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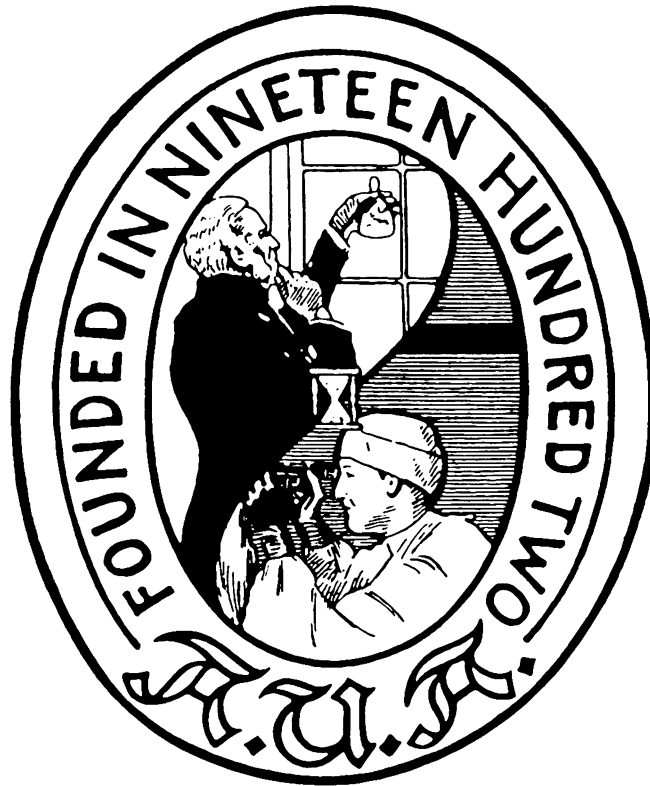
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Number 6

CLINICAL UROLOGY

Review Article

- Pediatric Genitourinary Rhabdomyosarcoma. *E. Shapiro and D. Strother* 1761

Original Articles

- Intrarenal Access: 3-Dimensional Anatomical Study. *F. J. B. Sampaio, J. F. C. Zanier, A. H. M. Arago and L. A. Favorito* 1769
- Flow Cytometric Analysis of Small Renal Tumors. *W. J. Ellis, K. D. Bauer, R. Oyasu and K. T. McVary* .. 1774
- Interleukin-6 in Renal Cell Carcinoma. *T. Tsukamoto, Y. Kumamoto, N. Miyao, N. Masumori, A. Takahashi and M. Yanase* (Editorial Comments by R. B. Alexander, W. M. Linehan and J. B. deKernion) 1778
- Prognostic Significance of Vascular Invasion in Upper Urinary Tract Transitional Cell Carcinoma. *Y. Hasui, S. Nishi, S. Kitada, Y. Osada and Y. Asada* 1783
- In Situ Extracorporeal Shock Wave Lithotripsy for Obstructing Ureteral Stones With Acute Renal Colic. *A. S. Cass* 1786
- Clinical Experience With Flexible Ureteropyeloscopy. *O. M. Abdel-Razzak and D. H. Bagley* 1788
- European Organization for Research and Treatment of Cancer—Genitourinary Group Phase 2 Study of Chemotherapy in Stage T3-4N0-XM0 Transitional Cell Cancer of Bladder: Evaluation of Clinical Response. *T. A. W. Splinter, M. Pavone-Macaluso, D. Jacquemin, J. T. Roberts, P. Carpentier, M. de Pauw and R. Sylvester* 1793
- Early Experience With Intraurethral Collagen Injections for Urinary Incontinence. *S. Herschorn, S. B. Radomski and D. J. Steele* 1797
- Need for Antibiotic Prophylaxis of Patients With Penile Implants During Invasive Dental Procedures: National Survey of Urologists. *J. W. Little and N. L. Rhodus* 1801
- Risk Factors for Male Partner Antisperm Antibodies. *J. P. Jarow and J. J. Sanzone* 1805
- Microsurgical Inguinal Varicocelectomy With Delivery of Testis: Artery and Lymphatic Sparing Technique. *M. Goldstein, B. R. Gilbert, A. P. Dicker, J. Dwosh and C. Gnecco* 1808
- Distribution of Retroperitoneal Metastases After Chemotherapy in Patients With Nonseminomatous Germ Cell Tumors. *D. P. Wood, Jr., H. W. Herr, G. Heller, V. Vlamis, P. C. Sogani, R. J. Motzer, W. R. Fair and G. J. Bosl* (Editorial Comments by J. P. Richie and J. P. Donohue) 1812
- Epidemiology of Bladder Emptying Symptoms in Elderly Men. *A. C. Diokno, M. B. Brown, N. Goldstein and A. R. Herzog* (Editorial Comment by W. K. Mebust) 1817
- Detection of Human Papillomavirus in Prostate by Polymerase Chain Reaction and In Situ Hybridization. *G. K. Ibrahim, P. E. Gravitt, K. L. Dittrich, S. N. Ibrahim, O. Melhus, S. M. Anderson and C. N. Robertson* 1822
- Diagnostic Methods in Detection of Prostate Cancer: Study of Randomly Selected Population of 2,400 Men. *O. Gustafsson, U. Norming, L.-E. Almgård, Å. Fredriksson, G. Gustavsson, B. Harvig and C. R. Nyman* 1827
- Value of Serum Enzymatic Acid Phosphatase in Staging of Localized Prostate Cancer. *A. L. Burnett, D. W. Chan, C. B. Brendler and P. C. Walsh* 1832

