DOI: 10.12235/E20210101
文章编号：1007-1989（2021）10-0078-04

临床研究

输尿管镜下输尿管长段撕脱的处理和思考

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摘要：目的 探讨输尿管镜手术致输尿管长段撕脱的处理方法。**方法** 对3例输尿管长段分别为18、20和21 cm撕脱患者进行诊治，1例行膀胱瓣管残端吻合术，1例行膀胱瓣管肾盂吻合术，1例行回肠代输尿管术，均于腔内放置双J管。**结果** 行膀胱瓣管输尿管残端吻合术的患者于术后7个月取出双J管，1个月后复查无肾积水，无其他并发症，恢复良好。行膀胱瓣管肾盂吻合术的患者，术后3个月取出双J管，1个月后复查，出现吻合口旁边囊肿，后期行自体肾移植术。行回肠代输尿管术的患者，于术后6个月取出双J管，1个月后复查无肾积水，恢复良好。**结论** 输尿管镜下输尿管长段撕脱需及时行膀胱瓣管代输尿管术、回肠代输尿管术或自体肾移植术，需在术后6个月以后考虑取出双J管，使输尿管损伤得到最佳处理效果。

关键词： 输尿管；长段损伤；处理；思考；输尿管镜下
中图分类号： R693.5

Treatment and consideration of long segment ureteral avulsion under ureteroscopy

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Abstract: Objective To investigate the treatment of long ureteral avulsion by ureteroscopy. **Methods** Through the diagnosis and treatment of 3 patients with ureteral avulsion of 18, 20 and 21 cm respectively, 1 patient underwent vesical valve stump anastomosis, 1 patient underwent vesical valve pelvis anastomosis, 1 patient underwent ileal ureteral replacement, and all the patients were placed with double J tube in the cavity. **Results** 7 months after the anastomosis of the ureteral stump, the patient took out the double J tube, one month later, there was no hydronephrosis, no other complications, and the patient recovered well. In the patients with bladder valve and renal pelevoid anastomosis, the double J tube was removed 3 months after operation, and reexamination showed cyst near the anastomotic site 1 month later. Autologous renal transplantation was performed later. In patients with ileal ureteral replacement, the double J tube was removed 6 months after operation, and there was no hydronephrosis reexamination 1 month later, and the recovery was good. **Conclusion** Long ureteral avulsion under ureteroscopy should be performed in time, such as bladder flap ureteral replacement, ileum ureteral replacement, and autogenous kidney transplantation. Only after more than 6 months after operation should the double J tube be taken out, so that the ureteral injury can get the best treatment results.

Keywords: ureter; long segment damage; processing; thinking; under ureteroscopy

收稿日期：2021-02-26

泌尿系结石是泌尿外科的常见病之一，随着居民就诊意识的提高，泌尿系结石的发现率也越来越高[1]。近年来，经尿道输尿管镜钬激光碎石术在泌尿外科中广泛应用，尽管输尿管镜钬激光碎石术是一种微创手术，但其对输尿管仍有一定损伤，甚至可能出现严重并发症[2-3]。笔者在2009年12月—2019年12月为3例输尿管镜钬激光碎石术致输尿管长段撕脱患者进行诊治，效果满意。现报道如下：

1　资料与方法

1.1　一般资料

本组3例患者均为男性，年龄分别为59、52和57岁，原发病均为输尿管上段小结石，分别为0.50、0.45和0.44 cm，1例合并感染，1例行体外冲击波碎石1次，1例行体外冲击波碎石2次，术前经血常规、肝肾功能、胸片、CT和心电图等检查，无手术禁忌证有手术适应证，均拟行经尿道输尿管镜钬激光碎石术。

1.2　治疗方法

3例患者均行全身麻醉，取截石位。使用德国Wolf F8.9/9.8硬型输尿管镜先行膀胱检查，然后在斑马导丝引导和液压扩张下，将输尿管镜导入输尿管腔内，边观察边进镜，保持视野清晰。3例均在斑马导丝置入约20 cm时受阻，进镜时发现输尿管腔细、迂曲、黏膜水肿，钬激光碎石后，助手进镜及退镜时发现阻力较大，视野不清，前后活动输尿管镜视野仍无变化。主刀接手后加深肌松，加用石蜡油冲洗，反复尝试旋转退镜，见黏膜呈波浪状后，于镜前固定视野，撤镜观察见输尿管黏膜长段撕脱，部分黏膜反套于输尿管上，输尿管拖出断端长度分别为18、20和21 cm，呈苍白色，无血供。1例立即全身麻醉下改平卧位，经腹直肌旁切口进入探查，发现肾盂输尿管交界约3 cm以下输尿管消失，游离肾脏下移，行约18 cm膀胱S型瓣管输尿管断端吻合，内置7号双J管，输尿管残端与膀胱瓣管吻合口网膜包裹。见图1。另1例立即全身麻醉下改侧卧位，行腰部及下腹部切口探查，发现整个输尿管全层断裂约20 cm，游离肾脏下移，行约20 cm膀胱S型瓣管肾盂断端处吻合，网膜包裹吻合口，内置双J管1根。第3例在全身麻醉下行回肠代输尿管术，术中发现输尿管全程缺损约21 cm。

