SIUJ Société Internationale d'Urologie Journal

Article

Is Addition of Ureteric Cutting Balloon Prior to Dilatation of Benign Ureteric Strictures with Paclitaxel-Coated Balloon Feasible? A Single-Centre Experience

Jack Clarke [1,2,*], Aleksandr Pecherkin [3], Jack Karagiannakis [1], Lewis Chan [1,2], Hao Xiang [4] and David Habashy [1,2]

[1] Urology Department, Concord Hospital, Sydney 2139, Australia
[2] The University of Sydney Medical School, Camperdown 2050, Australia
[3] Launceston Hospital, Tasmania 7250, Australia
[4] Interventional Radiology Department, Concord Hospital, Sydney 2139, Australia
* Correspondence: jack.clarke@health.nsw.gov.au; Tel.: +61-481579889

Abstract

Background/Objectives: Benign ureteric strictures most commonly arise iatrogenically after procedures such as ureteroscopy or uretero-ileal anastomosis. Whilst surgical reconstruction is gold-standard, endoluminal treatment is recommended for short strictures and is an excellent option for unsuitable, comorbid, previously operated or irradiated patients. Failure rates are higher than surgical management, however. Paclitaxel-coated balloons (PCBs) for endoluminal management have been shown to inhibit smooth muscle-cell proliferation and improve re-stenosis rates. In vascular stenosis, cutting-balloon pre-dilatation before PCB dilatation is used to give more-controlled dilatation and deeper drug penetration, with fewer complications and recurrences. **Methods:** We retrospectively reviewed eight consecutive patients who underwent treatment of benign ureteric stricture with cutting balloon prior to PCB at a tertiary Sydney hospital, assessing safety, feasibility and short-term outcomes. Via antegrade nephrostomy or retrograde cystoscopic wire access, strictures were pre-dilated with a cutting balloon, then dilated with a Paclitaxel-coated balloon. The primary outcome was ureteric patency on imaging at 3 months, 1 year and latest follow-up; secondary outcomes were renal function (creatinine, estimated glomerular filtration rate [eGFR]) and Clavien-Dindo complications. **Results:** Eight patients (four women, four men; median age 63 years, range 49–78) underwent 13 cutting-balloon-plus-PCB procedures between April and July 2025. Aetiologies included uretero-ileal anastomotic stricture (50%), previous impacted calculus (25%), open pyelotomy (12.5%) and pelvic radiotherapy (12.5%); mean stricture length was 15 mm (ranging from 10 to 30 mm). Five patients (62.5%) had no recurrence after a single procedure, two were stricture-free after re-dilatation and one had persistent obstruction after three dilatations. Overall, 87.5% of patients were stricture-free at latest follow-up (median 20 months, ranging from 1.6 to 24). eGFR improved in all six patients with paired available biochemical data. Complications comprised one febrile urinary tract infection (UTI) (Clavien–Dindo II) and one ureteric perforation (Clavien–Dindo IIIa). **Conclusions:** This small case series suggests cutting-balloon pre-dilatation before paclitaxel-coated balloon dilatation of benign ureteric strictures is technically feasible; however, safety and long-term outcomes are still to be compared with PCB alone.

Keywords: ureteric stricture; ureteral stricture; paclitaxel-coated balloon; drug-coated balloon; cutting balloon; balloon dilatation; endourology

Check for updates

Academic Editor: Lysanne Campeau

Received: 31 August 2026
Revised: 9 October 2026
Accepted: 15 October 2026
Published: 21 October 2026

Copyright: © 2026 by the authors. Published by MDPI on behalf of the Société Internationale d'Urologie. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license.

1. Introduction

Benign ureteric strictures are a challenging clinical problem often resulting from prior surgery, instrumentation, infection, or radiotherapy. They are most commonly caused iatrogenically after instrumentation, particularly endoscopic treatment of ureteric calculi [1,2]. Fortunately, the overall incidence has decreased dramatically since the introduction of the ureteric access sheath which allows easier access to the proximal ureter and renal pelvis whilst minimising trauma of the ureter from the ureteroscope [3]. Despite this, patients who experience ureteric perforation during ureterorenoscopy or had a particularly impacted stone have a significantly higher incidence of post-operative ureteric stricture [4]. In total, 80% of all iatrogenic ureteric strictures had experienced intra-operative ureteric perforation [5].

