

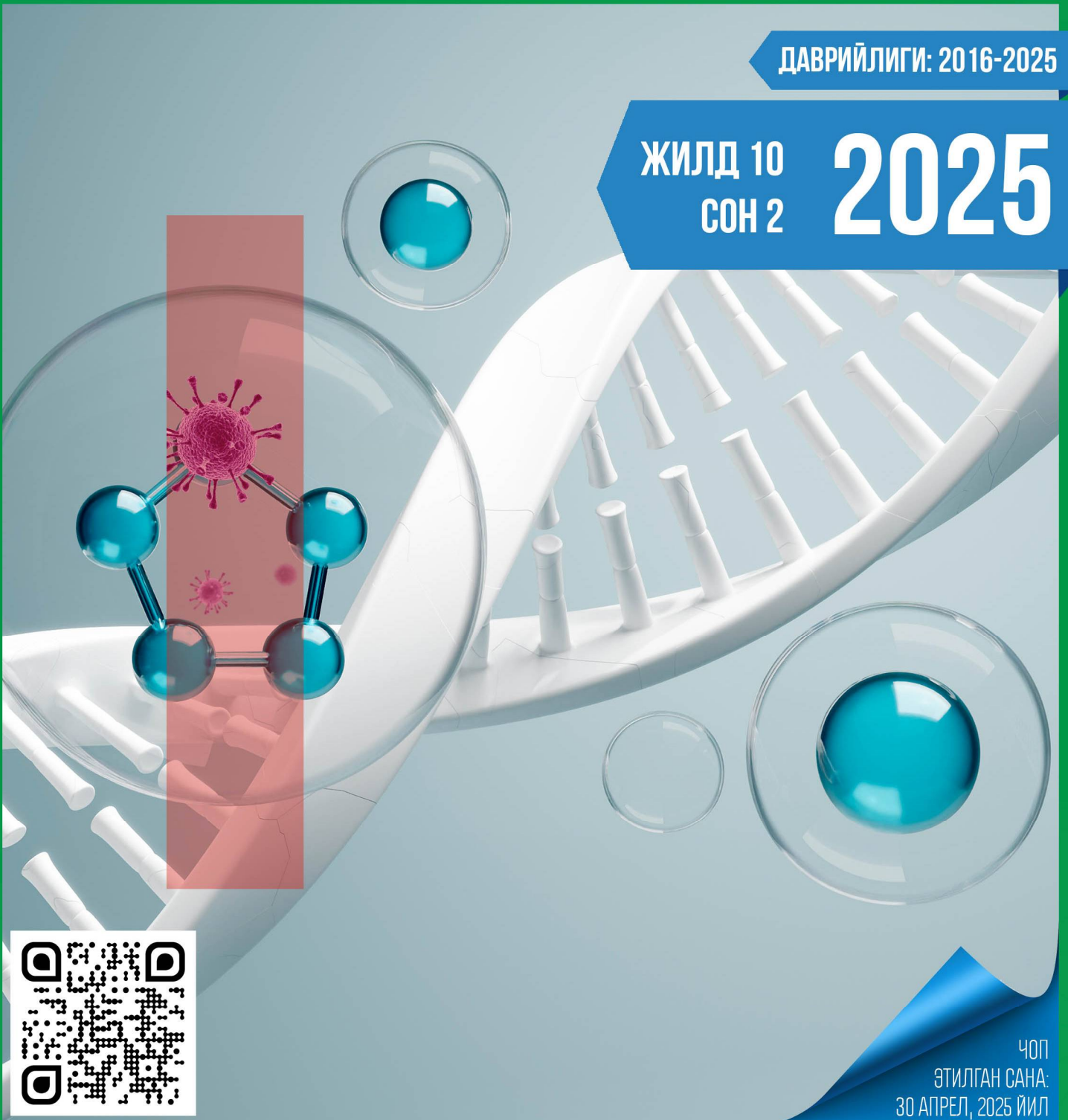
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EFFICACY OF ENDOSCOPIC BALLOON DILATION IN TREATMENT OF ACQUIRED URETERAL STRICTURES

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ABSTRACT

The article evaluates the effectiveness of endoscopic balloon dilation in the treatment of acquired ureteral and ureteropelvic junction (UPJ) strictures. In balloon dilation (BD) of acquired ureteral strictures, the overall effectiveness was 82%. 13 patients (18.1%) required repeated dilation and installation of a stent with a sliding clutch. BD has proven itself to be a technically simple and effective procedure, which in some cases can be an alternative to open surgical interventions.

