

Mesh Fibers Excision from The Bladder After Tension Free Vaginal Tape Erosion Using Endoscopic Scissor

Ali Hassan *, Zaki M. Eldahshoury

Urology dept., Aswan university hospital, Egypt

*Corresponding Author: Ali Hassan, Urology dept., Aswan university hospital, Egypt.

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Abstract

Based on the analysis and synthesis of literary sources, as well as the results of a pedagogical experiment, the article presents data on the manifestations of the hypo menstrual syndrome in athletes of different ages who are engaged in athletic sports. It was noted that a significant group of female athletes who took part in the study had clinical manifestations of oligo-opsomenorrhea and hypomenorrhea, often combined.

Method and materials of the study

To achieve the research objective, we used a set of scientific methods, including analysis of available scientific and scientific-methodical sources of information, determination of anatomical-anthropometric and morpho functional values in female athletes, interviewing. The experimental base of the research were sports sections in a number of regions of Ukraine, in which female athletes of youth age trained, engaged in weightlifting and powerlifting.

The study involved 22 female weightlifters and 24 female powerlifters. The average age in the weight lifters group was 21 ± 1.32 years, while in the powerlifters group it was 20.14 ± 0.87 years. All the athletes were of adolescent ($n=26$) and reproductive age ($n=20$). The duration of training in this sport was 3 to 5 years – 7 (30.44%), 5 to 8 years – 12 (52.17%), and more than 8 years – 4 (17.39%). 18 (78.26%) of the girls were students, and 5 (21.74%) were employed. 8 (34.78%) of the studied sportswomen started practicing these sports at the age of 11-15, 11 (47.83%) at the age of 15-18, and 4 (17.39%) after the age of 18. Sports qualification – 1st category – 9 (39.13%), candidates for master of sports (CMS) – 10 (43.48%), master of sports (MS) – 4 (17.39%). The intensity and frequency of training is 4-6 times a week, from 1.5 to 2.5 hours per 1 training. In conducting this study, we used such methods as literary-critical analysis of available sources of information on the issue under study, anthropometry, the index method, somatotyping, a questionnaire on the characteristics of the menstrual cycle in female athletes (author's questionnaire K.A. Bugaevsky, 2009, modification, 2018), the method of mathematical statistics. All young athletes who took part in this study gave their voluntary, both oral and written consent to participate in it.

Key words: bladder erosion, Vaginal tape, Endoscopic scissor

Introduction

International Continence Society (ICS) define the Stress urinary incontinence (SUI) as the complaint of involuntary leakage of urine on effort or exertion, or on coughing or sneezing (1). SUI is one of the most prevalent medical conditions among adult females, several minimally invasive surgical procedures have been described for effective management of SUI, one of the popular methods is the retropubic tension free vaginal tape (TVT) or trans obturator routes (TOT) (2). These minimally invasive methods have short operative time, rapid recovery and good outcome results and rare complications, one of them is urethral erosion of the tape which varying from 0.3% to 23% (3). Different procedures are described in the literature to manage erosion by either endoscopic, transvaginal or by laparoscopy (4). To

date there is no consensus on the optimum management of mesh erosion following TVT. We had reported a case of mesh erosion of the bladder with formation of bladder stone with persistent dysuria without stress incontinence which was managed endoscopically.

Case Report

A 45-year-old woman presented by dysuria, urge urinary incontinence after treatment by tension-free vaginal tape for SUI one year before presentation. Radiological evaluation by ultrasonography and Computed tomography revealed bladder stone fixed to bladder wall (Figure 1).

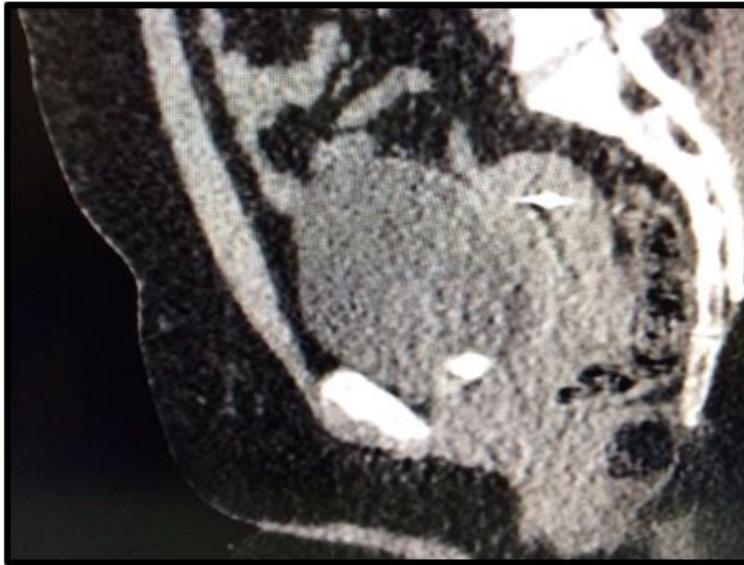


Figure 1: CTU shows bladder stone

The patient had operated by uretherocystoscopy under spinal anesthesia, and suitable preoperative intravenous antibiotic, through a 22-F cystoscope urethroscope with 30° telescope demonstrated a small bladder stone over an eroding mesh fiber which was successfully fragmented by pneumatic lithotripsy and extracted from the bladder. The invading mesh fibers was excised with endoscopic scissors at level of the

bladder mucosa to the level of 5mm depth of the bladder wall, The resected portion of the mesh was grasped and removed trans urethra by grasping forceps through a cystoscope figure (2).



Figure 2: The extracted stone with the fibers of the mesh.

The operative time was 25 min. The patient was discharged on the first postoperative day. Afterwards, the patient recovered without any complaints. One months later, follow up cystoscopy revealed complete healing of bladder mucosa with a normal Urodynamic study.

Discussion

Stress urinary incontinence (SUI) is a common problem among adult females and accounts for 50% of all urinary incontinence cases (5). Many urogynecological centers worldwide have been performing the suburethral sling using tension-free vaginal tape (TVT) since the first introduction by Ulmsten in 1996, Its safety and low number of complications were reported by the first description (6). There are many serious complications from this

procedure such as bowel perforation, bladder perforation, postoperative urinary retention, retropubic hematoma, venous injury, and tape erosion (7). Erosion of the mesh through the bladder wall and stone formation are a rare event of the suburethral sling procedure using synthetic material, in the literature different surgical approaches were described to remove the mesh as endoscopic bladder lithotripsy and simultaneously removed the synthetic material (8). suprapubic cystostomy and removal of the stone and synthetic material were carried out (9). Mustafa et al performed endoscopic pneumatic lithotripsy and transurethral mesh resection (10). In our case it was decided to remove the mesh and stone in the bladder by an endoscopic approach through fragmentation of the stone, and cutting the protruded mesh fibers with endoscopic scissors without need to complete removal of the mesh or

other procedures and the patient symptoms resolved rapidly in the follow-up period. Recently many literatures reported successful endoscopic managements of the bladder perforation by the mesh (11). so, we believe that the first-choice therapy of the eroding mesh should be by endoscopic management and if it failed open surgery may be tried. In conclusion The TVT is not free of complications. Urologists and Urogynecologists should be aware of the symptoms and signs related to tape complications when treating women presented by lower urinary tract symptoms. The bladder should be inspected carefully intraoperative for any signs of bladder perforation and cystoscopy should be considered early in the evaluation of patients presenting with pelvic discomfort or irritative voiding symptoms after a TVT procedure.

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