The European Association of Urology (EAU) has recommended endoluminal management with incision, laser ablation or balloon dilatation of short ureteric strictures, although previous failure rates were reportedly high [6,7]. Cutting-balloon endoureterotomy (Acucise) was an earlier endoluminal option with a reported success rate of 73% [8], with peripheral cutting balloons also having been used for resistant benign ureteric strictures [9]. Recurrent strictures, or an increased length of the stricture, reduce chances of success, and so endoscopic management is currently not standard-of-care for strictures over 2 cm in length [10]. For this reason, resection of the affected area of the ureter with re-anastomosis or reconstruction is the current gold-standard treatment for young and medically fit patients with recurrent ureteric stricture and for those over 2 cm in length [11]. However, this approach can be invasive and may not be suitable for all patients, particularly those with significant comorbidities, prior pelvic surgery, or radiation, where operative risks are elevated and surgical planes may be distorted.

Recently interest has developed with regard to the addition of a Paclitaxel coating to the outside of endoluminal balloons used for ureteric dilatation. Paclitaxel is a chemotherapeutic drug that stabilises intra-cellular microtubules, inhibiting smooth muscle-cell (SMC) proliferation and therefore reducing rates of endoluminal re-stenosis. It has been previously investigated for use in ureteric strictures in porcine models, with recent interest in use in the human ureter within the last three years. At present, only three studies and one case report have contributed to the 58 human patients in which its use has been described [12–15]. Paclitaxel-coated balloons (PCBs) have also been used for management of urethral strictures, with superiority to standard endoscopic treatment alone demonstrated in the ROBUST III study [16].

A single observational study of cutting-balloon dilatation immediately prior to PCB dilatation in arterio-venous fistula stenosis has reported improved predictability and control of dilation, with impressive luminal patency of 96% at 12 months [17]. It has been assumed that the process of extracellular matrix remodelling is similar in both vascular and ureteric strictures [18]. This may suggest that pre-dilatation with a cutting balloon prior to PCB dilatation in human ureteric strictures could reduce procedural complications through a more-controlled dilatation pattern and provide greater efficacy through deeper penetration of Paclitaxel into the grooves made by the cutting balloon. The objective of this study was to explore the feasibility and short-term safety of this newly described technique.

2. Material and Methods

We performed a retrospective review of all consecutive patients who underwent treatment of benign ureteric strictures with inflation of an endoluminal cutting balloon followed by PCB between April 2024 and July 2025, to evaluate feasibility and short-term outcomes. Patients were identified through the Interventional Radiology logbook. During the study period, all patients referred for balloon dilatation of benign ureteric strictures were

treated with this technique. No other strict selection criteria were used. All procedures were performed by a single interventional radiologist in the Interventional Radiology Department, or in coordination with a urologist in operating theatres, at a tertiary hospital in Sydney, Australia. Use of a cutting balloon followed by PCB in ureteric strictures is currently off-label, with patients being informed about this during the pre-procedural consent process.

In anterograde cases such as uretero-ileal anastomotic strictures, a nephrostomy was used to access the ipsilateral collecting system by the renal pelvis and insert the wire over which the balloon dilatations would take place. In retrograde cases a wire was placed in the ureter under cystoscopic guidance. In both cases, pre-procedural imaging with plain film radiographs was used to confirm the correct balloon position at the area of the ureteric stricture. Once the wire and balloon were radiographically confirmed to traverse the stricture, pre-dilation was performed using a 20 mm long cutting balloon between 5 and 8 mm diameter (Boston Scientific, Marlborough, MA, USA), which was inflated gradually over approximately 60 s to nominal pressure, maintained briefly, and subsequently deflated slowly over a further 60 s. Figures 1–4 demonstrate a retrograde dilatation by cystoscopic guidance on a 67-year-old female with a 2 cm right vesico–ureteric stricture secondary to radiation.

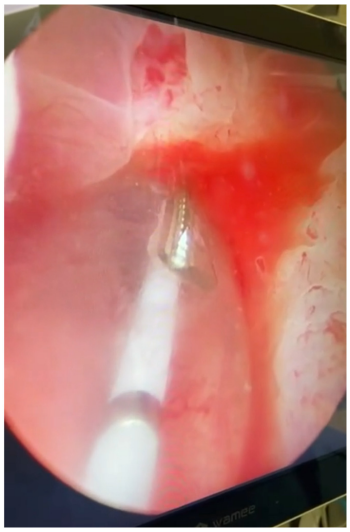


Figure 1. Cystoscopic view of the cutting balloon inflated at the right vesico–ureteric orifice in a 67-year-old female with a radiation-induced stricture.

