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快速康复外科理念对结直肠癌根治术患者疗效及机体应激反应的影响*

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摘要 目的：探讨快速康复外科理念应用于结直肠癌根治术患者的疗效及其对机体应激反应的影响。**方法：**选取2012年1月-2013年6月我院收治的180例结直肠癌患者为研究对象，采用随机数字表法分为对照组与观察组，每组各90例。两组患者均进行结直肠癌根治术治疗，对照组患者围手术期采用传统处理措施，观察组患者围手术期采用快速康复处理措施，对比两组患者术中出血量、手术时间、术后住院时间、住院费用、术后排便时间、首次排气时间，同时比较两组患者手术当日、术后1 d、5 d血清白细胞介素-6(IL-6)、C反应蛋白(CRP)及血清淀粉样蛋白A(SAA)的水平，并观察两组患者并发症发生情况。**结果：**与对照组相比，观察组患者的术后住院时间、术后排便时间及首次排气时间均缩短，住院费用降低，差异有统计学意义(P<0.05)，两组患者术中出血量、手术时间对比差异无统计学意义(P>0.05)。术前，两组患者的血清IL-6、CRP、SAA水平对比差异无统计学意义(P>0.05)，术后1 d、5 d，两组患者血清IL-6、CRP、SAA水平均高于术前，术后5 d血清IL-6、CRP、SAA水平低于术后1 d，差异有统计学意义(P<0.05)，观察组患者术后1 d、5 d血清IL-6、CRP、SAA水平均低于对照组，差异有统计学意义(P<0.05)。观察组并发症总发生率为6.67%，与对照组的7.78%比较差异无统计学意义(P>0.05)。**结论：**快速康复外科理念应用于结直肠癌根治术患者能够有效加快患者术后康复，降低术后应激反应，值得临床推广。

关键词：结直肠癌根治术；快速康复外科理念；疗效；白细胞介素-6；C反应蛋白；血清淀粉样蛋白A
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Application of Concept of Rapid Rehabilitation Surgery in Patients with Radical Resection of Colorectal Cancer*

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ABSTRACT Objective: To explore the Effect of rapid rehabilitation surgery concept on the radical resection of colorectal cancer, and to analyse the stress response on the body. **Methods:** A total of 180 cases of colorectal cancer, who were treated in Liuzhou People's Hospital Affiliated to Guangxi University of Science and Technology from January 2012 to June 2013, were randomly divided into control group and observation group, 90 cases in each group. The two groups were treated with radical resection of colorectal cancer. The traditional treatment measures were adopted in the perioperative period of the control group; the measures of rapid rehabilitation surgery concept was used for the observation group during the perioperative period. The amount of bleeding, operation time, postoperative hospital stay, the cost of hospitalization, the time of postoperative defecation and the first exhaust time were compared between the two groups. At the same time, the levels of serum interleukin-6 (IL-6), C reactive protein (CRP) and serum amyloid A (SAA) in two groups of patients at operative time, 1 d and 5 d after operation were compared between the two groups. The complications in two groups were observed. **Results:** Compared with the control group, the time of postoperative hospital stay, the time of postoperative defecation and the first exhaust time were shortened, and the cost of hospitalization was reduced in the observation group, the differences were statistically significant(P<0.05). There were no significant differences in the amount of bleeding and operation time between the two groups (P>0.05). Before operation, there were no significant differences in serum IL-6, CRP and SAA levels between the two groups (P>0.05); 1 d and 5d after operation, the levels of serum IL-6, CRP and SAA in the two groups were all higher than those before operation, the levels of IL-6, CRP and SAA 5d after operation were lower than those 1 d after operation, the differences were statistically significant (P<0.05). The levels of serum IL-6, CRP and SAA in the observation group 1 d and 5 d after operation were lower than those in the control group, the difference was statistically significant (P<0.05). The total incidence of complications in the observation group was 6.67%, which has no signifi-

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cant difference compared with the total incidence of complications (7.78%) in the control group (P>0.05). **Conclusion:** The rapid rehabilitation surgery concept in the patients with radical resection of colorectal cancer can effectively accelerate the recovery of patients after operation and reduce postoperative stress response, which is worthy of clinical promotion.

