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# 腹腔镜结肠癌根治术与传统开腹结肠癌根治术的临床对比分析

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**摘要 目的:**探讨腹腔镜结肠癌根治术与传统开腹结肠癌根治术疗效的差别。**方法:**随机将 86 例结肠癌患者分为两组,各 43 例。腹腔镜组采用腹腔镜结肠癌根治术,传统开腹组采用开腹结肠癌根治术,观察两组患者手术情况及术后并发症情况。**结果:**腹腔镜组手术时间、淋巴结清扫数与传统开腹组比较无显著差异( $P>0.05$ );腹腔镜组术中出血量少于传统开腹组、住院时间短于传统开腹组( $P<0.05$ );腹腔镜组排气时间短于传统开腹组( $P<0.01$ ),两组并发症发生率差异有统计学意义( $P<0.01$ )。**结论:**腹腔镜结肠癌根治术具有术中出血量少、创伤小、术后恢复快、住院时间明显缩短等特点,可达到传统开腹手术的效果,值得广泛应用。

**关键词:** 结肠癌根治术;腹腔镜;开腹

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## Clinical Contrastive Analysis of Laparoscopic Radical Operation and Open Surgery in the Treatment of Colorectal Cancer

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**ABSTRACT Objective:** To compare the effect of laparoscopic radical operation and that of traditional operation on colorectal cancer. **Methods:** 86 cases of patients with colon cancer were randomly divided into laparoscopic group (43 patients), which were treated with laparoscopic radical operation and open surgery group (43 patients) which were treated with open surgery, operation situation and postoperative complications in both groups were observed. **Results:** The operation time and number of lymph nodes dissected of the patients in both groups had no statistical differences ( $P>0.05$ ). The intraoperative blood loss, average stay length and postoperative exhaust time in the laparoscopic radical operation group were significantly lower and shorter than those of the patients in the open surgery group ( $P<0.05$ ). There was a statistical difference in the complications incidence of the patients in both groups ( $P<0.01$ ). **Conclusion:** Laparoscopic radical operation has the characteristics of less blood loss, small trauma, quick recovery, short hospitalization time and has the same operative effects as the traditional open operation. It is worth wide application.

**Key words:** Colorectal cancer; Laparoscope; Open surgery

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### 前言

结肠癌是指结肠粘膜上皮在环境或遗传等多种致癌因素作用下发生的恶性病变,是西欧、北美等发达国家最常见的恶性肿瘤,也是我国九大常见恶性肿瘤之一,所以研究并改进结肠癌的治疗手段非常有意义<sup>[1-6]</sup>。随着腹腔镜术在临床上的应用逐渐增多,探讨腹腔镜结肠癌根治术的临床疗效及应用价值显得非常重要<sup>[7-9]</sup>。本研究对比腹腔镜结肠癌根治术与传统开腹结肠癌根治术疗效的差别,来证实腹腔镜结肠癌根治术的临床疗效及应用价值。

### 1 资料和方法

#### 1.1 一般资料

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2011年6月~2013年6月在我院接受治疗的结肠癌患者86例,其中男48例,女38例,年龄35~79岁,平均年龄为 $62.1\pm 11.6$ 岁;术前均经结肠镜检查 and 病理证实为结肠癌,并排除了伴有严重肝肾功能障碍的病人。将86例病人随机分为腹腔镜组和传统开腹组。腹腔镜组与传统开腹组各43例,男均为24例,女均为19例。两组病人一般情况相似,年龄、性别、肿瘤部位、临床分期无统计学差异( $P>0.05$ ),具有可比性。

#### 1.2 手术方法

腹腔镜组严格按照中华医学会外科学分会腹腔镜与内镜外科学组2006年指定的操作指南进行操作<sup>[10]</sup>。手术在气管插管全麻下进行,患者按常规摆放体位,建立CO<sub>2</sub>气腹;在根据病灶相应位置做3~4个穿刺孔,切口为5~6cm;将腹腔镜与操作器械置入后,探查腹腔内部情况,明确肿瘤大小、位置及是否转移等情况;根据根治要求对结肠系膜、网膜、侧腹膜等进行游离,结肠系膜逐渐游离至肿瘤相应的血管根部,然后将肿瘤及其肠管提至切口外,在直视下离断肠管系膜及血管,离断根部肠系膜血管,并进行淋巴结清扫;对于结肠肝曲肿瘤病人,一并切除胃网膜右部血管、幽门下和胰头前淋巴结,最后,对切除的

