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腹腔镜肾癌根治术治疗肾癌的疗效观察*

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摘要 目的:观察腹腔镜肾癌根治术治疗肾癌的疗效。**方法:**选取 2013 年 12 月~2015 年 12 月于我院诊治的肾细胞癌并行肾癌根治术患者 70 例,其中 42 例患者行腹腔镜肾癌根治术,纳入微创组;28 例患者行开放性肾癌根治术,纳入对照组。比较两组患者围手术期情况、术后第 3 天炎症指标与肾功能、围术期并发症。**结果:**与对照组相比,微创组患者手术时间、住院时间、手术切口较短,术后下床走动时间、术后停止禁食时间较早,手术出血量、手术费用较少($P<0.001$)。与对照组相比,微创组患者 WBC、CRP 水平较低($P<0.001$)。微创组患者围术期总并发症发生率为 4.8%,低于对照组(21.5%),差异有统计学意义($\chi^2=4.610, P=0.032$)。**结论:**腹腔镜肾癌根治术治疗肾癌较开放性肾癌根治术有疗效佳、安全性好、术后恢复快及并发症少的优势,值得临床推广。

关键词:腹腔镜;开放性;肾癌根治术;肾细胞癌;疗效

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Observation of Curative Effect of Laparoscopic Radical Nephrectomy in Treatment of Renal Carcinoma*

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ABSTRACT Objective: To observe the curative effects of laparoscopic radical nephrectomy in the treatment of renal carcinoma.

Methods: A total of 70 patients who had renal cell carcinoma and underwent radical nephrectomy in our hospital between December 2013 and December 2015 were selected in his study. 42 patients who underwent laparoscopic radical nephrectomy were taken into the minimally invasive group, while 28 patients who underwent open radical nephrectomy were taken into the control group. Perioperative situation, inflammation index and renal function at 3d after operation and perioperative complication of patients were compared between the two groups. **Results:** Patients in the minimally invasive group had shorter operation time, hospitalization time and incision, earlier time of out-of-bed activity and time of stop fasting after operation, less bleeding volume and operation cost than those in the control group ($P<0.001$). Moreover, patients in the minimally invasive group had lower level of WBC and CRP than those in the control group ($P<0.001$). The overall perioperative complication rate of the minimally invasive group was 4.8%, also lower than that of control group (21.5%), and the difference was statistically significant ($\chi^2=4.610, P=0.032$). **Conclusion:** Laparoscopic radical nephrectomy in treating renal carcinoma had advantages of better curative effects, much safer, more rapid postoperative recovery and less complications, as compared with open radical nephrectomy. Thus, it is worthy of clinical promotion.

Key words: Laparoscopic; Open; Radical nephrectomy; Renal cell carcinoma; Curative effect

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前言

肾细胞癌是常见的泌尿系恶性肿瘤之一,起源于肾小管细胞,其发病率居于膀胱癌之后^[1]。目前治疗局限性肾细胞癌的金标准是根治性肾切除术^[2]。近 20 年来,随着腹腔镜技术的快速发展和逐步完善,越来越多临床医生选择腹腔镜肾癌根治术作为治疗局限性肾细胞癌的标准术式^[3]。本研究通过回顾性分析临床资料,通过与开放性肾癌根治术相比,探讨腹腔镜肾癌根治术治疗肾癌的疗效及安全性。

1 资料及方法

1.1 一般资料

选取 2013 年 12 月~2015 年 12 月于我院诊治的肾细胞癌并行肾癌根治术患者 70 例,其中 42 例患者行腹腔镜肾癌根治术,纳入微创组;28 例患者行开放性肾癌根治术,纳入对照组。纳入标准:①患者行肾癌根治手术前均经上腹部 B 超、CT 或 MRI 初步诊断为肾实质性肿瘤,术中冰冻及术后病理检查明确诊断为肾细胞癌;②肾恶性肿瘤 TNM 分期为 T1~T3a 期^[4],肿

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瘤未对肾静脉及下腔静脉进行侵犯,肾上腺未累及,淋巴结和远处转移均未发生;② 所有患者及家属均签署本研究知情同意书。本研究经新疆维吾尔自治区人民医院医学伦理委员会批准通过。微创组患者年龄 32~69 岁,男 27 例,女 15 例;对照组患

者年龄 36~77 岁,男 21 例,女 7 例。年龄、性别、BMI、肾癌位置、肾癌直径在微创组与对照组间比较差异无统计学意义($P>0.05$),具有可比性(表 1)。

表 1 两组患者一般资料比较[例, (%)]

Table 1 Comparison of the general data of patients between two groups [cases, (%)]

General Information	Minimally invasive group	Control group	t/ χ^2	P
Cases	42	28		
Age(years of age, $\bar{x} \pm s$)	53.7 $\pm$ 11.6	54.5 $\pm$ 10.3	0.295	0.769
Male	27(64.3%)	21(75.0%)	0.895	0.344
BMI(kg/m ² , $\bar{x} \pm s$)	23.4 $\pm$ 2.5	23.7 $\pm$ 2.8	0.469	0.641
Kidney cancer position	Left kidney	15(53.6%)	0.087	0.768
	Right kidney	13(46.4%)		
Kidney cancer diameter(cm, $\bar{x} \pm s$)	4.3 $\pm$ 1.6	4.5 $\pm$ 1.9	0.475	0.636

Note: BMI is short for body mass index.