Key words: Radical resection of colorectal cancer; Rapid rehabilitation surgery concept; Curative effect; Interleukin -6; C reactive protein; Serum amyloid A

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前言

结直肠癌是临床常见的消化道恶性肿瘤之一,具有较高的发病率及病死率,对人类的身体健康造成严重威胁[1,2]。腹腔镜下结直肠癌根治术是目前临床上治疗结直肠癌的主要方法,该手术的围手术期肠道准备对手术效果影响较大[3,4]。传统的围手术期处理包括清洁灌肠、术前肠道准备、术后留置胃肠减压、保留腹腔引流管和尿管及应用度冷丁镇痛等,以上围手术期处理极易增加术后疼痛感,同时会导致机体内环境紊乱,因此探寻更有效的围手术期肠道处理方法是临床工作者关注的重点[5,6]。快速康复外科理念是近年来兴起的围手术期处理方法,其具体内容包括良好的麻醉,术前宣教、止痛,术后早期康复治疗以及围手术期各种应激反应治疗等,可以更好的促进患者术后胃肠功能的恢复,减轻患者术后疼痛,缩短患者恢复时间[7,8]。本研究旨在探讨快速康复外科理念应用于结直肠癌根治术患者的疗效以及其对机体应激反应的影响。

1 资料与方法

1.1 一般资料

选取 2012 年 1 月 -2013 年 6 月我院收治的 180 例结直肠癌患者为研究对象,纳入标准[9]:(1)术前确诊为结直肠癌;(2)术前经影像学检查或体检无其他脏器转移;(3) 可行结直肠癌根治术;(4)患者及其家属知情本研究并签署知情同意书。排除标准:(1)伴有免疫系统及内分泌系统疾病的患者;(2)伴有肝肾功能及凝血功能障碍者;(3) 伴有其他炎症性疾病者;(4)在术前接受过新辅助化疗治疗者。采用随机数字表法分为观察组(n=90)与对照组(n=90)。其中观察组男 45 例,女 45 例,年龄 43-69 岁,平均年龄(56.81± 4.34)岁;肿瘤位置:结肠癌 37 例,直肠癌 53 例;TMN 分期:I 期 21 例,II 期 47 例,III 期 22 例。对照组男 49 例,女 41 例,年龄 45-70 岁,平均年龄(58.93± 6.33)岁;肿瘤位置:结肠癌 40 例,直肠癌 50 例;TMN 分期:I 期 25 例,II 期 48 例,III 期 17 例。两组患者一般资料对比无差异(P>0.05),提示分组均衡,组间具有可比性,本次研究通过医院伦理委员会批准。

1.2 围手术期处理方法

观察组患者围手术期给予快速康复外科简易肠道处理:患者在入院后正常饮食,在术前根据快速康复注意事项、处理流程及结直肠癌的相关知识进行健康宣教。术前禁食、禁饮 4 h,术前 1 d 口服复方聚乙二醇电解质散 2000 mL 经口全肠道清洁灌肠,然后口服肠内营养乳剂,采取连续硬膜外联合气管插管下全身麻醉,术后采用静脉自控式镇痛,手术次日即可流质饮食,术后 48 h 拔除导尿管。对照组患者围手术期采用传统处理方法:开始手术前对患者进行常规宣教,在进行手术前 5 d 患者开始使用半流质食物,手术前 3 d 开始饮用流质食物,同时口服缓泻剂如硫酸镁,50 mL/d,每天晚上应用 2000 mL 的生理盐水经肛门进行机械性灌肠;在手术前 2-3 d 服用肠道抗生素:甲硝唑 0.4 g,3 次 /d,链霉素 0.5 d,1 次 /d;术前 1 d 禁食,术前当晚使用生理盐水经肛门行清洁灌肠,至排出大便为清水样,麻醉方式采用气管插管下全身麻醉,常规放置腹腔引流管,术后镇痛给予肌肉注射哌替啶或曲马多 50 mg,根据患者的疼痛程度按需止痛,肠道排气后开始饮水进食,术后 3-4 d 拔除导尿管。

