PRZEGLĄD BIEŻĄCEGO PIŚMIENNICTWA DOTYCZĄCY POWIKŁAŃ PO TVT.

1. Voiding dysfunction after surgery for stress incontinence: literature review and survey results.

Zaburzenia mikcji po zabiegach z powodu wysiłkowego nietrzymania moczu- przegląd literatury.

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International Urogynecology Journal and Pelvic Floor Dysfunction 2004 , Volume 15, Number 1, February Pages: 25 - 31

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Abstract Postoperative voiding dysfunction is a potential complication of anti-incontinence procedures. **Reported rates of urethral obstruction range from 5% to 20%.** There is a lack of consensus in the literature regarding the appropriate evaluation and management of this distressing problem. A literature search was carried out using Medline (1966–2001) for postoperative voiding dysfunction. The key word urethrolysis was cross-referenced with surgical complications and stress urinary incontinence to identify all published English-language articles. The bibliographies of reviewed articles were searched manually. We also mailed a survey to the members of American Urogynecologic Society (AUGS) regarding their management of this problem. Overall, 262 members (31.4%) responded to the survey. Success rates reported in the literature between retropubic and vaginal techniques of urethrolysis are comparable, but morbidity is lower with the vaginal approach. The success rates are equivalent with (68%) or without (74%) resuspension following transvaginal urethrolysis. The incidence of postoperative SUI is acceptably low even without resuspension of the urethra (6% for both). Results of the AUGS survey reveal that most providers favor a transvaginal approach (74%) when performing urethrolysis, and they do not routinely resupport the bladder neck (82%).

Skrót: ... Dokonano przeglądu literatury z lat 1996- 2001 pod kątem powikłań w postaci utrudnienia w odpływie moczu po zabiegach z powodu wysiłkowego nietrzymania moczu i leczenia uretherolizą. Utrudnienie w odpływie moczu występuje u 5- 20% chorych! 262 (31%) członków Amerykańskiego Towarzystwa Uroginekologicznego odpowiedziało na ankiete dotyczącą ich postępowania w przypadkach tego typu powikłań. Urethroliza przezpochwowa jest obarczona mniejszą ilością powikłań niż załonowa. Skuteczność urethrolizy przezpochwowej wynosi 68% z i 74% bez ponownego podwieszenia cewki. Odsetek ponownego SUI jest niski (6% niezależnie czy dokonano ponownego podwieszenia czy nie). 74% lekarzy stosuje dostęp przezpochwowy i 82% procent z nich nie podwiesza ponownie szyi pęcherza.

2. Urinary retention after tension-free vaginal tape procedure: incidence and treatment.

Utrudnienie w odpływie moczu po zabiegach TVT- częstość i leczenie.

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Urology Volume 58, Issue 5 , November 2001, Pages 697-701

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Abstract. Objectives. To review our experience with persistent urinary retention after the tension-free vaginal tape (TVT) procedure and report our treatment results. Ulmsten recently introduced the TVT procedure for female stress urinary incontinence. Although the morbidity is minimal, no surgical procedure is without risks, and experience will better define the morbidity of the TVT procedure.

Methods. Since November 1998, we have collectively performed **600 TVT procedures. Of these, 17 patients (2.8%) developed urinary retention or symptoms consistent with obstruction (including hesitancy, straining to void, or feeling of incomplete emptying) lasting more than 1 week from the date of the procedure**. We reviewed the operative record, noting the operative time, estimated blood loss, presence of bladder penetration, and any reported complications. All 17 patients subsequently underwent transvaginal release on an outpatient basis.