1.2 手术方法

微创组患者行腹腔镜肾癌根治术,对照组患者行开放性肾癌根治术。① 腹腔镜肾癌根治术^[9]:选择经腹腔镜路径,麻醉方式为静吸复合全麻,体位为健侧半卧位。先在腹直肌平脐处横行切开 1.5 cm 长的切口,将 Veress 气腹针穿刺进入第 1 个孔,注入 CO₂ 形成人工气腹,调整气腹压力为 12~15 mmHg,然后将腹腔镜套管和腹腔镜置入该孔。当腹腔镜能看清腹腔内情况时,分别在腋前线平脐处、腋中线肋缘下和锁骨中线肋缘下这三处穿刺,并分别将 5、5、12 mm 大小的 Trocar 置入。待操作空间充分扩张后,将结肠旁沟附近腹膜切开并牵开结肠,将肾脏分离出来,并将肾脏动静脉充分暴露,先使用 Hem-O-lok 将肾动脉双重夹闭,然后在其前下方将肾静脉分离开来并用 Hem-O-lok 将夹闭。肾血管完全夹闭后,可将患侧肾脏和肾周组织完整切除,并沿输尿管向下分离至髂动静脉处,在该处将输尿管切断。将切除的肾脏标本放入标本袋内,将腹腔镜套管穿刺孔扩大至 5~7 cm,将标本袋完整取出。② 开放性肾癌根治术^[9]:麻醉方式为静吸复合全麻,可选择腰背部斜形切口或腹部旁正中切口,逐层切开,注意不要损伤胸膜,进入腹腔后充分暴

露肾周组织,游离肾蒂,直视下将肾血管分离结扎后切断,并将肾脏切除,切除范围与腹腔镜肾癌根治术相同。

1.3 评价指标

包括围手术期情况、术后第 3 天炎症指标与肾功能、围术期并发症。围手术期情况包括手术时间、手术切口、手术出血量、术后下床走动时间、术后停止禁食时间、引流管拔除时间、住院时间、手术费用;术后第 3 天完善血常规、CRP、肾功能检查;围术期并发症包括出血、伤口感染、下肢深静脉血栓、尿路感染。

1.4 统计学方法

计数资料行 χ^2 检验,计量资料用($\bar{x} \pm s$)表示,行 t 检验,如结果提示 $P<0.05$,差异有统计学意义。

2 结果

2.1 两组患者围手术期情况比较

与对照组相比,微创组患者手术时间、住院时间、手术切口较短,术后下床走动时间、术后停止禁食时间较早,手术出血量、手术费用较少,差异有统计学意义($P<0.001$)(表 2)。

表 2 两组患者围手术期情况比较($\bar{x} \pm s$)Table 2 Comparison of the perioperative situation of patients between two groups ($\bar{x} \pm s$)

Perioperative	Minimally invasive group	Control group	t	P
Cases	42	28		
Operation time(min)	102.4 $\pm$ 17.1	121.3 $\pm$ 17.9	4.446	<0.001
Surgical incision(cm)	8.6 $\pm$ 2.8	14.9 $\pm$ 1.6	10.775	<0.001
Intraoperative bleeding(ml)	54.3 $\pm$ 14.8	193.6 $\pm$ 29.7	25.998	<0.001
Postoperative activity off the bed time(h)	30.5 $\pm$ 12.7	73.7 $\pm$ 17.2	12.084	<0.001
Stop fasting time after surgery(h)	32.7 $\pm$ 11.4	68.8 $\pm$ 15.5	11.225	<0.001
Drainage tube removal time(d)	2.3 $\pm$ 0.8	4.2 $\pm$ 1.4	7.218	<0.001
Hospital stays(d)	5.6 $\pm$ 1.3	9.1 $\pm$ 2.0	8.885	<0.001
Surgery cost(T RMB)	9.0 $\pm$ 0.5	11.1 $\pm$ 0.6	15.883	<0.001

2.2 两组患者术后第3天炎症指标与肾功能比较

统计学意义($P<0.001$)(表3)。

与对照组相比,微创组患者 WBC、CRP 水平较低,差异有

表3 两组患者术后第3天炎症指标与肾功能比较($\bar{x} \pm s$)

Table 3 Comparison of the inflammatory index and renal function at d3 after operation($\bar{x} \pm s$)

Inflammatory index and renal function	Minimally invasive group	Control group	t	P
cases	42	28		
WBC($\times 10^9/L$)	8.5 $\pm$ 1.4	10.8 $\pm$ 1.3	6.926	<0.001
CRP(mg/L)	12.5 $\pm$ 3.3	19.8 $\pm$ 4.2	8.122	<0.001
BUN(mmol/L)	4.7 $\pm$ 1.1	4.8 $\pm$ 1.3	0.346	0.730
Cr(μ mol/L)	71.4 $\pm$ 8.8	69.3 $\pm$ 9.1	0.965	0.338

Note: WBC is short for white blood cell count; CRP is short for C-reactive protein; BUN is short for blood urea nitrogen; Cr is short for serum creatinine.

