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·短篇论著·

儿童重复肾重复输尿管畸形118例临床分析

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【摘要】 **目的**　探讨儿童重复肾重复输尿管畸形的临床特点及治疗方案,为临床诊治提供依据。**方法**　回顾性分析2015年1月至2019年6月在深圳市儿童医院泌尿外科手术治疗的118例(男性32例,女性86例)重复肾重复输尿管畸形患儿的临床资料。**结果**　患儿的临床表现以发热、尿失禁最常见(82.2%),腹部肿物及腰肋部不适少见;111例患儿术前经影像学检查明确诊断(7例行输尿管逆行造影术),合并输尿管异位开口39例,输尿管囊肿38例,膀胱输尿管反流11例;腹腔镜重复肾重复输尿管切除术<1岁组22例(A组)、1~3岁组42例(B组)、>3岁组18例(C组);C组平均手术时间短于A组和B组,C组术中出血量少于A组,差异均有统计学意义(P<0.05);所有患儿无正常肾单位丢失,术后复查超声均获得满意结果;随访时间平均18个月,115例患儿术后恢复良好,2例输尿管囊肿开窗引流术后和1例输尿管端侧吻合术后因反复感染、肾积水加重且功能受损后再入院行输尿管膀胱再植。**结论**　重复肾重复输尿管患儿临床表现以发热、尿失禁最常见。本病合并畸形各异,宜根据重复肾肾功能制定个体化治疗,术后中远期疗效确切。

【关键词】 重复肾;输尿管囊肿;输尿管异位开口;儿童;诊断;治疗
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Clinical analysis of 118 cases of duplication of kidney and ureter in children. *ZHOU Guang-lun, SUN Jun-jie, YIN Jian-chun, LI Shou-lin. Department of Urinary Surgery, Shenzhen Children's Hospital, Shenzhen 518034, Guangdong, CHINA*

【**Abstract**】 **Objective**　To investigate the clinical characteristics and treatment of duplication of kidney and ureter in children, and to provide basis for clinical diagnosis and treatment. **Methods**　The clinical data of 118 cases (32 males and 86 females) with duplication of kidney and ureter treated in Department of Urinary Surgery, Shenzhen Children's Hospital from January 2015 to June 2019 were retrospectively analyzed. **Results**　Fever and urinary incontinence were the most common clinical manifestation (82.2%), while abdominal mass and lumbar costal discomfort were rare. A total of 111 children were diagnosed by preoperative imaging (7 cases underwent retrograde ureterography), and there were 39 cases with ectopic ureteral opening, 38 cases with ureteral cyst, and 11 cases of bladder and ureter reflux. The patients were divided into three groups according to laparoscopic heminephroureterectomy group A (22 cases, <1 year old), group B (42 cases, 1~3 year old) and group C (18 cases, >3 years old). The average operative time in group C was shorter than that in group A and group B, and group C had less intraoperative bleeding than group A, with statistically significant difference (P<0.05). All children had no loss of normal renal units, and satisfactory results were obtained by ultrasonography. The average follow-up time was 18 months. A total of 115 cases recovered well after operation, while 2 cases of ureterocele fenestration drainage and 1 case of ureteral end-to-side anastomosis were hospitalized for ureter bladder replantation because of repeated infection, aggravation of hydronephrosis and functional impairment. **Conclusion**　Fever and urinary incontinence are the most common clinical manifestations in children with duplication of kidney and ureter. It is suggested that individualized treatment should be made according to the renal function of repeated kidney, which shows outstanding effect on the sanatory rdhabilitation in the mid to long term.

【**Key words**】 Duplication of kidney; Ureterocele; Ectopic ureteral opening; Children; Diagnosis; Treatment

重复肾重复输尿管是儿童常见的泌尿系先天畸形,常伴发多种畸形,以输尿管囊肿、输尿管异位开口和输尿管反流最常见[1]。本病主要表现为正常排尿间歇持续滴尿、泌尿系感染、外阴肿物等,部分病例可无临床症状[2-3]。随着认识的加深和手术技巧的不断改进,保留肾单位和保护肾功能的治疗理念受到重视并逐步得以实现[4]。本文回顾性分析近几年在我院接受手术治疗的重复肾重复输尿管患者的临床资料,对相关指标进行评价,以期对该疾病的诊治有借鉴作用。

1　资料与方法

1.1　一般资料　收集2015年1月至2019年6月在深圳市儿童医院泌尿外科手术治疗的118例重复肾重复输尿管畸形患儿的临床资料,记录其临床症状、合并症、体格检查、辅助检查、治疗方案和随访资料。