Results. Seventeen patients (mean age 56 years, range 38 to 81) underwent sling release a mean of 64 days (range 6 to 228) after the TVT procedure. All patients voided to completion within 24 hours of release and reported no further subjective complaints of outlet obstruction. None of the subjects reported de novo urge incontinence or urgency. In each patient, the estimated blood loss was minimal; the operative time averaged 15 minutes. One urethral injury occurred and was managed intraoperatively without sequelae. Sixteen patients who underwent sling release have remained dry; the remaining patient, in whom a urethral injury was repaired, redeveloped stress incontinence and underwent an uncomplicated successful transvaginal sling procedure.

Conclusions**. Outlet obstruction is a risk of the TVT procedure and occurred with an incidence of 2.8% in our experience. The TVT mesh can be released by a simple vaginal incision under local anesthesia with rapid return to normal voiding**. Although the number of patients studied was small, stress incontinence did not recur after uncomplicated release in our series.

Skrót: ...Spośród 600 chorych leczonych z powodu wysiłkowego nietrzymania moczu implanatcją taśmy TVT u 17 (2,8%) wystąpiła obstrukcja cewki moczowej. U 16 (94%) z nich po wykonaniu urethrolizy (przecięcie lub poluzowanie taśmy) z dojścia przez pochwe nastąpiło ustąpienie objawów przeszkody bez nawrotu nietrzymania moczu. U jednego chorego doszło do uszkodzenia cewki w czasie zabiegu. Wniosek- Proste przecięcie taśmy z dojścia przez pochwę pozwala na pełne wyleczenie chorych z obstukcją cewki po implantacji taśmy TVT.... Dr Carl i John Klutke są konsultantami firmy Ethicon i otrzymują za to wynagrodzenie.

3. **Complications of synthetic graft materials used in suburethral sling procedures.** Tsui KP, Ng SC, Tee YT, Yeh GP, Chen GD.

Powikłania związane z użyciem syntetycznych materiałów w zabiegach hamakowych.

Int Urogynecol J Pelvic Floor Dysfunct. **2004 Oct 19; [Epub ahead of print]**

Problems relating to the erosion of sling material, through either the vagina or the urethra, have been encountered with almost all kinds of synthetic sling materials. We present four unusual cases of women using different synthetic materials and the complications that occurred. The biopsies were examined histologically and analyzed for collagen and inflammatory reactions. Four patients who underwent suburethral slingplasty previously with different sling materials required surgical management for complications, including one intravesical Ethibond migration, vaginal mucosal mesh erosion in two patients, and one proximal urethral overcorrection with intravesical erosion. We reviewed the literature regarding the amount of mesh erosion and connective tissue reaction with synthetic materials. The efficiency of mesh removal was assessed. The four patients maintained urinary continence after urethrolysis and removal of the mesh. Fibrosis and severe inflammatory reactions were found in the connective tissue adjacent to the mesh as well as the Prolene mesh. Technically, it would be easier to remove the graft of patch sling if rejection or erosion occurs.

Skrót:... Znany jest problem erozji niemal wszystkich materiałów systetycznych stosowanych jako taśmy podcewkowe do pochwy lub cewki moczowej. W pracy przedstawiono 4 chorych, u których wystąpiły powikłania związane z erozją siatki do pochwy lub pęcherza moczowego z powodu nadmiernej korekcji proksymalnej cewki moczowej. U wszytskich z nich wykonano urethrolizę z wycięciem siatki. Znaleziono włóknienie i silny odczyn zapalny wokół siatki....W dyskusji autorzy zgadzają się z innymi autorami, że to włóknienie na taśmie i wokół niej stanowi podporę dla cewki, a nie sama taśma. Z tego powodu przecięcie lub nawet wycięcie samej siatki nie powoduje nawrotu nietrzymania moczu...

4. Delayed treatment of bladder outlet obstruction after sling surgery: association with irreversible bladder dysfunction.
Leng Wendy W, Davies Benjamin J, Tarin Tatum, Sweeney Danielle D, Chancellor Michael B **Journal of Urology October 2004.** 172(4, Part 1 of 2):1379-1381**.**

Opóźnione leczenie przeszkody po implanatcji TVT I związek z nieodwracalnym uszkodzeniem funkcji pęcherza.