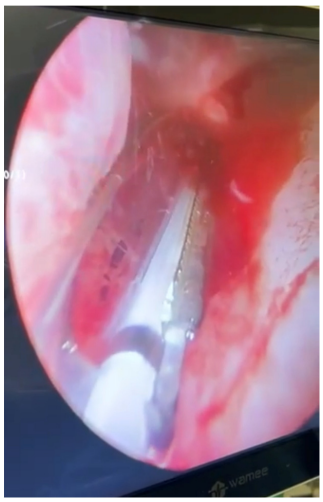


Figure 2. Subsequent deflation of cutting balloon at the right ureteric orifice.

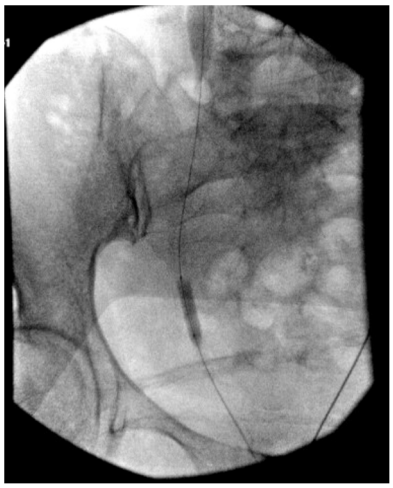


Figure 3. Intra-operative plain film imaging demonstrating cutting-balloon position during inflation.

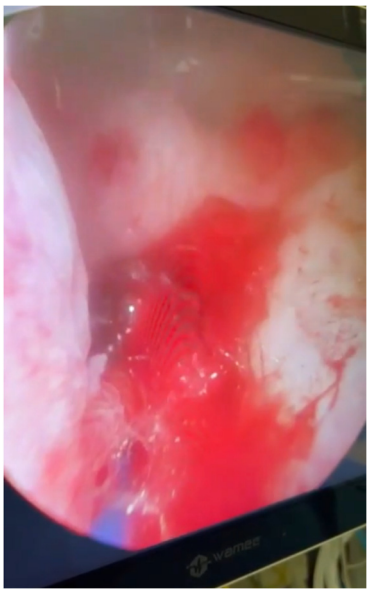


Figure 4. Cystoscopic view of the Paclitaxel-coated balloon inflated at the right ureteric orifice.

Following pre-dilation, the cutting balloon was exchanged for aRanger Paclitaxel-coated balloon of the same diameter, 40 to 60 mm long (Boston Scientific, Marlborough, MA, USA), which was inflated to nominal pressure and maintained for 3 min to facilitate adequate drug transfer before deflation and removal. A ureteric stent or nephrostomy was left after every procedure and removed at the treating urologist's discretion between 2 and 15 weeks later, once a contrast study demonstrated free drainage. One patient inadvertently removed their own stent the day following their procedure, with no complication.

Although balloon dimensions varied occasionally because of device availability, the procedural preference evolved toward the routine use of 8 mm diameter balloons. Early cases treated initially with 6 mm devices more frequently required repeat intervention, prompting subsequent standardisation to an 8 mm diameter approach where feasible.

Follow-up data were collected from electronic medical records, outpatient clinic documentation, biochemical renal function markers, and imaging studies. As preservation of renal function is one of the primary purposes of relieving urological obstruction, creatinine levels and estimated glomerular filtration rate (eGFR) were measured prior to and post dilatation. The timing of these blood tests was not standardised. Both intra-operative fluoroscopic images and outpatient computerised tomography (CT) imaging or

ultrasound were used to determine stricture position, length and contrast flow or degree of hydroureteronephrosis as a marker for comparative obstruction.

The primary outcome was resolution of stricture, defined as ureteric patency on subsequent imaging at 3 months, one year and most recent follow-up. Patency was assessed by anterograde nephrostogram or retrograde pyelogram at time of stent or nephrostomy removal by the treating interventional urologist. When it was determined using subsequent CT imaging, it was reported by an independent radiologist. Recurrence was defined as new or worsening hydronephrosis, or ureteric narrowing with hold-up of contrast. There was no standardised imaging schedule, so the closest approximate study around each follow-up timepoint was used. Secondary outcomes were improvement in renal function by measurement of biochemistry and complication rate/severity using the Clavien–Dindo scale. Due to the small study size, data are reported descriptively as median and range, with no statistical tests being performed.