Keywords: balloon dilation, ureteral strictures, endoscopy.

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ЭФФЕКТИВНОСТЬ ЭНДОСКОПИЧЕСКОЙ БАЛЛОННОЙ ДИЛАТАЦИИ В ЛЕЧЕНИИ ПРИОБРЕТЕННЫХ СТРИКТУР МОЧЕТОЧНИКОВ

АННОТАЦИЯ

В статье оценивается эффективность использования эндоскопической баллонной дилатации в лечении приобретенных стриктур мочеточников и лоханочно-мочеточникового сегмента (ЛМС). При баллонной дилатации (БД) приобретенных стриктур мочеточников общая эффективность составила 82 %. 13 пациентам (18,1%) потребовалось проведение повторной дилатации и установки стента с подвижной муфтой. БД показала себя как технически несложная и эффективная процедура, которая в ряде случаев может быть альтернативой открытым оперативным вмешательствам.

Ключевые слова: баллонная дилатация, стриктуры мочеточников, эндоскопия.

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SIYDIK NAYLARINING ORTTIRILGAN STRIKTURALARIDA ENDOSKOPIK BALLONLI DILYATATSIYANING SAMARADORLIGI

ANNOTATSIYA

Maqolada siydik naylarining va siydik nayi-jom segmentining (SNJS) orttirilgan strikturalarini davolashda endoskopik ballonli dilyatatsiyaning samaradorligi baholandi. Siydik naylarining orttirilgan strikturalarini ballonli dilyatatsiyaning (BD) umumiy samaradorligi 82% ni tashkil etdi. 13 (18,1%) nafar bemorlarda takroriy dilyatatsiya o'tkazilishi va harakatchan muftali stent o'rnatilishi talab etilgan. BD texnik jihatdan bajarilishi oson va samarali muolaja ekanligi, va ba'zi hollarda ochiq jarrohlik aralashuvlarga muqobil bo'lishi mumkinligi ko'rsatildi.

Kalit so'zlar: ballonli dilyatatsiya, siydik naylarining strikturalari, endoskopiya.

Introduction. Acquired ureteral strictures are usually of traumatic, postoperative, tuberculous, radiation or inflammatory origin. Postoperative ureteral strictures are quite common, their occurrence is associated with adhesive-sclerotic changes in the ureter and the surrounding tissues. Ureteral strictures can be single or multiple. Tuberculous strictures are usually multiple and form in areas of infiltrates and ulcers, post-radiation strictures develop more often in the lower third of the ureter after radiation therapy for malignant tumors of the genitals, rectum, and bladder. Post-radiation strictures are extended. Strictures developing after urological operations on the ureter can be localized in any section of the ureter and have different lengths [3,5].

Currently, various methods of reconstructive plastic surgery, replacement of the ureter with a fragment of the ileum, appendix, etc. are applied to restore the lumen of ureteropelvic junction (UPJ) and the ureter. These operations basically involve mandatory resection of the narrowed section of the ureter.

Endoscopic operations are widely used for strictures of any etiology and any localization and have the highest percentage of positive results in short (up to 1 cm) stenosis of post-inflammatory and traumatic etiology. According to various authors, the success of transurethral bougienage reaches 40-70%, balloon dilation 50-80% [1,2,3,4], however, reports on the effectiveness of endoscopic dilation of ureteral strictures and UPJ are contradictory [2].

Purpose. Evaluation of the effectiveness of endoscopic balloon dilation of acquired ureteral strictures and strictures of UPJ.

Material and methods. In the period 2016-2024, 72 balloon dilations (BD) of ureteral strictures and strictures of UPJ were performed at the Institute of Urology of the National Academy of Medical Sciences of Ukraine together with the Department of Urology of the Samarkand State Medical University. Among all patients:

38 (52.8%) patients with postoperative ureteral strictures (upper third – 12 (31.6%), lower third – 16 (42.1%), UPJ – 10 (26.3%);

11 (15.3%) patients with strictures of the lower third of the ureters after radiation therapy;

6 (8.3%) patients with bilateral strictures and ureterohydronephrosis (UGN);

9 (12.5%) patients with strictures after ureterolithoextraction,

6 (8.3%) patients after extracorporeal shock wave lithotripsy (ESWL) and

2 (2.8%) patients with postoperative ureteral strictures of a single kidney.

Of the 72 patients, 13 (18.1%) had undergone repeated BD due to recurrent strictures over the course of 1 year.