Abstract:
Purpose: Our urethrolysis cohort demonstrated an unusual delay time to surgical treatment of bladder outlet obstruction. We determined whether urethrolysis outcomes, ie persistent bladder symptoms, were associated with time between sling and urethrolysis surgeries.

Materials and Methods: Retrospective analysis of all patients who underwent urethrolysis for post-sling voiding dysfunction between June 1997 and June 2002 was performed. We excluded from study 6 patients with a known history of overactive bladder symptoms, neurogenic bladder dysfunction and use of anticholinergic pharmacotherapy before stress incontinence surgery. The remaining 15 patients were stratified into 2 outcomes groups based upon the absence or presence of post-urethrolysis bladder storage symptoms. Patients (7) in group 1 have no current bladder symptoms. Patients (8) in group 2 still require anticholinergic drug therapy for significant bladder symptoms of frequency and urgency. Data collected for the 2 groups included mean age, existence of urinary retention before urethrolysis, mean time to urethrolysis in months, urethrolysis outcome based upon subjective bladder symptoms and followup duration. For comparison of mean age between groups the standard t test was used. Fisher's exact test was used to compare frequency of urinary retention before urethrolysis between groups. Lastly the Mann-Whitney U test was conducted to compare time to urethrolysis between groups. All statistical analyses were conducted using the SPSS software package (SPSS, Inc., Chicago, Illinois).

Results: There was no statistically significant difference between the groups with respect to age or frequency of urinary retention before urethrolysis. Time to urethrolysis for the whole cohort ranged from 2 to 66 months. Mean followup after urethrolysis was 17.3 +/- 22.9 months. Comparison of mean time between incontinence and urethrolysis surgeries between group 1 (9.0 +/- 10.1 months) and group 2 (31.25 +/- 21.9 months) demonstrated a statistically significant difference (p = 0.01).

Conclusions: This urethrolysis population demonstrated an unusual delay time to surgical treatment of bladder outlet obstruction. We categorized the cohort according to absence or presence of persistent bladder storage symptoms, and found a strong association between persistent bladder symptoms and greater delay to urethrolysis.

Skrót ... przeanalizowano wynik urethrolizy z powodu utrudnienia w odpływie moczu po zabiegach TVT u 15 choryh i znaleziono silny związek między późniejszym wykonaniem zabiegu a utrzymaniem się objawów parć naglących i częstomoczu.

5. **Urinary retention after tension-free vaginal tape procedure: From incision to excision... to complete urethrolysis.** Vitaly Margulis, Gina Defreitas,Philippe E. Zimmern

Utrudnienie w odpływie moczu po zabiegach TVT- od przecięcia do wycięcia i ...całkowitej urethrolizy.

Urology 2004, Volume 64, Issue 3 , September, Page 590

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Received 20 February 2004; Revised 20 April 2004; accepted 20 April 2004.
Available online 18 August 2004.

Abstract. We report on a healthy neurologically intact 45-year-old patient with persistent obstruction after a tension-free vaginal tape procedure necessitating several surgical procedures for correction.
Conclusion: We report the first case of persistent complete urinary retention that required three consecutive surgical procedures for correction. Patients need to be informed about the lack of long-term outcome data regarding voiding function after TVT.

Skrót: ...Przedstawiono przypadek chorej, która operowana była 3-krotnie z powodu utrudnienia w odpływie moczu po zabiegu TVT. Dopiero całkowita urethroliza z wycięciem taśmy na odcinku 3cm z obu stron pozwoliła na ustąpienie objawów choroby bez nawrotu nietrzymania moczu. Chorzy powinni być informowani o braku długoletnich wyników po zabiegach TVT.

6. When to consider urethrolysis after sling surgery.

Kiedy rozważać urethrolizę po operacji TVT.

Leng WW, Chancellor MB.