This study adhered to the ethical principles of the Declaration of Helsinki and was approved by the Sydney local health district Concord research ethics committee (Number: 2025/ETH01287).

3. Results

Between April 2024 and July 2025, eight patients (four women, four men; median age 63 years, range 49–78) underwent 13 ureteric stricture dilatations with cutting balloon followed by PCB. Aetiology of strictures included uretero-ileal conduit anastomotic stricture (50%), previous impacted ureteric calculus (25%), previous open pyelotomy (12.5%) and pelvic radiotherapy (12.5%). Median length of stricture was 15 mm, ranging from 10 to 30 mm in length. eGFR was below 90 mL/min/1.73 m^2 in all seven patients with a baseline value (median 70, range 47–82). Of the six patients who had pre and post-procedural renal function available, eGFR improved or remained unchanged in all patients (6/6). Five patients (62.5%) had no recurrence after a single dilatation. Two (25%) required further dilatation before being stricture-free, one after a single repeat procedure, and the other after two procedures. One patient (12.5%) had persistent obstruction after three dilatations over 4 weeks. At the most recent follow-up 7/8 patients were stricture-free (87.5%). Two patients experienced significant complications, one febrile urinary tract infection (12.5%, Clavien–Dindo II) and one ureteric perforation (12.5%, Clavien–Dindo IIIa). This was noted due to minor leak of contrast from the area of the pelvi–ureteric junction stricture at the conclusion nephrostogram following a final 12 mm plain balloon dilatation after 8 mm cutting balloon and PCB dilatation. It was not suspected to be related to guidewire usage. This was managed with an anterograde insertion of a ureteric stent for 6 weeks, prior to retrograde exchange, at which point retrograde pyelogram demonstrated no contrast extravasation from the ureter. Median follow-up was 20 months (range 9–24). Table 1 outlines the outcomes of each patient, along with details of their stricture.

Table 1. Table illustrating stricture aetiology, length, prior treatment and time to recurrence. Age is recorded at time of index cutting balloon and PCB dilatation. PUJ = Pelvi–ureteric junction, VUJ = Vesico–ureteric junction, N/A = not available, eGFR = estimated glomerular filtration rate, PCB = Paclitaxel-coated balloon, Y/N = yes/no, UTI = urinary tract infection.

Patient Demographic (Age/Sex)	Nature of Stricture (Length, Position, Aetiology)	Follow-Up Length (Months)	Renal Function Prior (eGFR)	Renal Function Post (eGFR)	Recurrence of Stricture at 3 Months?	Recurrence of Stricture at 1 Year?	Required Re-Dilatation? (Length After Initial Dilatation)	Recurrence at Most Recent Fo-Low up?	Complication? (Y/N—Clavien–Dindo Score—Complication)
59F	1 cm Right Distal Ureter—ileal conduit anastomosis; recurrent	21	63	89	Yes	No	Yes—1.5 and 5.5 months	No	Yes—II febrile UTI
78M	3 cm distal right ureter—ileal conduit anastomosis; previously stented	20	47	80	No	No	No	No	No
71F	1 cm right distal ureter—ileal conduit anastomosis; new	24	N/A	N/A	No	No	Yes—1 week	No	No
76F	2 cm left distal—ileal conduit anastomosis; recurrent	24	56	64	No	No	No	No	No
49M	1 cm left PUJ—previous open pyelotomy	19	77	>90	Yes	Yes	Yes—1 and 4 weeks	Yes	Yes—III a ureteric perforation requiring ureteric stent insertion
53M	1.5 cm left proximal—impacted ureteric calculus; new	17	70	>90	No	No	No	No	No
67F	2 cm right VUJ—pelvic radiotherapy; new	22	74	N/A	No	No	No	No	No
58M	1.5 cm right distal—impacted ureteric calculus; recurrent	9	82	N/A	No	N/A	No	No	No

https://doi.org/10.3390/siuj7050072

4. Discussion

4.1. Findings from Our Study

To the author's knowledge, this study represents the first reported evaluation of cutting-balloon dilatation prior to PCB dilatation for benign ureteric strictures. The technique was feasible with all 13 procedures technically completed. At the most recent follow-up, 87.5% of patients were stricture-free, including repeat dilatations. Although the pooled success rate of PCB dilatation alone in the literature is 86.2% [15], it is not possible to directly compare this technique with PCB alone as end points and follow-up differ. However, one direct comparison that can be made is in the single-procedure success rate of this technique 62.5% compared with 56% described in the largest PCB series [12].