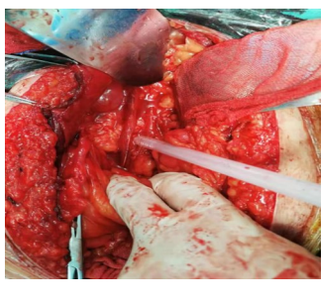
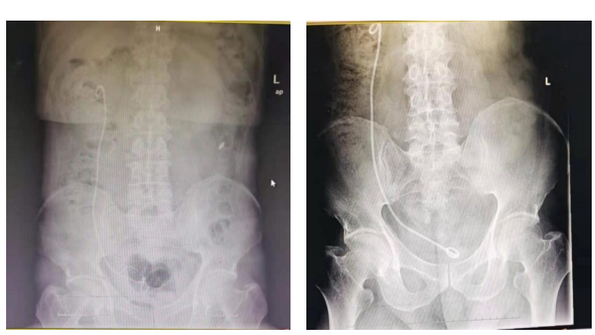


图1　探查手术发现肾下极输尿管上段撕脱伤

Fig.1　Exploratory surgery revealed avulsion of the lower pole of the kidney and upper ureteral segment

2　结果

第1例行膀胱瓣管输尿管残端吻合的患者，术后定期复查腹部平片。见图2。于术后7个月取出双J管，1个月后复查CT，无肾积水，无腹痛、腹胀和腰痛等并发症发生。第2例膀胱瓣管肾盂断端处吻合的患者，术后3个月取出双J管，1个月后复查发现肾盂膀胱瓣管吻合处出现一个巨大囊肿（约5～7 cm），后期行自体肾移植。第3例行回肠代输尿管术的患者，术后6个月拔出双J管，术后复查无肾积水，无腹痛、腹胀和腰痛。



A　　B

A：术后3 d；B：术后2周

图2　术后复查腹部平片

Fig.2　KUB was reexamined after surgery

3　讨论

输尿管镜手术是目前治疗输尿管结石的首选方法，已在泌尿外科中广泛应用，但微创并不代表“零危险”，输尿管长段撕脱伤是其最严重的并发症[4-5]。

3.1　输尿管镜手术致输尿管长段撕脱的原因

①输尿管本身病变，输尿管明显炎性水肿，黏膜脆性增加，弹性下降，甚至发生息肉样增生瘢痕形成等变化，导致输尿管扭曲变薄[6]；②术者操作技术不

规范，不熟练，经验相对不足，遇到阻力强行操作，在视野不清时盲目操作和在同一部位反复操作[7-8]；③麻醉程度不到位，容易出现输尿管镜“抱死”现象。

3.2 输尿管长段撕脱的预防

①严格选择手术适应证，对于输尿管上段小结石合并感染或碎石的患者，使用输尿管镜时要慎重；②术中操作应轻柔，不可过于粗暴，遇有阻力较大时要及时退镜；③术前进镜前输尿管内留置双J管；④全身麻醉及良好的肌松；⑤术前应用α受体阻断剂充分麻醉和镇痛，在留置导丝的基础上退镜，待输尿管镜完全松解后再拔出镜体，确实难以拔出输尿管镜时，及时改开放手术；⑥及时使用更细的镜子，术中遇到退镜时视野无变化或有突然的落空感时应立即停止手术，改开放手术[9]。

3.3 输尿管长段撕脱的处理

目前，输尿管长段损伤的处理方法包括：回肠代输尿管术、膀胱瓣管输尿管断端吻合术、膀胱瓣管肾盂吻合术、阑尾及舌黏膜代输尿管术、自体肾移植术、永久肾造瘘术和肾切除术等[6, 10-11]。一旦发生输尿管长段全层套脱，应在减少创伤、保留肾脏功能的原则上尽量恢复肾脏、输尿管及膀胱的通路[12-14]。本组3例输尿管长段损伤，1例从肾盂输尿管残端3 cm处断裂，2例均从肾盂输尿管交界处断裂（全程输尿管断裂），1例行膀胱瓣管输尿管残端吻合，1例行膀胱瓣管肾盂吻合，1例行回肠代输尿管术，分别于术后7、3和6个月取出双J管，1例后期行自体肾移植术。说明膀胱瓣管肾盂吻合后输尿管损伤较长，吻合口不易固定，张力较大，术后输尿管坏死、狭窄、吻合口瘘的概率极大，而用回肠代输尿管术可能是治疗全层输尿管损伤较满意的方法[15-16]。如果行膀胱瓣输尿管残端吻合术，建议术后6个月以上拔出双J管。

综上所述，输尿管镜手术致输尿管长段撕脱是输尿管镜手术中最严重的并发症，掌握好术中操作技巧，及时准确判断和处理，并结合施术者自身的手术熟练程度，及时行回肠代输尿管术、膀胱瓣管代输尿管术、自体肾移植术等，既可以保护肾功能，又可以保持肾、输尿管和膀胱的连续性，即使发生输尿管损伤也可得到最佳处理效果。

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（彭薇　编辑）

本文引用格式：

徐杰, 严威, 高文喜, 等. 输尿管镜下输尿管长段撕脱的处理和思考[J]. 中国内镜杂志, 2021, 27(10): 78-81.

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