

· 论著 ·

腹腔镜下肾囊肿去顶术治疗儿童单纯性肾囊肿的临床研究



全文二维码

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【摘要】 目的 探讨腹腔镜下肾囊肿去顶术治疗儿童单纯性肾囊肿的临床疗效。**方法** 回顾性分析 2017 年 2 月至 2022 年 9 月湖南省儿童医院泌尿外科收治的 44 例单纯性肾囊肿患儿临床资料,根据肾囊肿部位的不同分为肾上极组、肾中极组、肾下极组 3 组,其中肾上极组 22 例、肾中极组 11 例、肾下极组 11 例。44 例均采用腹腔镜下肾囊肿去顶术治疗。对 3 组术中出血量、术后引流时间、术后住院时间、囊肿复发情况进行对比分析。**结果** 44 例中,术后 1 例出现尿外渗。3 组术中出血量、术后引流时间、术后住院时间差异无统计学意义($P>0.05$),术后随访 6 个月左右,3 组患儿总体有效率为 72.7% (32/44),复发率为 27.3% (12/44);其中肾上极组有效率为 63.6% (14/22),复发率为 36.4% (8/22);肾中极组有效率为 72.7% (8/11),复发率为 27.3% (3/11);肾下极组有效率为 90.9% (10/11),复发率为 9.1% (1/11)。肾上极囊肿复发率略高于肾中极、肾下极部位囊肿,但差异无统计学意义($P>0.05$)。**结论** 腹腔镜下肾囊肿去顶术治疗肾中极及下极囊肿效果良好,肾上极囊肿的术后复发率相对偏高。

【关键词】 肾囊肿;腹腔镜检查;外科手术;儿童

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Clinical study on laparoscopic unroofing for the treatment of simple renal cyst in children

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【Abstract】 Objective To investigate the clinical efficacy of laparoscopic unroofing for the treatment of simple renal cysts in children. **Methods** A retrospective analysis was conducted on the clinical data of 44 children with simple renal cysts treated at the Department of Urology, Hunan Children's Hospital, from February 2017 to September 2022. The patients were divided into three groups based on the location of the renal cysts: upper pole group (22 cases), middle pole group (11 cases), and lower pole group (11 cases). All 44 cases were treated with laparoscopic unroofing. Intraoperative blood loss, postoperative drainage time, postoperative hospital stay, and cyst recurrence were compared among the three groups. **Results** Postoperatively, 1 child experienced urinary leakage. There were no statistically significant differences among the three groups in terms of intraoperative blood loss, postoperative drainage time, and postoperative hospital stay ($P>0.05$). During the follow-up period of approximately six months, the overall effectiveness rate was 72.7% (32/44), with a recurrence rate of 27.3% (12/44). Specifically, the upper pole group had an effectiveness rate of 63.6% (14/22) and a recurrence rate of 36.4% (8/22); the middle pole group had an effectiveness rate of 72.7% (8/11) and a recurrence rate of 27.3% (3/11); the lower pole group had an effectiveness rate of 90.9% (10/11) and a recurrence rate was 9.1% (1/11). Although the recurrence rate of upper pole cysts was higher than that of middle and lower pole cysts, the difference was not statistically significant ($P>0.05$). **Conclusions** Laparoscopic unroofing is effective for treating middle and lower pole renal cysts in children, while the postoperative

recurrence rate for upper pole cysts is relatively higher.

【Key words】 Renal Cysts; Laparoscopy; Surgical Procedures, Operative; Child

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单纯性肾囊肿是泌尿外科常见疾病,发病率约 10%,儿童少见,大多数肾囊肿不伴有临床症状,通常在患儿体检过程中被发现,不需要接受特殊治疗;但当肾囊肿直径大于 4 cm 或合并腰腹痛、血尿、肾盂积水时,需手术干预^[1-2]。目前儿童单纯性肾囊肿治疗方式主要为腹腔镜下肾囊肿去顶术和输尿管软镜下肾囊肿内切开引流术,对于儿童不同部位的肾囊肿手术治疗的效果报道较少。本研究旨在初步探讨腹腔镜下肾囊肿去顶术治疗儿童单纯性肾囊肿的临床疗效。

