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软性输尿管镜处理硬性输尿管镜碎石术中结石漂移入肾

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[摘 要] **目的** 探讨电子软性输尿管镜钬激光碎石治疗硬性输尿管镜碎石术中结石漂移入肾的安全性及疗效。**方法** 回顾性分析我院2012年1月至2015年10月使用电子软性输尿管镜钬激光碎石术处理硬性输尿管镜碎石术中结石漂移入肾45例临床资料,分析软性输尿管镜钬激光碎石手术时间、清石率、术后住院时间、并发症发生率。**结果** 45例患者术前均为输尿管结石,结石直径均小于等于20 mm,术中发现结石23例位于上盏,8例结石位于中盏,3例位于下盏,11例为多个肾盏残石,单枚结石9例,结石直径5~20 mm。45例患者均顺利地置入电子软性输尿管镜,平均手术时间(38±11)min,术后平均住院时间(3±1)d。所有患者无肾盂输尿管严重损伤、大出血、急性肾功能不全、感染性休克等并发症,术后3个月行超声或CT检查证实无结石残留。**结论** 在硬性输尿管镜碎石术中结石漂移入肾的情况下,电子软性输尿管镜钬激光碎石能有效清除漂移结石,并发症少。

[关键词] 输尿管结石;硬性输尿管镜;软性输尿管镜
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Clinical analysis of flexible ureteroscopic laser lithotripsy for patients with stones moving into renal pelvis during rigid ureterosope

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Abstract: Objective To determine the safety and efficacy of flexible ureteroscopic laser lithotripsy in the treatment of stones moving into the renal pelvis during rigid ureterosope. **Methods** The clinical data of 45 patients with stones moving into the renal pelvis during rigid ureterosope treated by flexible ureteroscopic laser lithotripsy in our hospital from January 2012 to October 2015 were retrospectively reviewed.

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[参考文献]

[1] Battula N, Srinivasan P, Prachalias A, et al. Primary pancreatic lymphoma: diagnostic and therapeutic dilemma[J]. Pancreas, 2006, 33(2): 192-194. doi:10.1097/01.mpa.0000227910.63579.15.
[2] Du X, Zhao Y, Zhang T, et al. Primary pancreatic lymphoma: a clinical quandary of diagnosis and treatment[J]. Pancreas, 2011, 40(1): 30-36. doi:10.1097/MPA.0b013e3181e6e3e5.
[3] 何其舟,唐光才,刘年元,等.胰腺原发性非霍奇金淋巴瘤一例[J].临床放射学杂志,2010,29(9):1288.
[4] 孙伟明.胰腺淋巴瘤一例[J].临床放射学杂志,2006,25(8):734. doi:10.3969/j.issn.1001-9324.2006.08.029.
[5] Saif MW. Primary pancreatic lymphomas[J]. JOP, 2006, 7(3): 262-273.
[6] Loots E, Anderson F, Thomson SR. Primary pancreatic lymphoma in an HIV patient: dilemmas in diagnosis and management[J]. S Afr J Surg, 2008, 46(1): 28-29.
[7] Boulanger E, Agbalika F, Maarek O, et al. A clinical, molecular and cytogenetic study of 12 cases of human herpesvirus 8 associated primary effusion lymphoma in HIV-infected patients[J]. Hematol J, 2001, 2(3): 172-179. doi:10.1038/sj/thj/6200096.
[8] Mishra MV, Keith SW, Shen X, et al. Primary pancreatic lymphoma: a population-based analysis using the SEER program[J]. Am J Clin Oncol, 2013, 36(1): 38-43. doi:10.1097/COC.0b013e3182354bbb.
[9] Bozzoli V, Tisi MC, Pianese L, et al. Primary pancreatic lymphoma in a patient with maturity onset diabetes of the young type 3[J]. Mediterr J Hematol Infect Dis, 2012, 4(1): e2012005. doi:10.4084/MJHID.2012.005.
[10] Li Z, Zhang S, Vasdani N, et al. Clues for diagnosing primary pancreatic lymphoma[J]. Case Rep Gastroenterol, 2012, 6(2): 438-445. doi:10.1159/000339968.
[11] 王光宪,郭大静,杨 华,等.胰腺继发性淋巴瘤的CT诊断[J].临床放射学杂志,2011,30(6):899-901.
[12] Sadot E, Yahalom J, Do RK, et al. Clinical features and outcome of primary pancreatic lymphoma[J]. Ann Surg Oncol, 2014, 22(4): 1176-1184. doi:10.1245/s10434-014-4176-6.
[13] 王运韬,陈韵彬,陈 英,等.原发性胰腺淋巴瘤的MSCT影像表现分析[J].临床放射学杂志,2015,34(6):924-928.
[14] Fujinaga Y, Lall C, Patel A, et al. MR features of primary and secondary malignant lymphoma of the pancreas: a pictorial review[J]. Insights Into Imaging, 2013, 4(3): 321-329. doi:10.1007/s13244-013-0242-z.
[15] 周建军,丁建国,周康荣,等.结外淋巴瘤:影像学共性特征与病理的关系[J].临床放射学杂志,2007,26(6):618-622. doi:10.3969/j.issn.1001-9324.2007.06.022.
[16] 彭卫军.淋巴瘤影像诊断学[M].上海科学技术出版社,2008.
[17] 王永超,李 强.原发性胰腺淋巴瘤的临床分析及与胰腺癌的鉴别[J].中国肿瘤临床,2014,41(2):113-116.