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其中女性86例，男性32例；年龄1个月~13岁8个月，平均2.4岁；单侧重复肾104例，双侧14例；完全性重复肾重复输尿管畸形109例，不完全性(Y型)9例。

1.2 重复肾重复输尿管畸形诊断标准[4] ①临床症状表现为泌尿系感染、尿失禁、腹痛或尿道外口肿物等；②超声检查发现重复肾和(或)输尿管扩张、半肾积水、输尿管囊肿；③泌尿系水成像(MRU)进一步显示重复肾形态和(或)输尿管扩张、输尿管囊肿、输尿管异位开口。

1.3 辅助检查 所有患儿均完善泌尿系统超声与MRU，另78例接受静脉肾盂造影(IVP)，36例行排泄性膀胱造影检查(VCUG)，7例行膀胱尿道镜检查、输尿管逆行插管造影。

1.4 手术方法 82例成功行腹腔镜重复肾输尿管切除术，细分为<1岁组22例(A组)、1~3岁组42例(B组)、>3岁组18例(C组)；另25例行膀胱输尿管再植术，7例行经膀胱镜输尿管囊肿开窗引流术，2例行输尿管端侧吻合术，2例腹腔镜重复肾输尿管切除术中转开腹。

1.5 诊疗过程 所有患者明确诊断并评估肾功能，根据重复肾肾功能和合并畸形，结合手术者的经验选择个体化手术，术后对症支持治疗，出院后定期随访。

1.6 统计学方法 采用SPSS 22.0软件进行数据分析。非正态分布定量资料用中位数(四分位间距)[M(P25，P75)]表示，多组比较采用非参数检验(Kruskal-Wallis H检验)，组间多重比较采用Bonferroni校正的Mann-Whitney U检验后得到校正P (Padj)值。以P<0.05为差异有统计学意义。

2 结果

2.1 重复肾重复输尿管畸形患儿的临床表现 重复肾重复输尿管畸形主要临床表现以发热、尿失禁和无症状菌尿为主，其次是尿频尿急和外阴肿物，见表1。

表1 重复肾重复输尿管畸形患儿的临床表现

临床表现	例数	构成比(%)
发热	53	37.6
尿失禁	44	31.2
无症状性菌尿	31	22.0
尿频尿急	6	4.3
外阴肿物	4	2.8
腹部不适等	3	2.1
合计	141	100.0

2.2 重复肾重复输尿管伴发畸形分类 重复肾重复输尿管伴发畸形90例，其中输尿管异位开口39例(43.3%)，输尿管囊肿38例(42.2%)，膀胱输尿管反流11例(12.2%)，下肾肾盂输尿管连接部梗2例(2.22%)。

2.3 不同年龄患儿的腹腔镜手术时间及术中出血量比较 C组患儿的手术时间明显短于A组和B组，C组患儿术中出血量明显少于A组，差异均有统计学意义(P<0.05)，见表2。

表2 不同年龄患儿的腹腔镜手术时间及术中出血量比较[M(P25,P75)]

组别	例数	手术时间(min)	出血量(mL)
A组	22	175 (102.5，247.5)[a]	10 (5，22.5)[a]
B组	42	130 (85，240)[a]	5.5 (5，20)
C组	18	80 (70，112.5)	5 (5，10)
H值		16.975	8.713
P值		<0.05	<0.05

注：与C组比较，[a]P<0.05。

2.4 术后情况 A组患儿术后出现尿路感染3例，B组4例，C组1例。术后尿路感染患儿均予以抗感染治愈。所有患儿术后复查泌尿系彩超，结果显示良好。

2.5 出院后随访 患儿均获随访，随访时间2个月~4年，中位时间18个月。腹腔镜手术组发现6例输尿管残端综合征，膀胱输尿管再植术组有4例尿路感染(其中1例感染3次)，均予以抗感染治愈。输尿管囊肿开窗引流术组患儿随术后时间延长输尿管囊肿呈逐渐变小趋势，其中2例因反复尿路感染合并膀胱输尿管反流再次入院行输尿管膀胱再植，术后未再出现泌尿道感染。输尿管端侧吻合术组1例肾积水加重且功能受损后行膀胱输尿管再植术。

3 讨论

重复肾重复输尿管的发生与环境、遗传代谢等因素密切相关，在胚胎时期如果同一侧输尿管芽远端分支过早或发生2个输尿管芽，则在胚胎后期形成重复肾盂和重复输尿管[5]。重复肾重复输尿管发育各异，常伴有输尿管膨出或异位开口等各自不一的畸形，因而可出现多种多样的临床症状，容易导致临床误诊误治[6]。