Curr Urol Rep. 2004 Aug;5(4):241-2.

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7. **Tape related complications of the tension-free vaginal tape procedure.**

Powikłania związane z zabiegami TVT.

Tsivian A, Kessler O, Mogutin B, Rosenthal J, Korczak D, Levin S, Sidi AA.

J Urol. 2004 Feb;171(2 Pt 1):762-4.

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PURPOSE: The tension-free vaginal tape (TVT) procedure is a recent modality for managing female stress urinary incontinence. While this procedure is rapidly gaining popularity worldwide, little has been written about its complications. We describe our experience with diagnosing and treating tape related complications following the TVT procedure. MATERIALS AND METHODS: During the last 4 years 12 patients underwent and 1 is scheduled for additional surgery for complications resulting from the TVT. Another patient is only being observed. Their records were reviewed to retrieve data on presenting symptoms and signs, diagnostic tests, surgical procedures and outcomes. RESULTS: One patient had tape erosion into the bladder, 5 had vaginal tape erosion (concomitant urethral obstruction in 1) and another 8 had an obstructed urethra. The more common presenting symptoms were persistent urethral pain, recurrent urinary tract infection, urgency, urge incontinence and vaginal discharge. A total of 12 patients required partial tape removal or tape incision, which was done transvaginally in 11. The remaining patient underwent cystotomy and excision of the intravesical part of an eroded tape. One patient is awaiting corrective surgery and 1 with asymptomatic vaginal erosion is only being observed. No formal urethrolysis was performed in any case. Mean followup after corrective surgery in 12 patients was 4.8 months (range 1 to 30), during which 10 remained continent and all 12 were symptom-free. CONCLUSIONS: Urologists should be aware of the nature and symptoms of tape related complications associated with a TVT procedure for prompt diagnosis and appropriate postoperative management.

Skrót:...TVT jest popularne , ale mało kto pisze o powikłaniach. W ciągu ostanich 4 lat 12 chorych było operowanych z powodu powikłań po TVT. U 8 chorych doszło do obstrukcji cewki, u 5 erozji taśmy do pochwy, 1 erozji taśmy do pęcherza. U 12 chorych nacięto lub wycięto część taśmy przezpochwowo. U żadnego nie wykonano całkowitej urethrolizy. W okresie obserwacji wynosi 4,8 miesiąca (1-30) stwierdzono ustąpienie objawów.

8. **Complications of tension-free vaginal tape surgery: a multi-institutional review.**

Powikłania po TVT, wieloośrodkowe badanie.

Abouassaly R, Steinberg JR, Lemieux M, Marois C, Gilchrist LI, Bourque JL, Tu le M, Corcos J. BJU Int. 2004 Jul;94(1):110-3.

Department of Urology, McGill University, Montreal, Quebec, Canada.

OBJECTIVE: To analyse the complications of tension-free vaginal tape (TVT) surgery, a minimally invasive alternative for treating patients with stress urinary incontinence (SUI), at six institutions, and to review the management of these complications and their effect on patient outcome. PATIENTS AND METHODS: In all, 241 patients who had a TVT procedure by six urologists at six hospitals (two university and four community) were reviewed retrospectively by the same urologist. Complications during and after surgery, and their management, were analysed. RESULTS: Complications during surgery included bladder perforation in 48 patients (5.8%) and blood loss > 500 mL in 16 (2.5%). Immediate complications after surgery were urinary retention (>24 h after) in 47 patients (19.7%), pelvic haematoma in four (1.9%) and suprapubic wound infection in one (0.4%). Of the 47 patients in retention, 32 were in retention for <48 h and treated with an indwelling catheter. The 15 remaining patients were treated with an indwelling catheter (one) or clean intermittent catheterization for a mean of 22 days. To correct the retention the TVT was released in seven patients and the tape sectioned in three. Late complications were de novo urgency, persistent suprapubic discomfort and intravaginal tape erosion in 36 (15%), 18 (7.5%) and one (0.4%) patient, respectively. Most of these complications resolved with observation and medical management, but intravaginal tape erosion required partial resection of the tape with closure and repair of the vaginal mucosa. CONCLUSIONS: The present TVT complication rates were slightly higher than reported previously. This multi-institutional review in both academic and community hospitals may better reflect the morbidity of TVT insertion in clinical practice. TVT is a highly effective, minimally invasive method for treating SUI. A stricter definition of each complication and a better understanding of the mechanism of these complications may further improve the surgical outcome and decrease patient morbidity.