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The operative time, stone free rates, postoperative hospital stay, incidence of complications of flexible ureteroscopic laser lithotripsy were analyzed. **Results** Preoperative stones of 45 cases were all located in the ureter, the stone diameter were or less than 20 mm, intraoperative findings 23 cases stones were located in the upper calyx, 8 cases situated in middle calyx, 3 cases located in lower calyx, 11 cases were multiple calyx residual stone, single stone 9 cases, the stone diameter was from 5 to 20 mm. All of the 45 patients were successfully placed the flexible ureteroscopy into the ureter, the average operative time was (38 ± 11) minutes, mean postoperative hospital stay time was (3 ± 1) days. There was no serious renal pelvis and ureter injury, bleeding, acute renal failure, septic shock and other complications. After 3 months ultrasound or CT scan confirmed no residual stones. **Conclusion** During the rigid ureteroscopy lithotripsy when stones drift into the renal pelvis, the electronic flexible ureteroscopy can effectively remove the drift stones with fewer complications.

Keywords: ureteral stones; rigid ureteroscopic lithotripsy; flexible ureteroscope

随着微创外科技术的发展,输尿管镜微创手术治疗结石已得到广泛认可。输尿管镜碎石术是处理输尿管结石的主要治疗方法[1]。近年来随着输尿管镜技术的广泛应用,输尿管镜碎石成功率逐渐提高,并发症发生率也逐渐下降[2],但碎石过程中结石漂移入肾是输尿管镜碎石过程中常见并且难以避免的问题,发生率为2% ~60%[3-4]。结石漂移入肾后的外科处理方式有经皮肾镜碎石术、软性输尿管镜碎石术及开放手术取石,对于硬性输尿管镜碎石术中结石漂移入肾后首选何种方式尚存在争议[5-7]。本研究通过分析本院45例经软性输尿管镜处理硬性输尿管镜碎石中结石漂移入肾患者的临床资料来评价软性输尿管镜处理硬性输尿管镜碎石中结石漂移入肾的临床疗效,为临床对于硬性输尿管镜碎石术中结石漂移入肾后处理方式的选择提供临床数据。现报告如下。

1 资料与方法

1.1 临床资料

2012年1月至2015年10月我院收治的45例应用软性输尿管镜碎石术治疗硬性输尿管镜碎石术中结石漂移入肾的患者,其中男26例,女19例,平均(38 ± 11)岁。术前结石均为输尿管结石,结石直径均小于等于20 mm,均行硬性输尿管镜碎石术,术中结石漂移后再行软性输尿管镜手术,Ⅰ期手术成功38例,Ⅱ期手术7例,再次手术时间为术后2周。术中23例发现结石位于上盏,8例结石位于中盏,3例位于下盏,11例为多个肾盏残石;单枚结石9例,结石直径5 ~20 mm,其余均为多枚结石。所有患者再次手术前均常规行尿常规、尿培养及肾输尿管CT检查。

1.2 手术方法

患者取截石位,头低脚高位,全麻成功后先置入1根12F普通尿管,8.5Fwolf输尿管硬镜由直视下轻柔进镜进入膀胱,置入斑马导丝,在斑马导丝引导下,将输尿管硬镜由输尿管开口进入达输尿管上段,沿导丝留置软性输尿管镜镜鞘,软性输尿管镜由镜鞘进入达肾盂,置入200 μm钬激光光纤,用钬激光将结石击碎为小于3 mm的小颗粒,退出软性输尿管镜,留置斑马导丝,再退出镜鞘,斑马导丝引导下留置1根5F双J管,留置18F三腔尿管。术后第1 ~2天拔除导尿管。术后2周拔除双J管,术后3个月复查肾输尿管CT,评估结石治疗效果。结石完全清除或残留结石直径小于等于4 mm且无临床症状者视为碎石清石成功,残留结石直径大于4 mm者为有临床意义的结石残留。