2.3 两组患者围术期并发症比较

染、下肢深静脉血栓、尿路感染等并发症发生率在两组间比较

微创组患者围术期总并发症发生率为 4.8%, 低于对照组

差异无统计学意义($P>0.05$)(表4)。

(21.5%), 差异有统计学意义($\chi^2=4.610, P=0.032$)。出血、伤口感

表4 两组患者围术期并发症比较[例, (%)]

Table 4 Comparison of the perioperative complications of patients between two groups [cases, (%)]

Complications	Minimally invasive group	Control group	χ^2	P
Cases	42	28		
Bleeding	1(2.4%)	1(3.6%)	0.086	0.770
Wound infection	0(0%)	2(7.1%)	3.088	0.079
Deep vein thrombosis of lower limbs	0(0%)	1(3.6%)	1.522	0.217
Urinary tract infection	1(2.4%)	2(7.1%)	0.929	0.335
Total complications	2(4.8%)	6(21.5%)	4.610	0.032

3 讨论

根治性肾切除术的概念自从被学者提出以后,大量临床研究表明^[7,8]相对于传统的肾癌切除术,其疗效明显提高,是治疗局限性肾癌的标准术式和金标准。开放性肾癌根治术由于手术过程中容易发生出血、损伤胸膜的几率大、术后切口感染率高等因素,且开放性手术需对腹部组织进行逐层分离,为争取更好的手术视野而需要切断更多的肌肉,手术创伤较大,大大延长了患者术后的恢复时间^[9]。随着腹腔镜微创技术在外科领域的开展,泌尿外科微创手术也得到良好发展,临床上腹腔镜肾癌根治术也越来越成熟,使其手术适应症越来越广,手术禁忌症不断缩小,对于局限性肾癌甚至可以作为标准术式。依靠腹腔镜技术的腹腔镜肾癌根治术,术野更加清晰、直观,有利于肾脏周围组织和肾血管的充分暴露和分离,使手术操作更加精细,大大降低了术中出血和围术期并发症的发生率^[10-13]。

本研究结果显示,与对照组相比,微创组患者手术时间、住院时间、手术切口较短,术后下床走动时间、术后停止禁食时间较早,手术出血量、手术费用较少($p<0.001$)。与对照组相比,微创组患者 WBC、CRP 水平较低($p<0.001$)。微创组患者围术期总并发症发生率为 4.8%, 低于对照组(21.5%), 差异有统计学意义($\chi^2=4.610, P=0.032$), 与 Molina W R 等人^[14]研究结果相符。

表明腹腔镜肾癌根治术较开放性肾癌根治术有安全有效、创伤小、术后恢复快、围术期并发症少等优点,其可能原因有由于腹腔镜的广泛应用和长期学习,操作者能熟练掌握腹腔镜进行手术;腹腔镜手术由于切口小,手术过程中无需将各层肌肉切断,手术创伤小;腹腔镜肾癌根治术有着更加清晰的手术视野,操作精细,可充分分离肾周围组织和肾动静脉,避免过多损失周围组织,手术出血量大大减少,术后恢复快^[15,16]。

腹腔镜肾癌根治术有经腹腔和经腹膜后两种手术路径,两种路径各有优点和缺点^[17]。如经腹腔路径有充足的手术操作空间,肾血管、腔静脉等解剖结构和标志定位清晰,使操作技术更容易掌握,特别适用于经验不够丰富的临床医生,但容易对腹腔脏器造成不必要的损伤,容易出现粘连性肠梗阻、麻痹性肠梗阻、弥漫性腹膜炎等并发症;而经腹膜后路径不需要切开后腹膜,对腹腔脏器没有影响,但缺少足够的手术操作空间,不容易使肾蒂等组织充分暴露,易损失周围组织,同时缺少明确定位的解剖标志。薛钟等人^[18]研究发现,经腹膜后路径手术时间较短,在手术出血量、术后恢复情况及住院天数方面二者比较差异无统计学意义。Inman B A 等人^[19]认为经腹膜后路径虽然能减少手术时间,但使切口疝的发生率增加。因此,腹腔镜肾癌根治术两种路径有着类似的疗效和安全性^[20],手术操作者可根据自身的熟练程度或操作习惯选择合适的术式。本研究选择经

腹腔路径的腹腔镜肾癌根治术,取得良好疗效。

综上所述,腹腔镜肾癌根治术治疗肾癌较开放性肾癌根治术有疗效佳、安全性好、术后恢复快及并发症少的优势,值得临床推广。

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