Skrót:...dane z 6 ośrodków z Kanady..241 chorych...u 47 (19%) chorych retencja moczu, z tego u 32 krócej niż 48h i wystarczył cewnik, u 10 (4%) chorych konieczny był zabieg uwolnienia taśmy- 7 chorych, przecięcia taśmy- 3 chorych... wnioski ...obserwacje nie tylko z ośrodków uniwersyteckich ale i z mniejszych szpitali pozwalają pełniej ocenić odsetek powikłań.

9. **Polypropylene Mesh Tape for Stress Urinary Incontinence: Complications of Urethral Erosion and Outlet Obstruction.**

Tąśmy polipropylenowe w leczeniu wysiłkowego nietrzymania moczu- komplikacje w postaci erozji i obstrukcji cewki moczowej.

Sweat SD,Itano NB, Clemens JQ, Bbushman W, Gruenenfelder J, Mcguire EJ, Lightner DJ.

Journal of Urology. 168(1):144-146, July 2002.

Abstract:
Purpose: Gynecare tension-free vaginal tape (Ethicon, Inc., New Brunswick, New Jersey) is a propylene mesh tape recently introduced in the United States as minimally invasive treatment for stress urinary incontinence. We report the combined experience at 3 tertiary care institutions with **graft erosion and bladder outlet obstruction** after procedures performed elsewhere.

Materials and Methods: We reviewed the records of 5 patients with complications who presented to 1 of 3 institutions after polypropylene mesh tape placement. All pertinent information was obtained from the medical records and the operating surgeon at the referring institution.

Results: Treatment was required in 2 patients with **urethral erosion**, 1 with **vaginal and bladder erosion,** and 2 with **bladder outlet obstruction**. Common presenting symptoms included urge, urge incontinence and gross hematuria. Cystoscopy showed polypropylene graft erosion at the urethra or through the bladder wall. Each patient required explantation of the polypropylene mesh tape and further surgery to restore continence. The graft was divided transvaginally in the 2 patients presenting with outlet obstruction. Urge incontinence resolved and they returned to complete spontaneous voiding.

Conclusions: High clinical suspicion is necessary when evaluating patients presenting with urinary symptoms after polypropylene mesh tape placement. Bladder outlet obstruction and possible graft erosion should be considered.

Streszczenie: Cel: TVT frimy (Ethicon) jest stosowane w USA jako małoinwazyjne leczenie wysiłkowego nietrzymania moczu. Przedstawiamy doświadczenia w leczeniu leczeniu powikłań w postaci **erozji i obstrukcji dróg moczowych** po implantacji taśm TVT przeprowadzonych w innych ośrodkach.
Mariał i metoda: Dane dotyczące 5 chorych zebrano na podstawie dokumentacji lekarskiej i informacji od lekarza kierującego.
Wyniki: 2 chore wymagały leczenia z powodu **erozji cewki,** 1 chora z powodu jednoczesnej **erozji pochwy i pęcherza moczowego,** 2 chore z powodu **przeszkody w odpływie moczu.** Najczęstsze objawy to parcia naglące, hematuria. W cystoskopii stwierdzono **wrastanie taśmy polipropylenowej w światło cewki lub pęcherza moczowego.** Każda chora wymagała wycięcia taśmy i zabiegu naprawczego przywracającego trzymanie moczu. U chorych z przeszkodą pod pęcherzową wystarczyło przecięcie taśmy z dostępu przez pochwę. Parcia naglące ustąpiły i powróciła pełna kontrola mikcji.
Wniosek: U chorych po implantacji taśm beznapięciowych mogą wystąpić objawy urologiczne z powodowane wrastaniem taśmy w światło cewki, pochwy lub pęcherza moczowego i utrudnieniem w odpływie moczu.