Patients who became stricture-free maintained ureteric patency to a median of 21 months at most recent follow-up, although without a control group this is difficult to attribute to the addition of pre-dilatation with cutting balloon.

Renal function improved or was unchanged in six patients with paired values; however, renal function data were incomplete without standardised measured timepoints due to the retrospective nature of the study. It is therefore difficult to draw meaningful conclusions from this. Larger prospective studies incorporating standardised renal functional assessment would be valuable in further evaluating this effect.

4.2. Pathophysiological Reasoning

On a histological level, increased amounts of collagen type III vs. type I are noted in secondary ureteral strictures, particularly after prior endoluminal dilatation attempts, which contribute to the fibrosis and narrowing of the ureter [19,20]. It has been hypothesised that pathogenesis of secondary ureteric strictures comprises a sequential chain of events, beginning with initial increased inflammatory cell infiltration causing early fibrosis, then progression to hyalinisation over the course of approximately one year, where excessive deposition of rigid type I and fibrotic type III collagen by SMC occurs [21]. This may also explain why stricture disease of over 1 year often has higher failure rates with endoluminal management [22].

4.3. Similarities Between Urological and Vascular Endoluminal Stricture Management

Vascular surgery has often preceded urology in the innovative utilisation of endoluminal treatment. Vascular surgeons and interventional radiologists have been performing re-canalisation of occluded vessels since the first percutaneous transluminal angioplasty of a stenosed femoral artery in 1964 [23]. Since the mid-2000s stenosed coronary arteries have been treated with balloon dilatation and placement of a Paclitaxel-coated coronary stent, which significantly reduces re-stenosis rates and occlusions causing major cardiac events. Paclitaxel stabilises intra-cellular microtubules, inhibiting SMC proliferation and therefore reducing rates of endoluminal re-stenosis by accumulation of collagen type III and contraction of extracellular matrix [18]. This same mechanism has been demonstrated in canine ureters where the urothelium is exposed to Paclitaxel, causing decreased proliferation of SMCs and subsequently lowered levels of collagen type III [24]. In the human ureter, unlike a coronary artery, however, leaving a permanent expanding stent causes significant encrustation and re-occlusion [25], and for this reason the use of PCB dilatation without a permanent expanding stent is far more preferable. Whether the results seen with addition of pre-dilatation with a cutting balloon prior to PCB usage in vascular endoluminal management also apply to the ureter is an assumption that remains to be tested.

4.4. Comparison with Current Studies

Kallidonis et al. were the first to describe the use of PCBs in the human ureter in 2022 through a series of 25 patients who underwent dilatation of ureteric strictures, reporting 88% recurrence-free rates at the 1-year follow-up, including additional dilatations in 32% of patients, with one complication of febrile urinary tract infection post-procedurally. Kallidonis' original described series had a mean patient follow-up of 36 months [12].

Contreras et al. further described PCB use for ureteric stricture disease in 21 patients, first reported as a congress abstract in 2024, with a 90% success rate at a median follow-up of 21 months [14]. Rico et al. described a further 11 patients who underwent ureteric dilatation with PCB in a conference abstract, reporting a 72.7% success rate at 30 days of follow-up [13]. These three studies total 57 patients; with one case report they make up the 58 published instances of PCB usage for management of benign ureteric strictures summarised in a 2026 review [15], with heterogenous data resulting from varying indications for PCB, stricture length and follow-up lengths. The pooled success rate of 86.2% in that review combines different end points and follow-up lengths. A repeat literature search in October 2026 found one further series of six patients followed for a median of 6 months [26].

Complications were reported in 10.6% of patients in the pooled PCB literature [15]. Our rate of 25% (2/8), including one Clavien–Dindo IIIa event, is imprecise due to our small sample size of eight.

Our series is too small to show whether the aetiology of strictures predicts the outcome of dilatation. Our two patients who required a subsequent dilatation before becoming stricture-free both had ileal conduit formation with uretero-ileal anastomosis. Excessive freeing of the ureter during formation of the anastomosis is well known to cause devascularisation and subsequent ischaemia with associated stricture in these patients [27]. Our patient who had three dilatation attempts, ultimately failing treatment, had a dense and established recurrent stricture due to prior open pyelotomy. The only Grade 3 Clavien–Dindo complication occurred during this patient's third attempt after cutting-balloon and PCB dilatation, with a following 12 mm plain-balloon inflation. Whilst this represents a significant adverse event, it is difficult to determine whether the complication was attributable specifically to the cutting balloon, PCB therapy, subsequent plain balloon, cumulative instrumentation, or underlying severe stricture pathology. Nevertheless, this event suggests caution in repeated dilatation in chronically diseased ureters.