资料与方法

一、一般资料

回顾性分析 2017 年 2 月至 2022 年 9 月湖南省儿童医院泌尿外科收治的 44 例单纯性肾囊肿的患儿临床资料,年龄 1 岁 6 个月至 13 岁 11 个月;按照囊肿部位的不同分为 3 组:肾上极组 22 例,肾中极组 11 例,肾下极组 11 例。纳入标准:①Bosniak 分型为 I、II 型;②囊肿直径大于 4 cm;③囊肿压迫肾盏或肾盂引起的尿路梗阻和肾积水;④囊肿引起的腰腹部疼痛、出血和其他并发症。排除标准:①Bosniak 分类为 II F、III 和 IV 型;②有严重心肺功能不全病史等手术禁忌。其中左肾囊肿 16 例、右肾囊肿 28 例,肾囊肿直径为 (51.32 ± 14.97) mm。本研究通过湖南省儿童医院伦理委员会审批 (HCHLL-2023-169),患儿家属均知情同意。

二、手术方法

患儿麻醉后取斜卧位,患侧抬高,留置导尿管后,常规消毒手术区域,铺无菌巾及孔巾。腹部安全置入 Trocar,用超声刀切开后腹膜,适当游离肾周筋膜及脂肪层,暴露囊肿最薄处,用超声刀自最薄处切开囊壁,切开后可见液体流出,用吸引器将液体吸净,沿肾囊肿边缘距肾实质 0.5 cm 切除囊壁,将囊壁切除送病理活检。检查囊腔不与肾盂相通后,再用电凝钩烧灼囊肿边缘及大部分囊壁,再用无水酒精棉球硬化处理囊壁,将棉球置于囊腔内 5~10 min,再取出棉球,如此反复 2~3 次,充分硬

化囊壁组织,再用生理盐水冲洗囊腔,用超声刀将肾周脂肪层部分游离,将带蒂肾周脂肪组织填充至残余囊腔内,并用可吸收 hemolock 将脂肪层与残留囊壁固定,肾周留置硅胶管引出体外做引流,可吸收线缝合切口。

三、观察指标

记录患儿术中出血量,术后引流时间,术后住院时间及术后有无尿外渗、泌尿系感染等并发症。所有患儿于术后 6 个月复查泌尿系彩超,比较术前、术后肾囊肿变化情况;参照相关文献定义,囊肿较前消失或缩小 50% 以上判定为无复发^[3-5]。

四、统计学处理

采用 SPSS 25.0 进行统计学分析。术中出血量、术后引流时间、术后住院时间等服从正态分布的计量资料以 $\bar{x} \pm s$ 表示,组间比较采用单因素方差分析;术后复发率等计数资料以频数、构成比表示,组间比较采用 χ^2 检验; $P < 0.05$ 为差异有统计学意义。

结 果

44 例均顺利完成手术,术中无一例大出血、肾盂输尿管损伤,术后病检回报符合单纯性肾囊肿表现。不同部位肾囊肿对比,术中出血量、术后引流时间、术后住院时间差异无统计学意义 ($P > 0.05$);肾上极囊肿复发率略高于肾中极、肾下极部位囊肿,但差异无统计学意义 ($P > 0.05$);见表 1。

讨 论

儿童单纯性肾囊肿多无明显临床症状,大部分在体检中发现,囊肿可单侧或双侧发生,在 B 超或 CT 的影像学表现为外观为圆形或椭圆形、囊壁菲薄、边缘光滑的囊性结构,囊腔内密度均一无回声,增强 CT 无明显强化影。囊肿范围内出现任何增强、广泛钙化、边缘不规则等,则需考虑复杂囊肿或囊性肿瘤的可能,参照 Bosniak 的分类方法划分为 II F、III、IV 型,此类囊肿并未纳入本组研究^[6-8]。

表 1 不同部位单纯性肾囊肿患儿腹腔镜下手术情况比较

Table 1 Comparison of laparoscopic treatment of renal cysts in different locations in children with simple renal cysts

组别	囊肿直径($\bar{x} \pm s$, mm)		术中出血量 ($\bar{x} \pm s$, mL)	术后引流时间 ($\bar{x} \pm s$, d)	术后住院时间 ($\bar{x} \pm s$, d)	复发率 [n(%)]
	术前	术后				
肾上极组(n=22)	50.91 ± 15.76	22.36 ± 14.92	12.82 ± 4.85	3.59 ± 1.56	5.73 ± 1.69	8(36.4)
肾中极组(n=11)	49.45 ± 10.93	16.73 ± 18.65	16.09 ± 6.86	4.27 ± 2.33	6.82 ± 2.27	3(27.3)
肾下极组(n=11)	54.00 ± 17.58	9.82 ± 10.21	12.27 ± 4.67	2.91 ± 1.04	5.45 ± 1.29	1(9.1)
F/ χ^2 值	F=0.261	F=2.613	F=1.745	F=1.801	F=1.922	$\chi^2=2.750$
P 值	0.772	0.086	0.187	0.178	0.159	0.287