10. Repeat urethrolysis after failed urethrolysis for iatrogenic obstruction.
Scarpero HM, Dmochowski RR, Nitti VW**.**

Powtórna uretheroliza po nieskutecznej pierwotnej urethrolizie z powodu jatrogennej przeszkody podpęcherzowej.

J Urol. 2003 Mar;169(3):1013-6.

Department of Urology, New York University School of Medicine, New York, New York, USA.

PURPOSE: Bladder outlet obstruction is a potential complication of all stress incontinence surgery. Urethrolysis successfully relieves 65% to 93% of cases. We determined the success of repeat urethrolysis after failed initial urethrolysis to relieve obstruction.
MATERIALS AND METHODS: We reviewed the charts of 24 women who underwent repeat urethrolysis for iatrogenic obstruction after at least 1 previous attempt. Aggressive repeat urethrolysis was performed via a retropubic or transvaginal route depending on the clinical scenario and surgeon discretion. Outcomes measured were patient ability to void spontaneously without catheterization, decreased post-void residual urine and resolution of lower urinary tract symptoms, particularly urge incontinence.
RESULTS: Mean patient age was 55 years (range 38 to 80). The initial incontinence procedure was a pubovaginal sling in 10 cases, retropubic suspension in 9, needle suspension in 4 and anterior colporrhaphy in 1. A total of 23 patients had previously undergone transvaginal urethrolysis, while 1 had undergone retropubic urethrolysis. The repeat procedure was retropubic in 12 women (50%), transvaginal in 10 (42%) and combined in 2 (8%). Mean time between initial and repeat urethrolysis was 9 months (range 1 to 13). Mean followup was 14 months. Postoperatively 20 of the 22 patients (91%) who were catheter dependent no longer needed to catheterize. Post-void residual urine normalized in the 2 patients who had not been catheter dependent but who had had elevated post-void residual urine. Thus, repeat urethrolysis successfully eliminated urinary retention in 22 of the 24 cases (92%). Mean post-void residual urine before and after repeat urethrolysis was 334 versus 44 ml. ($p < 0.001$). Irritative symptoms and urge incontinence completely resolved in 12% of cases, were improved and required medication in 69% and remained the same in 19%. No patient had new onset irritative symptoms. Stress urinary incontinence recurred in 4 of the 22 women (18%) and persisted in the 2 in whom it had been present before urethrolysis.
CONCLUSIONS: Aggressive repeat urethrolysis can be highly successful for relieving iatrogenic retention. Complete resolution of irritative symptoms and urge incontinence is less likely. Recurrent stress urinary incontinence is similar to that after primary urethrolysis.

Skrót: ...Przeszkoda podpęcherzowa i utrudnienie w odpływie moczu jest potencjalnym powikłaniem operacji naprawczych w leczeniu wysiłkowego nietrzymaia moczu. Urethroliza jest skutecznym postępowaniem w 65-93% przypadkach. Dokonaliśmu oceny skuteczności powtórnej urethrolizy po nieskutecznym pierwszym zabiegu tego typu w leczeniu przeszkody u 24 chorych...u 23 z tych chorych wykonano uretherolizę przezpochwową, a u jedej chorej załonową.
WNIOSEK. Agresywna, powtórna uretheroliza jest wysoce skutecznym leczeniem jatrogennej przeszkody podpęcherzowej. Całkowite ustąpienie objawów parć naglących jest mniej prawdopodobne. Odsetek nawrótów wysiłkowego nietrzymania moczu jest podobny jak przy pierwotnej urethrolizie.