1.3 观察指标及检测方法

对比两组患者术中出血量、手术时间、术后住院时间、住院费用、术后排便时间、首次排气时间,所有患者在手术当日、术后 1 d、5 d 采取外周空腹静脉血 5 mL,置于预冷试管内,应用离心机(美国 Beckman 公司)以 3000 r/min 的转速离心 10 min,将血清与血浆分离,将离心管上层的血清收集,置于 -70℃冰箱内保存待检。采用酶联免疫吸附法检测患者血清白细胞介素 -6(Interleukin -6,IL-6)、C 反应蛋白(C reactive protein,CRP)及血清淀粉样蛋白 A(Serum amyloid A protein,SAA)的水平,试剂盒由上海盈公生物技术有限公司提供,操作按照试剂盒说明书进行。观察两组患者并发症发生情况。

1.4 统计学方法

数据分析应用 SPSS23.0 统计学软件,计数资料以%表示,采用 χ^2 检验;计量资料以($\bar{x}\pm s$)表示,采用 t 检验,检验标准设置为α=0.05。

2 结果

2.1 两组患者手术指标及术后恢复情况比较

与对照组相比,观察组患者的术后住院时间、术后排便时间及首次排气时间均缩短,住院费用降低(P<0.05),两组患者术中出血量、手术时间对比差异无差异(P>0.05),见表 1。

2.2 两组患者血清 IL-6、CRP、SAA 水平比较

术前,两组患者的血清 IL-6、CRP、SAA 水平对比差异无统计学意义(P>0.05),术后 1 d、5 d,两组患者血清 IL-6、CRP、SAA 水平均高于术前,术后 5 d 血清 IL-6、CRP、SAA 水平低于术后 1 d (P<0.05),观察组患者术后 1 d、5 d 血清 IL-6、CRP、SAA 水平均低于对照组(P<0.05),见表 2。

2.3 两组患者并发症发生情况比较

观察组并发症总发生率为 6.67%(6/90),与对照组的 7.78%(7/90)比较差异无统计学意义(P>0.05),见表 3。

表 1 两组患者手术指标及术后恢复情况比较($\bar{x}\pm s$)

Table 1 Comparison of surgical indexes and postoperative recovery in the two groups($\bar{x}\pm s$)

Groups	n	Amount of bleeding(mL)	Operation time (min)	Postoperative hospital stay(d)	Cost of hospitalization (million)	Time of postoperative defecation(h)	The first exhaust time(h)
Observation group	90	65.73± 15.14	115.79± 20.67	11.19± 1.92	2.63± 0.32	72.18± 21.33	62.15± 15.67
Control group	90	68.32± 19.46	120.53± 23.83	14.21± 3.25	3.76± 0.57	115.74± 28.75	85.54± 20.18
t		0.649	0.401	5.064	2.217	5.077	4.189
P		0.517	0.697	0.027	0.042	0.031	0.035

表 2 两组患者血清 IL-6、CRP、SAA 水平比较($\bar{x}\pm s$)

Table 2 Comparison of IL-6, CRP and SAA levels between the two groups($\bar{x}\pm s$)

Groups	n	IL-6(pg/L)			CRP(mg/L)			SAA(mg/L)		
		before operation	1 d after operation	5 d after operation	before operation	1 d after operation	5 d after operation	before operation	1 d after operation	5 d after operation
Observation group	90	3.78± 1.02	130.01± 7.54*	11.47± 3.32*#	2.34± 0.67	42.80± 7.39*	18.15± 5.38*#	3.53± 1.11	134.06± 16.89*	30.54± 7.32*#
		4.09± 1.27	154.19± 14.16*	21.21± 4.65*#	2.31± 0.54	79.29± 13.96*	40.64± 12.19*#	3.50± 1.05	182.38± 41.07*	58.59± 11.56*#
Control group	90	0.763	7.980	7.966	0.492	11.364	6.212	0.316	5.125	7.602
		0.419	0.027	0.029	0.673	0.007	0.019	0.837	0.038	0.024

Note: Compared with before operation, *P<0.05. Compared with 1d after operation, #P<0.05.