Urologists At Work

- Laparoscopic Unroofing of Renal Cyst. *C. Morgan, Jr. and D. Rader* 1835
- Laparoscopic Removal of Bladder Diverticulum. *S. Das* 1837

Urological Neurology and Urodynamics

- Urodynamic Effects of Intravesical Instillation of Terodiline in Healthy Volunteers and in Patients With Detrusor Hyperactivity. *B. Ekström, K.-E. Andersson and A. Mattiasson* (Editorial Comment by A. J. Wein) 1840
- Function of Conus Medullaris and Cauda Equina in Early Period Following Spinal Cord Injury and Relationship to Recovery of Detrusor Function. *A. Beric and J. K. Light* 1845
- Effects of Acute Bolus and Chronic Continuous Intrathecal Baclofen on Genitourinary Dysfunction Due to Spinal Cord Pathology. *W. D. Steers, J. M. Meythaler, C. Haworth, D. Herrell and T. S. Park* 1849
- Prognostic Value of Bladder Contractility in Transurethral Resection of Prostate. *R. Van Mastrigt and H. J. Rollema* 1856
- Continence After Radical Cystoprostatectomy and Total Bladder Replacement: Urodynamic Analysis. *M. E. Gasparini, F. Hinman, Jr., J. C. Presti, Jr., R. A. Schmidt and P. R. Carroll* 1861

Pediatric Articles

- False Diagnosis of Renal Transplant Urinary Leakage on Scintigraphy With Mercaptoacetyltriglycine. *D. A. Ackerman and J. M. Barry* 1865

Contents continued on page A12

| | |
|--|------|
| Retroperitoneal Neurogenous Choristoma. <i>J. Wan, M. L. Ritchey, K. Muraszko and D. A. Bloom</i> | 1867 |
| Transmission of Vesicoureteral Reflux From Parent to Child. <i>H. N. Noe, R. J. Wyatt, J. N. Peeden, Jr. and M. L. Rivas</i> | 1869 |
| Median Raphe Cysts of Genitalia. <i>J. S. Little, Jr., M. A. Keating and R. C. Rink</i> | 1872 |
| Urinary Tract Infections in Children With Posterior Urethral Valves After Kidney Transplantation. <i>M. Mochon, B. A. Kaiser, S. Dunn, J. Palmer, M. S. Polinsky, S. L. Schulman, J. T. Flynn and H. J. Baluarte</i> | 1874 |