11. Urethral erosion after synthetic and nonsynthetic pubovaginal slings: differences in management and continence outcome.

Erozja cewki moczowej po syntetycznych i niesytetycznych taśmach- różnice w leczeniu i wpływ na trzymanie moczu.

Amundsen CL, Flynn BJ, Webster GD.

J Urol. 2003 Jul;170(1):134-7; discussion 137.

Division of Urology, Duke University Medical Center, Durham, NC, USA.

PURPOSE: We present a series of urethral erosion following a pubovaginal sling procedure due to synthetic and nonsynthetic materials and discuss their management and continence outcome. MATERIALS AND METHODS: During a 3-year period 57 patients underwent urethrolysis for urethral obstruction after receiving a pubovaginal sling. Urethral erosion, defined as sling material entering the urethral lumen, was present in 9 patients and this cohort comprises the focus of our review. In 3 patients the eroded material was synthetic, that is ProteGen (Boston Scientific, Natick, Massachusetts) in 2 and polypropylene in 1. This condition was treated with removal of the whole sling, multilayer closure of the erosion and selective use of a Martius flap. In 6 patients the eroded material was nonsynthetic, that is allograft fascia in 5 and autograft fascia in 1. This condition was treated with sling incision and multilayer closure of the urethra. Preoperative assessment included a urogynecologic questionnaire, measurement of pad use, a voiding diary, cystourethroscopy and videourodynamics. Postoperatively similar parameters were used to assess continence outcomes and the need for subsequent procedures. RESULTS: Nine patients were followed 30 months after urethrolysis. All 9 women had some manifestation of voiding dysfunction following the pubovaginal sling procedure, including urinary retention in 4, urge incontinence in 3 and mixed incontinence in 2. Urinary retention resolved in 3 patients and urge incontinence resolved in 4. Stress urinary incontinence (SUI) persisted in 2 of the 3 patients in the synthetic group, while no patient in the nonsynthetic group had recurrent SUI. There were no recurrent urethral erosions or fistulas in either group. CONCLUSIONS: Urethral erosion after a pubovaginal sling procedure can occur irrespective of the sling material. However, recurrent SUI is not an invariable outcome of the management of urethral erosion following the pubovaginal sling procedure.

Skrót:...W ciągu 3 lat 57 chorych było leczonych urethrolizą z powodu obstrukcji cewki po zabiegu hamakowym. U 9 z nich doszło do erozji cewki- wrastania taśmy w światło cewki. U 3 z nich był to materiał syntetyczny (u 1 polipropylen, u 2 Protegen) który usunięto, u 6 z nich allogeniczna lub autologiczna powięź, którą przecięto.
Nie było nawrotu obstrukcji. Nie było nowego przypadku SUI po zastosowanym leczeniu w okresie obserwacji 30 miesięcy.

12. **Management of urinary retention and obstruction following surgery for stress urinary incontinence.**

Scarpero HM, Nitti VW

Curr Urol Rep. 2002 Oct;3(5):354-9..

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Urethral obstruction is a potential consequence of all types of anti-incontinence surgery. Not all patients will present in frank urinary retention: the surgeon must have a high index of suspicion to make the correct diagnosis in these cases. Important considerations in the diagnosis of these patients include the timing and methodology of evaluation. Formal urethrolysis in a variety of approaches has demonstrated similar cure rates and recurrent stress incontinence rates. Sling incision may provide an easier and less morbid approach to relieving obstruction caused by a pubovaginal sling with equal efficacy. The procedures are described and recent outcomes discussed.

Skrót: ... Proste przecięcie taśmy jest najłatwiejszym i obarczonym najmniejszą ilością powikłań postępowaniem w przypadku obstrukcji cewki po zabiegu TVT...