对于成人单纯性肾囊肿的外科治疗,目前临床上应用最普遍的是腹腔镜下肾囊肿去顶术、超声引导下经皮囊肿穿刺引流硬化术以及输尿管软镜肾囊肿内切开引流术^[9-11]。在单纯性肾囊肿的治疗中,经皮穿刺硬化术相比于腹腔镜去顶减压术,是一种手术时间短、术后住院时间短、并发症发生率低、治疗费用少的治疗方式,而腹腔镜去顶减压术的复发率更低,二者在有效率和术中出血量方面差异无统计学意义。对于儿童,目前腹腔镜下肾囊肿去顶术为首选方式,手术入路可选经腹或腹膜后^[12-14]。对于肾囊肿的复发标准目前临床上暂无统一规定,相关研究对肾囊肿复发标准的定义为:囊肿直径较前缩小>50%为有效,<50%则考虑为复发。本组 1 例患儿术后出现尿外渗,术后引流 10 d 予拔除引流管,患儿术前泌尿系 CT 检查囊肿内未见造影剂显影,已排除肾盏憩室可能,术后尿外渗考虑与术中切除、失活囊壁时损伤集合系统或无水酒精硬化相关,其余患儿未出现并发症。术后 6 个月复查泌尿系 B 超,肾上极囊肿 8 例复发(8/22),肾中极囊肿 3 例复发(3/11),肾下极囊肿 1 例复发(1/11),复发率最高的为肾上极,而肾下极治疗效果最好。本组患儿肾上极囊肿容易复发的因素主要考虑为囊肿位置占主导,肾囊肿去顶后,创面开口位置偏高,残留囊壁仍具备分泌功能,无水酒精硬化处理可能不彻底,会导致分泌的囊液积聚于原来的囊腔内,创面闭合,进而导致囊肿复发。为降低复发率,我们的经验是:①囊壁打开后确认囊肿与肾实质的边界,沿肾实质充分切除囊壁组织,尽量减少囊壁组织的残留,避免集合系统的损伤。②囊壁组织切除后,先用电凝钩使浅表组织失活,避免电凝深度过深损伤肾实质及集合系统,再用无水酒精棉球置于囊腔内硬化囊壁,每次 5~10 min,反复 2~3 次,最后用少量生理盐水冲洗干净。③患儿肾周脂肪组织充裕的情况下,建议囊腔内用带蒂肾周脂肪组织填充,防止囊腔过早闭合,降低复发概率,黎世聪

等^[15]报道过相关经验。

对肾囊肿治疗的另一种手术方式为输尿管软镜下肾囊肿内切开引流术,在成人中应用逐渐广泛,袁耀宇等^[16]报道称输尿管软镜下肾囊肿内切开引流术经人体自然腔道,手术时间更短,创伤更小,操作更加安全,利于患者恢复。也有学者报道称该方法与腹腔镜手术在短期复发率上可达到同等效果,尤其对肾盂旁囊肿及合并肾结石的囊肿有独特优势^[17]。而儿童方面目前报道较少,我科目前仅完成了 8 例,术后 6 个月复查,5 例囊肿明显减小或消失,3 例术后复发(2 例肾上极、1 例肾中极)。对于该术式的初步经验是:①儿童肾盂输尿管发育尚未成熟,输尿管比较细小,前期输尿管软镜难以进入,需提前置入输尿管支架管扩张 2~3 周,因此治疗周期较腹腔镜组长。②进镜至肾盂后探查囊肿,可见淡蓝色的囊壁向内凸起,用钬激光将集合系统黏膜和囊壁切开,囊壁切开时可见液体流出,然后再扩大切口 1~2 cm,以保障引流通畅。部分患儿进镜后发现肾盂厚实,镜下囊壁难以辨别,术中可予以 B 超引导定位,引导软镜切开方向。③术后常规放置带尾线输尿管支架管,支架管头端放置于囊腔内防止切开通道过早闭合,体内充分引流,门诊复查后可予直接拔除。④术前影像学评估肾囊肿位置与集合系统较远、间隔明显者,不适用于输尿管软镜处理。目前我科采用该术式治疗的患儿数量较少,其治疗效果还需进一步研究。

因此,对于儿童单纯性肾囊肿治疗,腹腔镜下肾囊肿去顶术临床应用最广,为首选方式,对肾中极及肾下极囊肿的疗效较好,而肾上极囊肿的术后复发率相对较高。

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