Case Reports

| | |
|--|------|
| Hydronephrosis Secondary to Congenital Pelvic Arteriovenous Malformation. <i>B. H. Chung, K. H. Chung, J. H. Lee, J. H. Kim and J. Y. Choi</i> | 1877 |
| Diagnostic and Therapeutic Problems in Multicentric Renal Angiomyolipoma. <i>C. Tallarigo, R. Baldassarre, G. Bianchi, L. Comunale, G. Olivo, M. Pea, F. Bonetti, G. Martignoni, G. Zamboni and G. Mobilio</i> | 1880 |
| Bilateral Renal Angiomyolipoma Associated With Bilateral Renal Vein and Inferior Vena Caval Thrombi. <i>T. Umeyama, Y. Saitoh, Y. Tomaru and K. Kitaura</i> | 1885 |
| Unilateral Ureteral Obstruction Secondary to Rupture of Liver Echinococcal Cyst. <i>O. M. Shapira, D. Simon, H. Rothstein, E. Mor and R. Pfeffermann</i> | 1888 |
| Delayed Spontaneous Rupture of Ileocolonic Neobladder. <i>S. T. Thompson and E. D. Kursh</i> (Editorial Comments by R. G. Rowland and J. W. Duckett) | 1890 |
| Complications of Intravesical Bacillus Calmette-Guerin. <i>J. A. Gonzalez, B. R. Marcol and M. C. Wolf</i> | 1892 |
| Clinical Evidence of Systemic Persistence of Bacillus Calmette-Guerin: Long-Term Pulmonary Bacillus Calmette-Guerin Infection After Intravesical Therapy for Bladder Cancer and Subsequent Cystectomy. <i>A. Böhle, D. Kirsten, K.-H. Schröder, A. Knipper, P. Fornara, H. Magnussen and D. Jocham</i> | 1894 |
| Invasive Bladder Cancer Following ¹²⁵ Iodine Implants. <i>J. C. Winters and H. A. Fuselier, Jr.</i> | 1898 |
| Significant Obliteration of Urethral Lumen After Wallstent Implantation. <i>H. Krah, M. Djamilian, J. Seabert, E. P. Allhoff, C. Stief and U. Jonas</i> | 1901 |
| Malacoplakia of Urethra: Case of Unique Localization With Followup. <i>H. Karaiossifidi and E. Kouri</i> | 1903 |
| Prosthetic Penile Infection: "Rescue Procedure" With Rifamycin. <i>C. Teloken, J. C. Souto, C. Da Ros, E. Thorel and C. A. V. Souto</i> | 1905 |
| Laparoscopic Retroperitoneal Lymph Node Dissection in Patient With Stage 1 Testicular Carcinoma. <i>D. B. Rukstalis and G. W. Chodak</i> (Editorial Comments by J. P. Richie and R. G. Rowland) | 1907 |
| Endoscopic Hydrocele Ablation. <i>G. T. Ho, R. A. Ball, W. Schuessler and L. R. Kavoussi</i> | 1911 |
| Near Fatal Liver Dysfunction Secondary to Administration of Flutamide for Prostate Cancer. <i>J. S. Dankoff</i> | 1914 |
| Urodynamics in Early Stages of Spinal Cord Compression From Prostate Adenocarcinoma. <i>J. G. Barone, Y. Berger and E. White</i> | 1915 |
| Successful Use of Fluconazole for Treatment of Urinary Tract Fungal Infections. <i>J. R. Tacker</i> | 1917 |

Letters to the Editors

| | |
|--|------|
| Re: Renal Transplantation in Children With Posterior Urethral Valves, by J. E. Bryant, D. B. Joseph, E. C. Kohaut and A. G. Diethelm. <i>M. E. Mitchell</i> | 1919 |
| Re: Reduction in Tumor Burden Allowing Partial Nephrectomy Following Preoperative Chemotherapy in Biopsy Proved Wilms Tumor, by G. A. McLorie, P. H. McKenna, M. Greenberg, P. Babyn, P. Thorner, B. M. Churchill, S. Weitzman, R. Filler and A. E. Khoury. <i>D. Misra and M. Rohatgi</i> | 1919 |
| Re: Pharmacological Erection Program Using Prostaglandin E1, by G. S. Gerber and L. A. Levine. <i>R. M. Levin, E. D. Crawford and A. Lev-Ran</i> | 1920 |
| Re: Correlation of Testicular Color Doppler Ultrasonography, Physical Examination and Venography in Detection of Left Varicoceles in Men With Infertility, by J. A. Petros, G. L. Andriole, W. D. Middleton and D. A. Pincus. <i>S. S. Özbek</i> | 1921 |
| Re: Coagulase-Negative Staphylococcus in Chronic Prostatitis, by J. C. Nickel and J. W. Costerton. <i>A. Pfau</i> | 1921 |

Errata

| | |
|---------------------------------|------|
| Bladder Obstruction | 1922 |
| Psychogenic Impotence | 1922 |