Several technical observations emerged during the study period. The primary proceduralist noted in their earlier cases that strictures treated with 6 mm balloons appeared more likely to require repeat intervention, leading to a procedural preference for 8 mm diameter balloons where anatomically feasible. However, we present this as operator impression only without sufficient numbers to compare balloon size meaningfully. Future studies should further evaluate optimal balloon sizing, inflation duration, and procedural sequencing.

This study has several limitations, including its retrospective design introducing inherent selection and observational bias, small sample size, heterogenous follow-up duration (two patients had under one year of follow-up) and non-standardised re-imaging by independent radiologists. Furthermore, all procedures were also performed by a single interventional radiologist, with no comparison to PCB-only balloon dilatation. These limitations are reflective of this study's aim to primarily explore the feasibility and short-term safety of this novel new method, without aiming to demonstrate superiority to PCB balloon dilatations alone.

Ultimately, however, many patients in this series were high-complexity surgical candidates, including those with prior pelvic radiotherapy, ileal conduit diversion, or previous reconstructive surgery, where distorted tissue planes and impaired vascularity make formal reconstruction challenging and higher-risk. Despite the limitations of this small

retrospective series, our findings support the feasibility of sequential cutting-balloon and Paclitaxel-coated balloon dilatation for benign ureteric strictures. These findings warrant prospective multicenter comparison with PCB alone. If validated, this technique may become an important minimally invasive option for complex or surgically high-risk patients unsuitable for definitive reconstruction.

5. Conclusions

This small case series shows that the use of cutting balloons prior to PCB for the treatment of benign ureteric strictures is feasible. Safety and long-term benefit need prospective comparison with PCB alone.

Author Contributions: Conceptualization, J.C., L.C., H.X. and D.H.; Methodology, J.C., L.C., H.X. and D.H.; Formal analysis, J.C. and J.K.; Investigation, J.C., A.P., H.X. and D.H.; Data curation, J.C. and J.K.; Writing—original draft, J.C.; Writing—review & editing, J.C., A.P., H.X. and D.H.; Supervision, L.C., H.X. and D.H.; Project administration, J.C. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: This study adhered to the ethical principles of the Declaration of Helsinki and was approved by the Sydney local health district Concord research ethics committee (Number: 2025/ETH01287; Approval date: 27 October 2025).

Informed Consent Statement: Patient consent was waived by the Sydney Local Health District Human Research Ethics Committee (2025/ETH01287). The requirement for individual patient consent was formally waived by the Sydney Local Health District Human Research Ethics Committee. The study was a retrospective analysis of routinely collected, anonymised clinical data, and the Committee determined that there was no reasonable basis on which patients would withhold consent for the use of anonymised data of this nature. No identifiable patient information is reported.

Data Availability Statement: The data presented in this study are available on request from the corresponding author due to privacy agreements with the ethics committee granting ethical approval for this study.

Acknowledgments: During the preparation of this manuscript, the authors used Claude 1.40609.0 (f65e38) 2026-08-27T16:19:51.000Z for the purpose of generating the abstract from the main text, using only content from the originally written manuscript. The authors reviewed and edited the output and take full responsibility for the content of this publication.

Conflicts of Interest: The authors declare no conflicts of interest. No author has a financial relationship with the manufacturer of the devices used.

Abbreviations

CT, computerised tomography; EAU, European Association of Urology; eGFR, estimated glomerular filtration rate; N/A, not available; PCB, Paclitaxel-coated balloon; PUJ, pelvi–ureteric junction; SMC, smooth muscle cell; UTI, urinary tract infection; VUJ, vesico–ureteric junction; Y/N, yes/no.