本组患儿临床表现不典型，以发热最常见，部分为正常排尿间歇尿滴沥和菌尿，腹部不适和外阴肿物较少见。本病的临床症状亦取决于性别差异，男性输尿管异位开口多位于后尿道、精阜等处，常以尿路感染和尿路梗阻症状就诊[7]。女性患儿的输尿管异位开口则多位于尿道外括约肌远端，常表现为正常排尿间隙尿滴沥。发热性尿路感染为当前患儿的主要并发症，考虑原因有[8]：输尿管开口异位，持续尿滴沥易致细菌逆行感染；泌尿系统解剖异常致抗反流功能失衡出现膀胱输尿管反流，下尿路菌尿进入上尿路；输尿管末端膨大形成囊肿致尿液引流不畅，病原体黏附于尿道上皮细胞，而且细菌难以清除。因此，对不明原因发热的婴幼儿，需要警惕泌尿道畸形可能，需及时完善泌尿系超声和尿常规检查，以期早期诊治。

本组合并畸形患儿以输尿管囊肿、输尿管反流和输尿管异位开口为主。由于本病症状的不典型，难以从临床表现上明确重复肾及其伴随畸形，往往需要依

靠多种影像学检查[9-10]鉴别诊断。泌尿系超声及MRU是本组病例的必要检查，其优点是无创伤、无放射性，并能良好显示肾脏、输尿管及膀胱形态[11]。部分患儿选择性采取IVP和VCUG，主要是基于IVP在不受年龄限制下显示泌尿道的解剖结构和通畅程度，也能反映肾脏功能。对于怀疑膀胱输尿管反流者，VCUG不仅可明确有无反流，还能了解膀胱和尿道形态、输尿管囊肿大小和位置等。针对疑难病例，常规影像学检查不能明确者，应进行经膀胱镜或阴道镜输尿管逆行插管造影检查[12]，本组7例患儿接受该检查得以明确诊断。

重复肾重复输尿管畸形治疗方式的选择与临床症状、重复肾功能及其伴随畸形的不同而密切相关[13]。对有临床症状且功能差的发育不良型重复肾，可出现尿路感染和尿失禁等并发症，因此重复肾保留的价值不大。相比以往主要是采用经腹部或腰部开放手术，腹腔镜重复肾输尿管切除具有更大优势[5,14]。本组82例患儿接受腹腔镜重复肾输尿管切除术，均取得满意的临床疗效。患儿随着年龄增长，腹腔镜重复肾输尿管切除手术时间有减少趋势，可能与年长儿童的腹腔空间大和操作简便有关。笔者认为腹腔镜手术操作的关键点是重复肾独立血管及伴随输尿管的辨认，切除前可试探性阻断相应血管以进一步观察重复肾颜色变化。文献报道尿漏是腹腔镜重复肾输尿管切除术后最常见并发症，本组患儿未见发现尿漏，可能是与术中尽量完整切除重复肾组织以及适当烧灼残留的重复肾组织有关[15]。

有研究指出，因重复肾肾段功能较好，引流重建后并发症少，建议重建吻合保留更多肾单位，治疗上可采用输尿管膀胱再植、肾盂输尿管吻合及重复肾侧输尿管间吻合[16]。本组25例患儿行输尿管膀胱再植术，术后均取得良好的效果。另有3例行重复输尿管端侧吻合，其中1例出院后因肾积水加重再入院行输尿管膀胱再植。对于重复肾肾功能较好的病例，尤其是伴随输尿管异位或输尿管反流者，治疗的目标应该是尽量保存肾功能和解除尿路梗阻，保证泌尿道尿液通畅，同时结合术者经验选择个体化手术方式。

重复肾伴输尿管囊肿可表现为外阴肿物致尿路梗阻[17]，DIRENNA等[18]和SANDER等[19]指出常规行输尿管囊肿开窗引流缓解梗阻，能有效预防感染和保留肾功能，约60%的病例可避免再次手术，开窗引流术后输尿管均有不同程度收缩，亦有利于再次手术。本组9例因外阴肿物梗阻或难治性尿路感染行膀胱镜输尿管囊肿开窗引流术，旨在保证泌尿道引流通畅，术后随访2例因反复尿路感染行VCUG发现膀胱输尿管反流(Ⅳ~Ⅴ级)，后再入院行输尿管膀胱再植术。ILIC等[20]指出术后膀胱输尿管反流是内镜治疗输尿管囊肿后需要密切关注的问题，认为囊肿属于膀胱壁内输尿管一部分，囊肿越大膀胱壁间输尿管形成越短，开窗引流术后出现反流的机会越大。但LEE等[21]学者发现输尿管囊肿切开引流术后反流有自行消退可能，比例可达40%。因此，输尿管囊肿切开引流术能有效解除梗阻和防治并发症，术后仍有反复尿路感染者，宜尽早完善膀胱造影是否有输尿管反流。