INVESTIGATIVE UROLOGY

| | |
|---|------|
| Reduction in Length of Intravesical Ureter Associated With Pyelonephritis in Adult Pig. <i>J. Carr, J. R. Walton and S. H. Done</i> | 1924 |
| Sequential Androgen Blockade: Biological Study in Inhibition of Prostatic Growth. <i>N. E. Fleshner and J. Trachtenberg</i> | 1928 |
| Hereditary Renal Cell Carcinoma in Eker Rat: Rodent Familial Cancer Syndrome. <i>J. I. Everitt, T. L. Goldsworthy, D. C. Wolf and C. L. Walker</i> | 1932 |
| Effect of Tetrodotoxin on Phasic and Tonic Responses of Isolated Rabbit Urinary Bladder Smooth Muscle to Field Stimulation. <i>T. L. J. Tammela, A. J. Wein and R. M. Levin</i> | 1937 |
| Fate of Buried Vaginal Epithelium. <i>T. H. Phillips, E. J. Zeidman and I. M. Thompson</i> | 1941 |

| | |
|---|------|
| Local Motor Responses to Bradykinin and Bacterial Chemotactic Peptide Formyl-Methionyl-Leucyl-Phenylalanine (FMLP) in Guinea-Pig Isolated Renal Pelvis and Ureter. <i>C. A. Maggi, P. Santicioli, E. Del Bianco and S. Giuliani</i> | 1944 |
| Experimental Autoimmune Cystitis: Potential Murine Model for Ulcerative Interstitial Cystitis. <i>A. D. Bullock, M. J. Becich, C. G. Klutke and T. L. Ratliff</i> | 1951 |
| Effect of Experimental Urethral Obstruction and Its Reversal on Changes in Passive Electrical Properties of Detrusor Muscle. <i>N. Seki, O. M. A. Karim and J. L. Mostwin</i> | 1957 |
| Suggestions for Consultants | 1962 |

UROLOGICAL SURVEY

| | |
|---|------|
| Diagnostic Urology and Testis Cancer | 1964 |
| Adrenal, Hypertension, Renal Physiology and Renal Failure | 1965 |
| Kidney Transplantation and Renovascular Hypertension | 1968 |
| Voiding Function and Dysfunction, and Female Urology | 1971 |
| Penis, Urethra, Trauma and Fistulas | 1974 |
| Book Review | 1975 |

| | |
|---|------|
| Subject Index to Abstracts in Volume 148 | 1976 |
|---|------|

| | |
|--------------------------------------|------|
| Information for Authors | 1982 |
|--------------------------------------|------|

| | |
|--------------------------------|------|
| Index, Volume 148 | 1983 |
|--------------------------------|------|

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SIGNIFICANT OBLITERATION OF THE URETHRAL LUMEN AFTER WALLSTENT IMPLANTATION

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ABSTRACT

The permanently implanted self-expandable urethral stent (Wallstent*) has found increased use in patients with recurrent urethral strictures because of its simple implantation technique. To date there have been no reports of serious complications. At 6 weeks after stent implantation our patient had complete luminal obstruction. This complication demonstrates the need for short-term controls after implantation of a urethral stent.

KEY WORDS: urethral obstruction, urethral stricture, urinary catheterization, stents

Endoscopic intraluminal implantation of a self-expandable permanent urethral stent (Wallstent) has found increased use in patients with recurrent urethral strictures because of its simple implantation technique.¹ This metallic, self-expanding stent is easily implanted endoscopically.² Longer strictures can be treated by 2 overlapping stents.^{2,3} In case of complications the stent may be explanted endoscopically.⁴ Cystoscopy after stent implantation is possible.⁵ No serious complications have been reported after placement of the stent.^{3,5-7} Transient discomfort was reported in some patients as well as minor post-void dribbling after insertion of the stent.² More recent studies showed mild hematuria and slight dysuria.^{5,7} No stent became obstructed due to tissue proliferation or incrustation.⁵

Current studies in cardiology showed early complete occlusion in 20 to 40% of the coronary artery stents within 14 days after implantation. Furthermore, frequent late occlusion or recurrent stenosis due to intimal hyperplasia was observed. Therefore, early occlusion constitutes an important limitation of coronary artery stents in angiology.⁸

CASE REPORT

A 65-year-old man was hospitalized for recurrent urethral strictures in July 1991. History included pollakisuria with nocturia, as well as prolonged micturition. Since 1976 recurrent episodes of urinary retention secondary to urethral strictures were treated 4 times by endoscopic urethrotomy. Medical history was uneventful except for simple nephrectomy in 1956 for urogenital tuberculosis. The patient had a pathological flow rate with a peak flow of 10 ml. per second. Duration of micturition was 60 seconds with 190 ml. residual urine. Retrograde urethrography showed occlusion of nearly the entire proximal penile urethra (fig. 1).