References

1. Gild, P.; Kluth, L.A.; Vetterlein, M.W.; Engel, O.; Chun, F.K.H.; Fisch, M. Adult iatrogenic ureteral injury and stricture–incidence and treatment strategies. *Asian J. Urol.* **2018**, *5*, 101–106. [CrossRef] [PubMed]
2. Tran, H.; Arsovska, O.; Paterson, R.F.; Chew, B.H. Evaluation of risk factors and treatment options in patients with ureteral stricture disease at a single institution. *Can. Urol. Assoc. J.* **2015**, *9*, E921–E924. [CrossRef] [PubMed]

3. Dong, H.; Peng, Y.; Li, L.; Gao, X. Prevention strategies for ureteral stricture following ureteroscopic lithotripsy. *Asian J. Urol.* **2018**, *5*, 94–100. [CrossRef] [PubMed]
4. Tonyali, S.; Yilmaz, M.; Tzelves, L.; Emiliani, E.; De Coninck, V.; Keller, E.X.; Miernik, A. Predictors of Ureteral Strictures after Retrograde Ureteroscopic Treatment of Impacted Ureteral Stones: A Systematic Literature Review. *J. Clin. Med.* **2023**, *12*, 3603. [CrossRef] [PubMed]
5. Roberts, W.W.; Cadeddu, J.A.; Micali, S.; Kavoussi, L.R.; Moore, R.G. Ureteral stricture formation after removal of impacted calculi. *J. Urol.* **1998**, *159*, 723–726. [CrossRef]
6. Wolf, J.S., Jr.; Elashry, O.M.; Clayman, R.V. Long-Term Results of Endoureterotomy for Benign Ureteral and Ureteroenteric Strictures. *J. Urol.* **1997**, *158*, 759–764. [CrossRef] [PubMed]
7. Lu, X.; Wang, Y.; Chen, Q.; Xia, D.; Zhang, H.; Chen, M. Endoscopic Procedures in the Treatment of Ureteroenteric Anastomotic Strictures: A Systematic Review and Meta-Analysis. *Front. Surg.* **2021**, *8*, 626939. [CrossRef] [PubMed]
8. Cohen, T.D.; Gross, M.B.; Preminger, G.M. Long-term follow-up of acucise incision of ureteropelvic junction obstruction and ureteral strictures. *Urology* **1996**, *47*, 317–323. [CrossRef] [PubMed]
9. Atar, E.; Bachar, G.N.; Eitan, M.; Graif, F.; Neyman, H.; Belenky, A. Peripheral cutting balloon in the management of resistant benign ureteral and biliary strictures: Long-term results. *Diagn. Interv. Radiol.* **2007**, *13*, 39–41. [PubMed]
10. Reus, C.; Brehmer, M. Minimally invasive management of ureteral strictures: A 5-year retrospective study. *World J. Urol.* **2019**, *37*, 1733–1738. [CrossRef] [PubMed]
11. Dhangar, S.P.; Rasal, D.; Patil, S.; Balakumar, A.; Vaidya, S. Open surgical management of ureteric strictures: A retrospective study. *Bioinformation* **2025**, *21*, 405–409. [CrossRef] [PubMed]
12. Kallidonis, P.; Spiliopoulos, S.; Papadimatos, P.; Katsanos, C.; Liourdi, D.; Tsaturyan, A.; Karnabatidis, D.; Liatsikos, E.; Kitrou, P. Long-term outcomes of paclitaxel-coated balloons for non-malignant ureteral strictures. *World J. Urol.* **2022**, *40*, 1231–1238. [CrossRef] [PubMed]
13. 42nd World Congress of Endourology and Uro-Technology Program. *J. Endourol.* **2025**, *39*, e1–e208. [CrossRef]
14. Contreras, P.; Zeballos, J.; Rico, L.; Fiandra, D.; Ramos, L.B.; Musetti, J. Ureteral Stricture: Endoscopic Management. *Eur. Urol. Focus* **2025**, *11*, 730–732. [CrossRef] [PubMed]
15. Rico, L.; Contreras, P.; Blas, L.; Jaramillo, J.Á.; Frascheri, F.; Gauhar, V.; Traxer, O.; Somani, B. The role of paclitaxel-coated balloons in treating ureteral or anastomotic strictures: Current evidence and future directions from EAU endourology. *World J. Urol.* **2026**, *44*, 97. [CrossRef] [PubMed]