肠管行手术吻合或吻合器吻合术。把肿瘤及相应病变肠段拖出腹腔时,使用无菌塑料袋保护手术切口<sup>[11-14]</sup>。传统开腹组 43 例患者均行开腹结肠癌根治术,手术方法及步骤按照常规方法进行<sup>[15]</sup>。术后,两组患者均给予抗生素抗感染治疗。

### 1.3 观察指标

观察两组的术中出血量、手术时间、淋巴结清扫情况及、术后排气时间、住院时间及术后并发症率(包括吻合口出血情况、切口感染等)。

### 1.4 统计学方法

采用 SPSS17.0 软件进行统计学分析,计量资料以均数 $\pm$

标准差( $\bar{x} \pm s$ )表示,采用 t 检验或方差分析;计数资料采用  $\chi^2$  检验, $P>0.05$  为差异无统计学意义。

## 2 结果

### 2.1 两组手术情况比较

两组患者手术均完成顺利,见表 1。腹腔镜组手术时间、淋巴结清扫数与传统开腹组比较无显著差异( $P>0.05$ );腹腔镜组术中出血量少于传统开腹组、住院时间短于传统开腹组( $P<0.05$ );腹腔镜组排气时间短于传统开腹组( $P<0.01$ )。

表 1 两组患者手术情况比较( $\bar{x} \pm s$ )

Table 1 Comparison of operation situations between two groups( $\bar{x} \pm s$ )

| 指标<br>Indexes            | 手术时间(min)<br>Operation time<br>(min) | 清除淋巴结(枚)<br>Lymph node<br>dissection(medal) | 术中出血量(mL)<br>Intraoperative<br>blood(mL.) | 排气时间(d)<br>Postoperative<br>exhaust time(d) | 住院时间(d)<br>Average stay length<br>(d) |
|--------------------------|--------------------------------------|---------------------------------------------|-------------------------------------------|---------------------------------------------|---------------------------------------|
| 腹腔镜组 Laparoscopic group  | 143.5 $\pm$ 34.7                     | 14.1 $\pm$ 2.9                              | 136.2 $\pm$ 45.6                          | 2.3 $\pm$ 0.9                               | 6.7 $\pm$ 1.5                         |
| 传统开腹组 Open surgery group | 141.2 $\pm$ 30.6                     | 14.5 $\pm$ 3.1                              | 188.6 $\pm$ 60.4                          | 3.8 $\pm$ 1.6                               | 10.8 $\pm$ 3.2                        |
| P                        | >0.05                                | >0.05                                       | <0.05                                     | <0.01                                       | <0.05                                 |

### 2.2 两组术后并发症情况

腹腔镜组并发症发生率为 9.3% (4/43), 包括吻合口出血 3 例,切口感染 1 例;传统开腹组并发症发生率为 20.9% (9/43), 包括吻合口出血 6 例,切口感染 2 例,肠梗阻 1 例。两组并发症发生率差异有统计学意义( $\chi^2=3.54, P<0.01$ )。

## 3 讨论

在我国,调查显示结肠癌的发病率已经处于恶性肿瘤疾病的第二位<sup>[16]</sup>,所以研究并改进结肠癌的治疗手段非常有意义。大量的临床研究表面,与传统开腹手术相比,腹腔镜技术具有术野更清晰、术中出血量少、患者创伤小、操作更精细、术后恢复快、住院时间短等益处,可以安全地用于结肠癌的治疗,在加上传统开腹手术因创伤较大<sup>[17-19]</sup>。术后并发症较多,使得很多患者感觉到巨大的痛苦及生活的不便。随着微创技术的引进及发展,腹腔镜技术已广泛应用于临床治疗中,这归功于上世纪欧美进行大量腹腔镜与传统开腹结肠癌手术的病例临床研究取得的经验<sup>[20]</sup>。这些经验表面,腹腔镜结肠癌手术与传统开腹结肠癌手术一样,严格遵循肿瘤根治原则,并对手术技术要求更高,操作过程需要更加严谨,必须严格按照操作指南进行手术,所以腹腔镜技术可取得更理想的短期恢复及远期存活率<sup>[21]</sup>。