After informed consent, urethrotomy was done and a 3 cm. stainless steel self-expandable stent was implanted into the proximal urethra covering the entire diseased segment. There were no complications after implantation. The urine was sterile. The peak flow rate was 35 ml. per second and he had no urinary retention at discharge from the hospital.

The patient returned to the outpatient clinic with complete urinary retention 6 weeks after stent implantation. Urethrography showed an extensive obstruction of the stented lumen (fig. 2). Due to complete obstruction endoscopic explantation of the stent could not be done and open revision was necessary. At operation significant obstruction of the entire stent with almost complete occlusion of the proximal end was noted. Obstruction was due to a hyperplastic reaction of the urothelium (fig. 3). The urethra was then reconstructed by end-to-end anastomosis. Convalescence was uneventful and the pa-

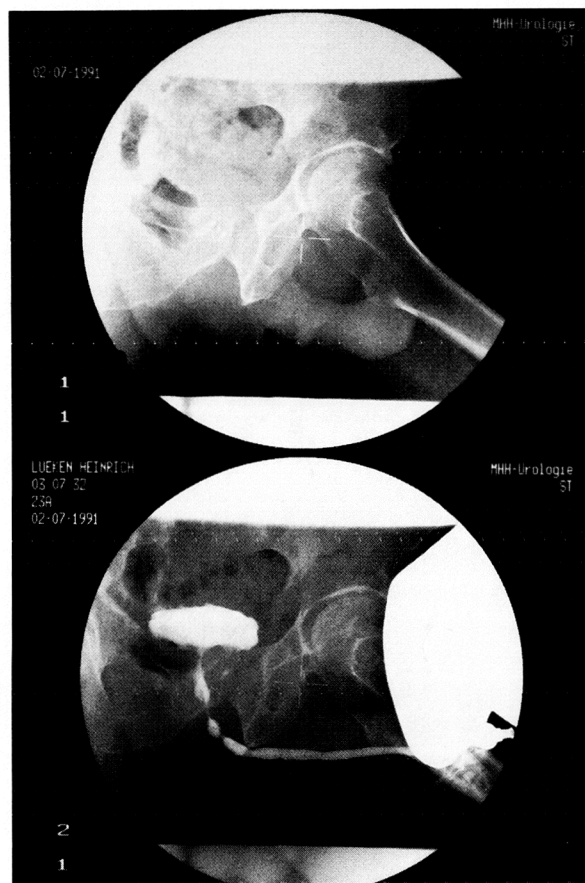


FIG. 1. Retrograde urethrogram before stent implantation

tient was discharged from the hospital with a normal flow rate (35 ml. per second) without evidence of residual urine and a normal urethrogram (fig. 4).

DISCUSSION

Because of the simple implantation technique and the lack of serious complications, the self-expandable stent seems to be an attractive alternative in selected patients with recurrent urethral strictures. As in our patient, endoscopic explantation of an incrustated stent may become impossible in some patients. The reported complete obstruction 6 weeks after implantation demonstrates the need for careful short-term controls. As an analogy, 20 to 40% of all coronary artery stents will show early complete occlusion within 14 days after implan-

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* Medinvent SA, Lausanne, Switzerland.