After studying the functional state of the kidney, establishing the localization and extent of the stricture, catheterization of the ureter was performed using an angiographic guide, a fluoroplastic or X-ray-positive standard catheter. The possibility of passing the guide through the narrowed section of the ureter and the level of the overcome obstacle in centimeters (according to the catheter marks) were determined.

Dilation of the stricture was performed with two types of dilation balloons: Microvasive 6-12 atm, with a balloon length of 4-10 cm, a balloon diameter of 27-30 Fr, or Balloon Dilation Catheter euca PW 10.0 x 6.0 - 115 Germany. After installing the balloon dilator, its balloon was filled with an X-ray contrast substance using a special device with a manometer to monitor the pressure in the

dilator. The initial pressure of 2-4 atm, at which stricture dilation is possible, upon reaching these values, the set pressure in the balloon is fixed by closing the tap for 3-5 minutes. In case of non-complete efficiency or inefficiency of stricture dilation, the pressure in the balloon is gradually increased (according to the technical characteristics of the balloon dilator) to 12 atm. As the balloon is filled with contrast agent, a "waist" appears on its surface - a filling defect, which represents the ureteral stricture. As the pressure in the balloon increases, the waist decreases in length and width. The disappearance of the waist and complete straightening of the balloon dilator walls along the entire length indicates that complete dilation of the narrowed section of the ureter or UPJ has been achieved. Dilation sessions are performed up to 3 times, with an exposure of 3-5 minutes. An internal stent of 8-10 Fr is installed along the guidewire for the purpose of adequate drainage of the kidney and formation of a ureter of a new diameter at the site of the stricture for a period of 6-8 weeks.

To form a sufficient lumen of the UPJ or ureter in patients with recurrent strictures, internal stents of 6-8 Fr with a sliding clutch of 14-16 Fr are used. Dilation was performed according to the specified technique, but a stent with a sliding clutch, previously fixed on the stent in the projection of the stricture, is installed at the level of the recurrent stricture (the level of the stricture is determined by catheterization and X-ray examination). Nephrostomies, if any, are removed 2-3 days after ureteral stenting. Stents are removed 6-8 weeks after the operation, when the patient is re-hospitalized.

Results. Dilation of ureteral strictures was performed in a retrograde and antegrade manner. In the presence of a postoperative nephrostomy or an imposed percutaneous nephrostomy, antegrade BD of the ureteral stricture is possible. Retrograde BD was performed in 58 (80,6%) patients, antegrade BD - in 14 (19,4%) patients. A follow-up examination in the remote period, from 6 months to 5 years, was conducted for all 72 patients. The result was assessed on the basis of a comprehensive examination, including ultrasound, survey and excretory urography, radioisotope renography, Doppler examination of the renal vascular system, the clinical condition of the patient and general clinical laboratory data.

A result was considered positive if there were no clinical symptoms of obstruction, no improvement or no deterioration in the functional state of the kidney, and no pronounced symptoms of pyelonephritis. In 13 patients, a recurrence of stricture was detected within a year: 5 at the level of UPJ and 8 at different levels of the ureter, of which 5 patients were after radiation therapy.

Recurrent ureteral and URC strictures in 13 (18.1%) patients were subjected to repeated dilation and installation of a stent with a sliding clutch during outpatient treatment and follow-up observation for 1-2 years. Further observation for 5 years had the following results: 3 patients developed a recurrent stricture with complete loss of renal function and its shrinkage. These patients underwent nephrectomy. 7 patients developed a recurrence of urolithiasis, exacerbation of chronic pyelonephritis against the background of impaired UPJ passability - surgical treatment was performed. In 3 patients with post-radiation strictures of the lower third of the ureters, repeated dilation sessions with stent installation were performed due to pronounced sclerotic changes in the retroperitoneal space and pelvis, one of them was transferred to chronic stent replacements on both sides every 3-4 months.

Discussion. In the course of treatment and observation of patients with acquired ureteral and UPJ strictures, we have established that the success of endoscopic technique depends on the length, severity of the stricture, development of complications in the postoperative period in the form of hematomas, urohematomas, sclerosis of the retroperitoneal space and the period of stricture formation. Thus, in patients with a stricture that has formed and exists for no more than 6 months, in 95% of cases it is possible to achieve complete dilation of the stricture, with older strictures, complete dilation is possible only in 75% of cases.

Conclusions. Retrograde and antegrade BD of acquired ureteral strictures and UPJ strictures is an effective method of treating ureteral strictures, allowing a number of patients to be spared repeated, traumatic, reconstructive and plastic surgeries (59 patients - 82%).

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