综上所述，儿童重复肾重复输尿管畸形临床表现多样，需要依靠多种影像学检查明确诊断。若有并发症或症状者，建议及时手术。根据重复肾的功能、合并畸形及医生的经验等诸多因素，选择个体化治疗方案，尽量保存肾功能和解除尿路梗阻及膀胱输尿管反流，减少手术并发症。

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·短篇论著·

调节T细胞对多发性骨髓瘤患者治疗反应的影响

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【摘要】 **目的** 探索骨髓中调节T细胞(Treg)对多发性骨髓瘤(MM)患者治疗反应的影响。**方法** 应用流式细胞分析仪对2016年3月至2019年6月在咸阳市中心医院血液内科就诊的以硼替佐米为基础治疗方案的65例初治MM患者骨髓中的Treg进行分析,以患者Treg的中位数作为临界值,分为高Treg组(Treg≥3.22%) 35例和低Treg组(Treg<3.22%) 30例,比较两组患者的性别、年龄、MM类型、平均疗程数、平均血钙浓度、平均血红蛋白浓度以及非常好的部分缓解(VGPR)率。**结果** 65例患者接受以硼替佐米为基础的联合化疗后,35例患者获得了VGPR及以上的治疗反应,其中低Treg组患者获得VGPR及以上的比例为65.71%,明显高于高Treg组的40.00%,差异有统计学意义(P<0.05);此外,低Treg组患者所需的平均疗程数为(2.55±0.38)个、平均血钙浓度(1.02±0.25) g/L,明显少于或低于高Treg组的(4.37±0.55)个、(2.48±0.53) g/L,而平均血红蛋白浓度为(101.56±15.36) μmmol/L,明显高于高Treg组的(78.28±11.21) μmmol/L,差异均有统计学意义(P<0.05)。**结论** Treg细胞比例高的初治MM患者对以硼替佐米为基础治疗方案的治疗反应较差。

【关键词】 调节T细胞;多发性骨髓瘤;治疗反应;硼替佐米;部分缓解;血钙浓度;血红蛋白浓度
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Effect of regulatory T cells on treatment response of multiple myeloma. *JIANG Yin-di, LI Yue, LIU Jie-ban, JIAO Wen-jing, ZHANG Ya-li. Department of Hematology, Central Hospital of Xianyang, Xianyang 712000, Shaanxi, CHINA*

【**Abstract**】 **Objective** To explore the effect of regulatory T cells (Tregs) in bone marrow on the therapeutic response of newly diagnosed multiple myeloma (MM) patients. **Methods** Treg in bone marrow of 65 MM patients treated with bortezomib as the basic treatment regimen from March 2016 to June 2019 in Department of Hematology, Central Hospital of Xianyang was analyzed by flow cytometry. The median Treg of 65 MM patients was taken as the critical value, and they were divided into high Treg group (n=35, Treg≥3.22%) and low Treg group (n=30, Treg<3.22%). The gender, age, MM type, mean course of treatment, mean serum calcium concentration, mean hemoglobin concentration and very good partial remission (VGPR) rate of the two groups were compared. **Results** After 65 patients received bortezomib based combined chemotherapy, and 35 patients achieved VGPR or above. Among them, the proportion of patients with VGPR and above in low Treg group was 65.71 versus 40.00% in high Treg group (P<0.05). In addition, the average number of courses and mean serum calcium concentration in low Treg group were 2.55±0.38 and (1.02±0.25) g/L, which were lower than corresponding 4.37±0.55 and (2.48±0.53) g/L in high Treg group, while the average hemoglobin concentration was (101.56±15.36) μmmol/L, which was higher than (78.28±11.21) μmmol/L of high Treg group (P<0.05). **Conclusion** The newly diagnosed MM patients with high proportion of Treg cells have poor response to bortezomib-based therapy.

【**Key words**】 Regulatory T cells (Tregs); Multiple myeloma (MM); Therapeutic response; Bortezomib; Partial remission; Serum calcium concentration; Hemoglobin concentration

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