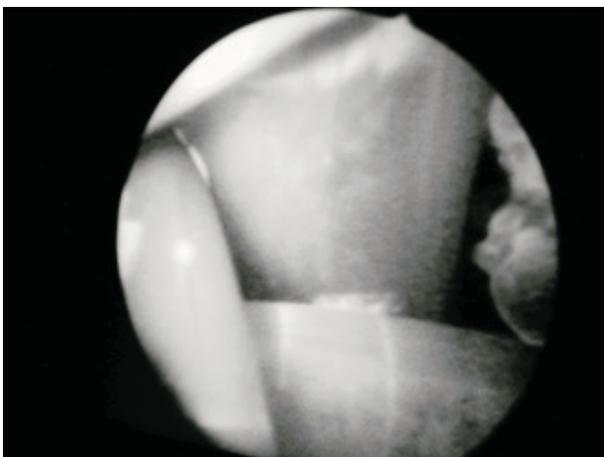


Figure 3 : The view of cystoscopy of knotted catheter

under local anesthesia were performed and these showed that the catheter was knotted in the bladder. The knotted suprapubic catheter was removed under general anesthesia via open cystotomy (Figure 4). At 7th postoperative day, urethral catheter was removed and the patient was discharged in good conditions.

Discussion

The main advantage of suprapubic bladder drainage is to avoid the early and late complications of urethral catheterization. Interference or the existence of the catheter itself as a foreign body is usually primary when compared to the complications. Knotting of urinary catheters is an uncommon complication of bladder catheterization (6). Knotting is less common in adults than children (3,6). This is attributed to the use of slender and more flexible catheters in pediatric practice. The occurrence of catheter knots in children is 0.2 per 100,000 catheterizations (7). In the greater number of the reported cases catheter knots in the bladder occurred in males (ratio=4.5 with urethral catheters (3,8)). Male prevalence is attributed to inserting too much of the catheter which results from overestimating the length of the male urethra (3). Many hypothetical explanations have been suggested for the knotting of catheters. As it abuts the bladder wall, excessive coiling of the catheter is usually believed to cause the distal tip of it to pass through an open loop and when the catheter is withdrawn the coil tightens into a knot (3). Catheter size less than 10F, overdistended bladder and insertion of more than 10cm length of catheter in the bladder form the risk factors. As mentioned in the earlier reports, there may be more than one factor responsible for the knotting of catheters and excess intravesical length and smaller catheter diameter are definite risk factors

for knotting. Moreover, most of the reported pediatric cases show that a great number of coils in the catheter could result from small bladders and the grater flexibility of the small caliber catheter used (3,6). There are only two cases of a suprapubic catheter becoming knotted inside the bladder in the medical literature. The former was a 60-year-old man with acute retention of urine which resulted from prostatic enlargement (4) and the latter was a 2-year-old boy who underwent surgery for distal penile hypospadias (5).

The presence of a knotted catheter is usually suspected when the catheter cannot be withdrawn or when the obstruction of the tube causes retention or voiding around the catheter and confirmed by 3D sonography and an X-ray with contrast material injected through the tip of the catheter (8). At 1st postoperative day, after the visual optical urethrotomy we were not able to remove the cystostomy catheter. We recognized that the catheter was knotted inside the bladder by using 3D sonography, x-ray with radio-contract material injected through the tip of the catheter and cystoscopy.

Many techniques have been described for removing the knotted catheters which include manual removal (under anesthesia) after gentle but sustained traction (9), insertion of a guide wire to assist traction (10), percutaneous endoscopic removal of catheters in children (11) and open surgical intervention (12). In the two reports which are previously described, the knotted suprapubic catheter was removed under general anesthesia by a cystostomy.

Spontaneous catheter knotting is a rare situation. The use of right size of catheter and entrance of short segment of the catheter inside the bladder are essential to reduce the possible risks of catheter knotting.

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