16. Elliott, S.P.; Coutinho, K.; Robertson, K.J.; D'Anna, R.; Chevli, K.; Carrier, S.; Aube-Peterkin, M.; Cantrill, C.H.; Ehlert, M.J.; Te, A.E.; et al. One-Year Results for the ROBUST III Randomized Controlled Trial Evaluating the Optilume ® Drug-Coated Balloon for Anterior Urethral Strictures. *J. Urol.* **2022**, *207*, 866–875. [CrossRef] [PubMed]
17. Tan, Z.; Chan, S.X.J.M.; Da Zhuang, K.; Urlings, T.; Leong, S.; Chua, J.M.E.; Patel, A.; Irani, F.G.; Chandramohan, S.; Tay, K.H.; et al. Recurrent Stenoses in Arteriovenous Fistula (AVF) for Dialysis Access: cuttIng ballooN angioplaSTy combined wITh paclitaxel drUg-coaTed balloon angioplasty, an observatIONal study (INSTITUTION Study). *Cardiovasc. Interv. Radiol.* **2022**, *45*, 646–653. [CrossRef] [PubMed]
18. Lin, P.K.; Davis, G.E. Extracellular Matrix Remodeling in Vascular Disease: Defining Its Regulators and Pathological Influence. *Arterioscler. Thromb. Vasc. Biol.* **2023**, *43*, 1599–1616. [CrossRef] [PubMed]
19. Wolf, J.S., Jr.; Soble, J.J.; Ratliff, T.L.; Clayman, R.V. Ureteral Cell Cultures II: Collagen Production and Response to Pharmacologic Agents. *J. Urol.* **1996**, *156*, 2067–2072. [CrossRef] [PubMed]
20. Sergi, F.; Flammia, G.P.; Alcini, A.; Perrone, G.; Guaglianone, S.; Forastiere, E.; Rabitti, C.; Gallucci, M. Collagen Changes in the Ureteropelvic Junction after Failed Antegrade Endopyelotomy. *J. Endourol.* **2007**, *21*, 103–107. [CrossRef] [PubMed]
21. Tan, J.; Yu, Z.; Ling, X.; Qiu, G.; Yang, X.; Tang, Y.; Yang, D.; Yang, M.; Gao, F. Main Pathological Changes of Benign Ureteral Strictures. *Front. Med.* **2022**, *9*, 916145. [CrossRef] [PubMed]
22. El-Abd, A.S.; Suliman, M.G.; Abo Farha, M.O.; Ramadan, A.R.; El-Tatawy, H.H.; El-Gamal, O.M.; El-Gamal, S.A.; Figenshau, R.; El Abd, S.A. The development of ureteric strictures after ureteroscopic treatment for ureteric calculi: A long-term study at two academic centres. *Arab. J. Urol.* **2014**, *12*, 168–172. [CrossRef] [PubMed]
23. Barton, M.; Grüntzig, J.; Husmann, M.; Rösch, J. Balloon angioplasty—The legacy of Andreas Grüntzig, M.D. (1939–1985). *Front. Cardiovasc. Med.* **2014**, *1*, 15. [CrossRef] [PubMed]
24. Will, T.A.; Polcari, A.J.; Garcia, J.G.; Ouwenga, M.K.; Voelzke, B.B.; Greisler, H.P.; Turk, T.M. Paclitaxel Inhibits Ureteral Smooth Muscle Cell Proliferation and Collagen Production in the Absence of Cell Toxicity. *J. Urol.* **2011**, *185*, 335–340. [CrossRef] [PubMed]
25. Altyeb, A.B.; Khalil, I.A.; Tawfik, H.; Okasha, N.; Abomarzouk, O.; Al Ansari, A. Early encrustation of a ureteric metallic stent managed by robotic assisted extraction and pyeloplasty. *Radiol. Case Rep.* **2025**, *20*, 3531–3535. [CrossRef] [PubMed]

26. Zorzi, F.; Scilipoti, P.; Alanazi, A.; Gonzalez-Gonzalez, C.; Nannola, N.; Chicaud, M.; Kutchukian, S.; La Mura, R.; Panthier, F.; Doizi, S.; et al. Paclitaxel Drug-coated Balloon (Optilume) for Ureteral Stricture Management: Technical Description and Initial Clinical Experience. *Eur. Urol. Focus* 2026, *in press*. [CrossRef] [PubMed]
27. Liu, Z.; Zheng, B.; Hu, Y.; Li, H.; Qin, X.; Hu, X.; Wang, S.; Wang, H.; Zhang, P.; Wo, Q.; et al. The cause analysis of benign uretero-ileal anastomotic stricture after radical cystectomy and urinary diversion. *Front. Oncol.* **2022**, *12*, 1070141. [CrossRef] [PubMed]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.