2 结果

38例患者术中顺利地放置输尿管导入鞘并置入软性输尿管镜,7例术中置输尿管导入鞘困难,于术后2周成功置入软性输尿管镜。所有患者均成功发现结石并进行钬激光碎石。软性输尿管镜平均手术时间(38 ± 11)min,软性输尿管镜手术后住院时间2 ~6 d、平均4 d,4周总清石率为100%。2例患者术后出现发热、寒战、心率增快感染性休克前期表现,及时应用敏感抗生素及抗休克治疗后好转,1例患者出现感染性休克,其余42例患者无肾盂输尿管严重损伤、大出血、急性肾功能不全、感染性休克等并发症发生。

3 讨论

输尿管镜碎石术是治疗输尿管结石主要的方法,但碎石过程中结石漂移入肾是输尿管镜碎石过程中常见并发症。影响输尿管结石漂移的主要因素是冲洗液导致管腔内高压,不同碎石能量方式的选择,结石受力位置与方向以及近端输尿管的扩张程度,气压弹道碎石较钬激光超声碎石更易于引发结石漂移[5]。

有研究证实软性输尿管镜钬激光碎石术处理直径小于等于2 cm的结石手术成功率高,手术时间短,术后并发症发生率低[8-10]。大多数输尿管结石直径大于等于2 cm,软性输尿管镜碎石置入软性输尿管镜鞘的成功率为86.4%[11];对于中、上盏的结石软性输尿管镜碎石单次手术清石成功率可达到100%[11],Wilhelm等[9]报道软性输尿管镜治疗直径为1.0 ~3.5 cm,肾结石成功清石率为96%,并发症发生率为4%。李武学等[12]研究发现对于直径小于等于2 cm的肾结石软

性输尿管镜手术成功清石率为93.9%。张艳平等[10]报道软性输尿管镜治疗直径小于等于2 cm的肾结石,一次碎石成功清石率为88.0%(66/75),手术时间为(49.5±6.9) min。Perlmutter等[8]研究表明对于肾内小于1.5 cm的结石,软性输尿管镜治疗上盏、中盏和下盏结石的清石率分别为100%、95.8%、90.9%,下盏结石的清石率低于中盏、上盏的结石。对于输尿管结石直径一般都小于1.5 cm,软性输尿管镜处理可以获得较高的成功率,因此我们认为软性输尿管镜可作为硬性输尿管镜碎石术中结石漂移入肾后首选方式。术中我们采取了头低脚高位,一方面可以使术中结石尽量飘移至肾上盏,另一方面可以使输尿管拉直,便于输尿管硬镜手术。本组患者应用输尿管硬镜碎石时采用头低脚高位,术中即使结石飘移,但绝大多数飘移至肾中上盏,即45例患者中发现结石飘移至上盏23例、中盏8例、下盏3例、11例为多个肾盏残石。如术中发现结石飘移即退出输尿管硬镜,导丝引导下放置软性输尿管镜引导鞘,软性输尿管镜引导鞘对软性输尿管镜具有保护作用,容易反复进镜,可减少软性输尿管镜反复进出输尿管引起的输尿管黏膜损伤;有利于术中冲洗液回流,有效降低肾盂内压,避免肾盂内压过高导致肾盂扩张出血,及减少感染相关并发症,如术中Ⅰ期软性输尿管镜引导鞘置入困难,不宜盲目强行置入引导鞘,应留置双J管终止手术,2周后再行Ⅱ期碎石术;本组患者2周后均顺利置入软性输尿管镜引导鞘,完成碎石手术。留置双J管能扩张输尿管,有利于置入软性输尿管镜引导鞘行软性输尿管镜碎石。

软性输尿管镜联合输尿管硬镜处理输尿管上段结石被认为是提高清石率的有效手段。Goldberg等[13]报道47例软性输尿管镜处理输尿管上段结石的成功率为100%;刘定益等[14]报道输尿管硬镜钬激光治疗输尿管上段结石中63例结石漂入肾患者应用软性输尿管镜钬激光同期碎石成功率为81.0%(51/63),认为软性输尿管镜碎石是处理输尿管硬镜漂移结石的有效手段。

