

Editorial

The Alpha Blockers and the Ureteral Access Sheaths Placements

Behzad Narouie¹, Fatemeh Khatami^{2*}

¹Department of Urology, Zahedan University of Medical Sciences, Zahedan, Iran

²Urology Research Center, Tehran University of Medical Sciences, Tehran, Iran

HIGHLIGHTS

- Alpha-blockers prior to retrograde intrarenal surgery (RIRS) cannot cover the ureteral access sheaths (UAS) placement difficulties.
- The benefit of laser applications with flexible ureteroscopy and RIRS applications.
- The cost-effectiveness of alpha-blockers to boost the spontaneous passage of ureteral stones.

ARTICLE INFO

Document type: Editorial

Receive Date: 12 September 2019

Accept Date: 13 October 2019

Available online: 13 November 2019

DOI: 10.22034/AU.2020.229122.1019

©2019 Transresurology. All right reserved.

ABSTRACT

The new technique of laser applications with flexible ureteroscopy and retrograde intrarenal surgery (RIRS) applications has improved a lot over the last years. Nowadays, it is possible to effectively accomplish RIRS operations on upper urinary system stones by using devices that yield high-quality images due to developments of digital technology as well as increased deflection ability. Several modifications and suggestions are considered for its improvement. One of them is using α -blockers to boost the spontaneous passage of ureteral stones led and relaxation and to decrease intramural ureteral resistance in ureteral smooth muscles.

Keywords: Retrograde Intrarenal Surgery; Alpha Blockers; Ureteral Access Sheaths

Editorial: It was from 2000 that the combination of laser applications with flexible ureteroscopy and retrograde intrarenal surgery (RIRS) applications has improved a lot. Nowadays, it is possible to effectively accomplish RIRS operations on upper urinary system stones by using devices that yield high-quality images due to developments of digital technology as well as increased deflection ability (1). Despite the huge benefits of RIRS, ureteral access sheaths (UAS) that is produced in different diameters ranging between 9.5 and 14 Fr and lengths between 13 and 55 cm can bring some difficulty in the ureter and some uneasiness for the patient. Ureteral access implements include access sheaths, wires, and dilators which are both under debate and upgrading. The safety, effectiveness, and limitations of lithotrites continue to be refined. Stone retrieval devices are moving to be miniaturized, and their cost-effectiveness is at issue (2).

One suggestion to cease such problems of UAS is using the alpha-blockers. Alpha-blockers (α -blockers) are a class of pharmacological agents that act

*Corresponding Author: Fatemeh Khatami

Email: fatemehkhatami1978@gmail.com

Address: Urology Research Center (URC), Sina Hospital, Hassan Abad Sq., Tehran, Iran

as antagonists on α -adrenergic receptors (α -adrenoceptors) (3). Generally, α -blockers are taken into account arterial blood pressure and central vasomotor control in the autonomic nervous system (4). There are some recent suggestions over the benefit of α -blockers to facilitate UAS placement. It is suggested that alpha-blockers raise the spontaneous route of ureteral stones and resulted in the reduction of the severity and frequency of pain, which is more evident in distal ureteral stones. The European association of urology (EAU) Urolithiasis Guidelines Panel on Interventional Treatment for Urolithiasis suggested α -blockers (5).

Contradictory, the study by Erturhan and his colleagues discuss the impact of α -blockers over the easier placement of UAS in RIRS (6). In his study candidate patients of RIRS due to renal stones received Tamsulosin (0.4 mg/day) two weeks before the operation as the case group contrary to the control group (n=25) underwent the operation without any additional treatment. It was shown that despite the higher successful UAS placement rate, no statistically significant values were reported. Moreover, a multicenter, placebo-controlled, randomized controlled trial and cost-effectiveness analysis of calcium channel blocker (nifedipine) and tamsulosin as α -blockers, by Pickard et al., indicated that α -blockers are very unlikely to be cost-effective (7). The use of alpha-blockers before RIRS cannot cover the UAS placement difficulties.

Authors' contributions

BN was responsible for study conception. FKH wrote the manuscript.

Acknowledgments

Special thanks to Urology Research Center (URC), Tehran University of Medical Sciences (TUMS), Tehran, Iran.

Conflict of interest

All authors claim that there is no competing interest.

Funding

There was no founding.

Ethics statement

Not applicable.

Data availability

Not applicable.

Abbreviations

EAU European association of urology
RIRS Retrograde intrarenal surgery
UAS Ureteral access sheaths

References

1. Yuruk E, Binbay M, Ozgor F, Erbin A, Berberoglu Y, Muslumanoğlu AY. Flexible ureterorenoscopy is safe and efficient for the treatment of kidney stones in patients with chronic kidney disease. *Urology*. 2014;84(6):1279-84.
2. Shin RH, Lipkin ME, Preminger GM. Disposable devices for RIRS: where do we stand in 2013? What do we need in the future? *World journal of urology*. 2015;33(2):241-6.
3. Debryne FM. Alpha blockers: are all created equal? *Urology*. 2000;56(5):20-2.
4. Zhang DY, Anderson AS. The sympathetic nervous system and heart failure. *Cardiology clinics*. 2014;32(1):33-45.
5. Türk C, Petřik A, Sarica K, Seitz C, Skolarikos A, Straub M, et al. EAU guidelines on interventional treatment for urolithiasis. *European urology*. 2016;69(3):475-82.
6. Erturhan S, Bayrak Ö, Şen H, Yılmaz AE, Seçkiner İ. Can alpha blockers facilitate the placement of ureteral access sheaths in retrograde intrarenal surgery? *Turkish journal of urology*. 2019;45(2):108.
7. Pickard R, Starr K, MacLennan G, Kilonzo M, Lam T, Thomas R, et al. Use of drug therapy in the management of symptomatic ureteric stones in hospitalised adults: a multicentre, placebo-controlled, randomised controlled trial and cost-effectiveness analysis of a calcium channel blocker (nifedipine) and an alpha-blocker (tamsulosin) (the SUSPEND trial). *Health Technol Assess*. 2015;19(63):vii-171.

Author (s) biosketches

Narouie B, Professor, Department of Urology, Zahedan University of Medical Sciences, Zahedan, Iran.

Email: b_narouie@yahoo.com

Khatami F, PhD, Urology Research Center, Tehran University of Medical Sciences, Tehran, Iran.

Email: fatemehkhatami1978@gmail.com

Copyrights

©2019 The author(s). This is an open access article distributed under the terms of the Creative Commons Attribution, which permits unrestricted use, distribution, and reproduction in any medium, as long as the original authors and source are cited. No permission is required from the authors or the publishers.



How to cite this article

Narouie B, Khatami F. The Alpha Blockers and the Ureteral Access Sheaths Placements. *Translational Research in Urology*. 2019 Oct;1(2):58-60.

DOI: 10.22034/au.2020.229122.1019

URL: http://www.transresurology.com/article_108114.html