本研究显示,腹腔镜组与传统开腹组进行对比,手术时间及清除淋巴结数两组无统计学差异,腹腔镜手术时间稍微长于传统开腹手术,这可能腹腔镜手术要求更高及与术者操作熟练程度有关,在清除淋巴结数方面,两组基本一致,这说明腹腔镜结肠癌根治术在病灶清除方面能达到与传统开腹根治术相似的疗效<sup>[22]</sup>。腹腔镜组术中出血量少于传统开腹组、住院时间短于传统开腹组( $P<0.05$ );腹腔镜组术后排气时间短于传统开腹组( $P<0.01$ )。这说明腹腔镜结肠癌根治术可以减少手术创伤及术后恢复时间,还可以提高患者术后的生存质量。

虽然腹腔镜结肠癌根治术手术时间比传统开腹结肠癌根

治术稍微长,但其术中出血量少、创伤小,术后恢复快,住院时间明显缩短。随着技术的不断发展,腹腔镜结肠癌根治术一定会得到完善并更加广泛的被患者接受及应用。

### 参考文献(References)

- [1] Fukunaga Y, Kameyama M, Kawasaki M, et al. Laparoscopic colorectal surgery in patients with prior abdominal surgery [J]. Digestive surgery, 2011, 28(1): 22-28
- [2] Panis Y, Maggiori L, Caranac G, et al. Mortality after colorectal cancer surgery: a French survey of more than 84,000 patients[J]. Annals of surgery, 2011, 254(5): 738-744
- [3] Berto P, Lopatriello S, Aiello A, et al. Cost of laparoscopy and laparotomy in the surgical treatment of colorectal cancer [J]. Surgical endoscopy, 2012, 26(5): 1444-1453
- [4] Miskovic D, Ni M, Wyles S M, et al. Learning curve and case selection in laparoscopic colorectal surgery: systematic review and international multicenter analysis of 4852 cases [J]. Diseases of the Colon & Rectum, 2012, 55(12): 1300-1310
- [5] 于洋. 结肠癌围手术期的护理体会[J]. 辽宁医学院学报, 2013, 34(4): 89-90
- [6] Yu Yang. Nursing experience of colon cancer during peri operation period[J]. Journal of Liaoning Medical University, 2013, 34(4): 89-90
- [7] Hu M, Ou-yang C, Zhao G, et al. Outcomes of open versus laparoscopic procedure for synchronous radical resection of liver metastatic colorectal cancer: a comparative study [J]. Surgical Laparoscopy Endoscopy & Percutaneous Techniques, 2012, 22(4): 364-369
- [8] Sch lin J, Buunen M, Hop W, et al. Bowel obstruction after laparoscopic and open colon resection for cancer: Results of 5 years of follow-up in a randomized trial [J]. Surgical endoscopy, 2011, 25(12): 3755-3760
- [9] Laurent C, Paumet T, Leblanc F, et al. Intersphincteric resection for low rectal cancer: laparoscopic vs open surgery approach [J]. Colorectal Disease, 2012, 14(1): 35-41