软性输尿管镜碎石疗效确切,并发症发生率低,最常见的并发症包括出血、输尿管肾盂穿孔以及输尿管全程撕脱,术后并发症包括泌尿系感染、输尿管狭窄等。本组45例患者,无输尿管穿孔病例,1例术中发生出血,留置双J管2周后再次手术获得成功。我们的经验是在导丝引导下放置软性输尿管镜引导鞘,软性输尿管镜引导鞘可减少软性输尿管镜反复进出输尿管引起的输尿管黏膜损伤及输尿管穿孔。本组有2例术后出现发热、寒战、心率增快等感染性休克前期表现,及时应用敏感抗生素及抗休克治疗后好转,1例出现感染性休克,予以抗感染及抗休克治疗后好转。利用软性输尿管镜引导鞘,置入有利于术中冲洗液回流,可有效降低肾盂内压,避免肾盂内压过高导致肾盂扩张出血,减少感染。如果患者出现发热、心率增快等早期应及时发现,并根据术前细菌培养及药敏结果给予敏感抗生素。

综上所述,软性输尿管镜碎石术可高效清除输尿管镜取石术中回移入肾的结石,其具有创伤小、并发症少、清石率高等优点,特别适应于孤立肾、凝血功能障碍、解剖畸形及过度肥胖等特殊人群的治疗。

[参考文献]

[1] Bader MJ,Eisner B,Porpiglia F,et al. Contemporary management of ureteral stones[J]. Eur Urol,2012,61(4):764-772. doi:10.1016/j.eururo.2012.01.009.

[2] Preminger GM,Tiselius HG,Assimos DG,et al. 2007 Guideline for the management of ureteral calculi[J]. Eur Urol,2007,52(6):1610-1631.

[3] Osorio L,Lima E,Soares J,et al. Emergency ureteroscopic management of ureteral stones:why not? [J]. Urology,2007,69(1):27-31.

[4] Tunc L,Kupeli B,Senocak C,et al. Pneumatic lithotripsy for large ureteral stones:is it the first line treatment? [J]. Int Urol Nephrol,2007,39(3):759-764.

[5] 李 科,陈 伟,胡晓燕,等. 坦索罗辛在输尿管镜碎石术治疗输尿管下段结石中的应用研究[J]. 局解手术学杂志,2015,24(5):516-518. doi:10.11659/jjssx.05E01501.

[6] 肖春雷,郝一昌. 经皮肾镜取石术是处理输尿管镜碎石中结石回移入肾的首选治疗方法[J]. 现代泌尿外科杂志,2014,19(2):125-127.

[7] 张 弋,于澄钒,那彦群. 输尿管镜碎石术中结石漂移入肾的首选治疗为软性输尿管镜[J]. 现代泌尿外科杂志,2014,19(2):127-130.

[8] Perlmutter AE,Talug C,Tarry WF,et al. Impact of stone location on success rates of endoscopic lithotripsy for nephrolithiasis[J]. Urology,2008,71(2):214-217. doi:10.1016/j.urology.2007.09.023.

[9] Wilhelm K,Hein S,Adams F,et al. Ultra-mini PCNL versus flexible ureteroscopy:a matched analysis of analgesic consumption and treatment-related patient satisfaction in patients with renal stones 10-35 mm[J]. World J Urol,2015. doi:10.1007/s00345-015-1585-5.

[10] 张艳平,刘凯隆,路保赛,等. 软性输尿管镜和经皮肾镜治疗肾结石的疗效及安全性对比分析[J]. 中华泌尿外科杂志,2014,35(11):845-848. doi:10.3760/cma.j.issn.1000-6702.2014.11.014.

[11] 贺 飞,张晓忠,杨青山,等. 输尿管软镜钬激光碎石术治疗经皮肾镜取石术术后的残留结石[J]. 中华腔镜泌尿外科杂志(电子版),2013,7(3):49-51. doi:10.3877/cma.j.issn.1674-3253.2013.03.014.

[12] 李武学,赵兴华,许长宝,等. 输尿管软镜与经皮肾镜碎石术治疗肾结石疗效比较[J]. 山东医药,2014,54(6):92-93. doi:10.3969/j.issn.1002-266X.2014.06.037.

[13] Goldberg H,Holland R,Tal R,et al. The impact of retrograde intrarenal surgery for asymptomatic renal stones in patients undergoing ureteroscopy for a symptomatic ureteral stone[J]. J Endourol,2013,27(8):970-973. doi:10.1089/end.2013.0055.

[14] 刘定益,王 健,唐 崎,等. 输尿管软镜在治疗输尿管上段漂移结石中的应用[J]. 中国微创外科杂志,2013,13(7):603-605. doi:10.3969/j.issn.1009-6604.2013.07.008.

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