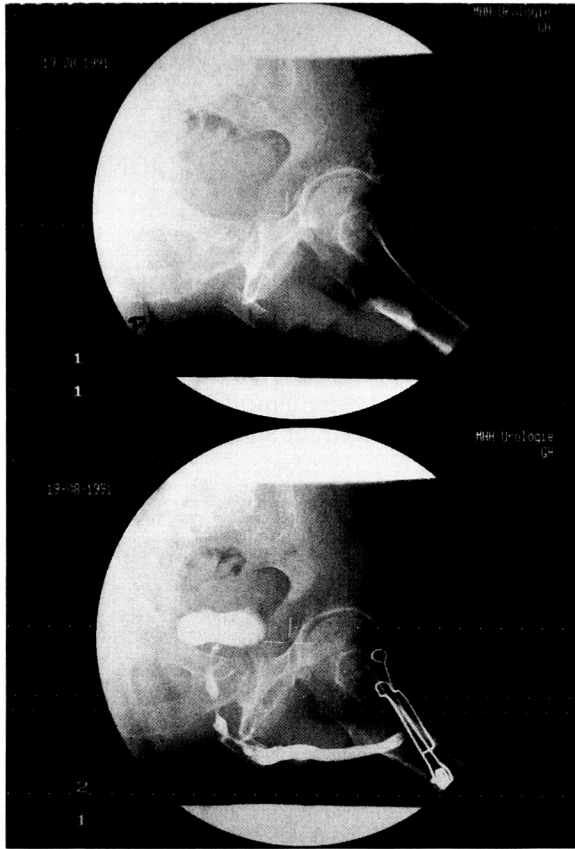


FIG. 2. Retrograde urethrogram 6 weeks after implantation

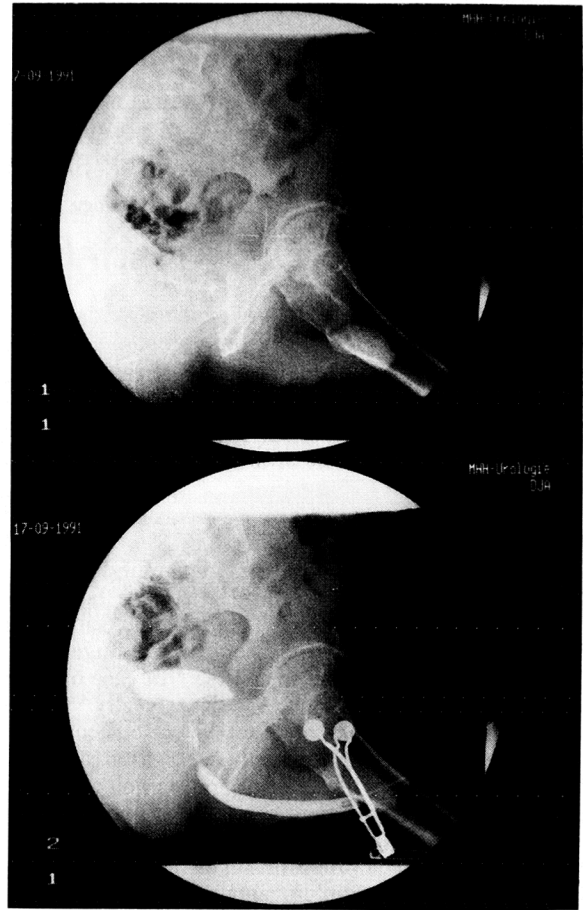


FIG. 4. Retrograde urethrogram after end-to-end anastomosis of urethra.

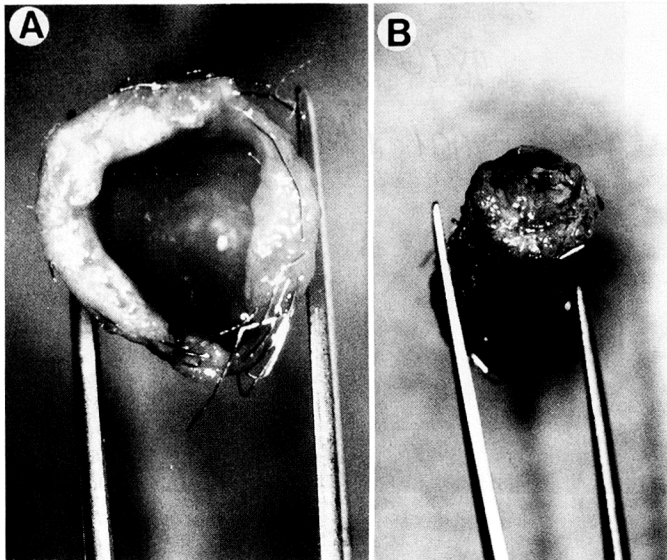


FIG. 3. A, obstructed distal end of stent after explantation. B, complete obstruction of proximal stent after explantation.

tation, as well as frequent late occlusion. This recurrent stenosis is due to intimal hyperplasia.⁸ Therefore, further long-term studies are required for a final assessment of this otherwise promising alternative for recurrent urethral stricture. Our case supports an analogy between urethral and vascular stenting.

Due to the aforementioned high incidence of occlusion after coronary artery stenting, we suggest implantation of urethral stents only in the context of careful patient selection and close followup.

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