- [9] Biagi J J, Raphael M J, Mackillop W J, et al. Association between time to initiation of adjuvant chemotherapy and survival in colorectal cancer: a systematic review and meta-analysis [J]. *Jama*, 2011, 305(22): 2335-2342
- [10] 石梅,李亚萍.腹腔镜和腹式子宫肌瘤切除术效果对比[J].宁夏医科大学学报, 2011, 33(8): 773-774  
Shi Mei, Li Ya-ping. Comparison of the effect of Laparoscopic and abdominal hysterectomy myomectomy [J]. *Journal of Ningxia Medical University*, 2011, 33(8): 773-774
- [11] Champagne B J, Lee E C, Leblanc F, et al. Single-incision vs straight laparoscopic segmental colectomy: a case-controlled study [J]. *Diseases of the Colon & Rectum*, 2011, 54(2): 183-186
- [12] Park J S, Choi G S, Jun S H, et al. Laparoscopic versus open intersphincteric resection and coloanal anastomosis for low rectal cancer: intermediate-term oncologic outcomes [J]. *Annals of surgery*, 2011, 254(6): 941-946
- [13] Wasserberg N. Laparoscopic colectomy for colorectal cancer [J]. *Isr Med Assoc J*, 2010, 12(9): 572-576
- [14] Zheng C, Wu Y L, Li Q. Preoperative intestinal stent decompression with primary laparoscopic surgery to treat left-sided colorectal cancer with obstruction: a report of 21 cases[J]. *Cancer biology & medicine*, 2013, 10(2): 99
- [15] Rothwell P M, Wilson M, Elwin C E, et al. Long-term effect of aspirin on colorectal cancer incidence and mortality: 20-year follow-up of five randomised trials[J]. *The Lancet*, 2010, 376(9754): 1741-1750
- [16] 胡伟文,陈星明,刘俊林,等.腹腔镜与开腹手术治疗结肠癌疗效分析[J].中国医药导报, 2011, 8(14): 50-51  
Hu Wei-wen, Chen Ming-xing, Liu Jun-lin, et al. Analysis of the outcomes of laparoscopic and open surgery for colon cancer [J]. *China Medical Herald*, 2011, 8(14): 50-51
- [17] Pernazza G, Monsellato I, Alfano G, et al. Laparoscopic treatment of a carcinoma of the cecum incarcerated in a right groin hernia: report of a case[J]. *Surgery today*, 2011, 41(3): 422-425
- [18] Altuntas Y E, Gezen C, Vural S, et al. Laparoscopy for sigmoid colon and rectal cancers in septuagenarians: a retrospective, comparative study[J]. *Techniques in coloproctology*, 2012, 16(3): 213-219
- [19] Xiao Y, Sun XY, Niu BZ, et al. acquiring laparoscopic skill for colorectal surgery: based on the experience of a colorectal surgeon[J]. *Chinese Journal of Surgery*, 2012, 50(12): 1063-1067
- [20] Han K S, Choi G S, Park J S, et al. Short-term outcomes of a laparoscopic left hemicolectomy for descending colon cancer: retrospective comparison with an open left hemicolectomy[J]. *Journal of the Korean Society of Coloproctology*, 2010, 26(5): 347-353
- [21] Yamamoto M, Okuda J, Tanaka K, et al. Effect of Previous Abdominal Surgery on Outcomes Following Laparoscopic Colorectal Surgery [J]. *Diseases of the Colon & Rectum*, 2013, 56(3): 336-342
- [22] Milbury K, Cohen L, Jenkins R, et al. The association between psychosocial and medical factors with long-term sexual dysfunction after treatment for colorectal cancer [J]. *Supportive Care in Cancer*, 2013, 21(3): 793-802

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- [26] P. Duewell, H. Kono, K. J. Rayner, et al. NLRP3 inflammasomes are required for atherogenesis and activated by cholesterol crystals[J]. *Nature*, 2010, 464:1357-1361
- [27] K. Rajam ki, J. Lappalainen, K. O rni, et al. Cholesterol crystals activate the NLRP3 inflammasome in human macrophages: A novel link between cholesterol metabolism and inflammation [J]. *PLoS One*, 2010, 5(7):117-165
- [28] Plump AS, Smith JD, Hayek T, et al. Severe hypercholesterolemia and atherosclerosis in apolipoprotein E-deficient mice created by homologous recombination in ES cells[J]. *Cell*, 1992, 71(2): 343-353
- [29] Chi, H. Messas, E. Levine, et al. Interleukin-1 receptor signaling mediates atherosclerosis associated with bacterial exposure and/or a high-fat diet in a murine apolipoprotein E heterozygote model: pharmacotherapeutic implications [J]. *Circulation*, 2004, 110:1678-1685
- [30] Isoda, K. Ohsuzu, F. The effect of interleukin-1 receptor antagonist on arteries and cholesterol metabolism. *J. Atheroscler [J]. Thromb*, 2006, 13:21-30
- [31] Menu P, Pellegrin M, Aubert JF, et al. Atherosclerosis in ApoE-deficient mice progresses independently of the NLRP3 inflammasome [J]. *Cell Death Dis*, 2011, 2: 137
- [32] Zhou R, Yazdi AS, Menu P, et al. A role for mitochondria in NLRP3 inflammasome activation[J]. *Nature*, 2011, 475(7354):122