表 3 两组患者并发症发生情况比较[n(%)]

Table 3 Comparison of complications of the two groups [n(%)]

Groups	n	Pulmonary infection	Urinary tract infection	Postoperative ileus	Anastomotic leak	Total incidence
Observation group	90	2(2.22)	0(0.00)	1(1.11)	3(3.33)	6(6.67)
Control group	90	3(3.33)	2(2.22)	0(0.00)	2(2.22)	7(7.78)
x^2						2.292
P						0.164

3 讨论

结直肠癌是胃肠道中常见的恶性肿瘤,世界流行病学统计报道显示,在西欧、新西兰、澳大利亚、北美等地区的结肠癌发病率较高,居内脏肿瘤前二位[10-12]。根据各地区的资料显示,随着近年来人们生活水平的改善,饮食结构改变,结直肠癌的发病率逐年上升,且青年人在其中所占的比例也在逐年升高[13-15]。目前临床上治疗结直肠癌的方法主要是手术切除,由于大部分结直肠癌患者在接受手术治疗前存在一定程度的免疫功能减退以及营养不良现象,所以结直肠癌根治术围手术期处理方法的选择对患者的后期治疗及恢复至关重要[16-18]。虽然目前已有较多的肠道准备方法,并且比以往肠道准备方法具有较大的改进,能够满足临床手术的基本需求,但仍效果欠佳,因此探寻更有效的肠道准别方法对促进结直肠癌根治术患者术后恢复具有重要意义。

传统的肠道准备方法中需要在术前限制饮食,致使患者术前营养状态较差及水电解质内环境紊乱,使患者对手术的耐受性降低,增加了术后发生并发症的几率,影响手术效果[19-21]。近年来,随着胃肠外科设备、技术的进步和快速康复外科新理念的发展,结直肠癌患者得到了良好治疗。为加快患者术后恢复、减轻患者负担、争取术后尽快得到后续治疗,临床工作者将快速康复外科新理念运用于结直肠癌患者术前肠道准备中[22]。快速康复外科理念产生的主要基础是对手术应激反应的深入认识,其能有效减轻患者术后的应激反应,进而使加快患者术后康复[23]。本次研究结果表明,观察组术后住院时间、术后排便时间及首次排气时间均较对照组缩短, 住院费用较对照组降低(P<0.05),说明应用快速康复外科理念对结直肠癌根治术患者进行围手术期处理可有效缩短患者术后恢复时间,减轻患者经济压力。分析其主要原因是观察组患者在术前正常饮食,营养状态未下降,同时术前未服用抗生素,降低了术后发生假膜性小肠结肠炎、腹泻等疾病的风险;术前一天患者口服复方聚乙二醇电解质散行进行全肠道清洁灌肠,既不会对肠道微生物造成明显的影响,也不会扰乱正常的肠道菌群,此外应用聚乙二醇进行肠道准备,不会使结肠黏膜形态学发生变化,肠道清洁度优于传统肠道准备,避免了水电解质内环境紊乱[24,25];术前口服肠内营养乳剂,在满足患者营养需求的同时,还可刺激患者胃肠道,促进胃肠蠕动及黏膜生长,加快患者术后胃肠道功能的恢复,因此观察组患者术后康复时间较对照组缩短。应激反应是机体在受到各种内外环境因素刺激时所出现的反应,IL-6、CRP 及 SAA 是三种特征性急性反应介质,其中 IL-6 是一

种促炎因子,也是机体在应激反应状态下介导免疫调节及炎症损伤的重要细胞因子之一,能够较早的反映机体损伤程度[26,27];CRP 是机体受到组织损伤时产生的急性蛋白,反映急性期炎症反应的重要指标[28];SAA 是一种比 CRP 更为敏感的炎性指标,其在血清中的水平可反应组织损伤程度[29]。本研究在对以上三种指标水平对比分析中发现,观察组患者术后 1 d、5 d 的 IL-6、CRP、SAA 水平均低于对照组(P<0.05),说明观察组患者术后应激反应低于对照组,分析其原因主要是观察组患者麻醉方式采用全身麻醉联合连续硬膜外麻醉,且术后采用静脉自控镇痛,可有效减少皮质醇、儿茶酚胺的释放,使应激反应减轻[30]。此外,观察组患者在术后早期经口饮食,可有效促进肠道蠕动,使肠道胃肠激素的分泌增加,维护了肠粘膜的功能,避免了肠道菌群移位的发生,使应激反应减轻。本研究对两组并发症分析中显示,两组并发症发生率无差异(P>0.05),说明快速康复外科理念围手术期处理方法不会增加并发症的发生率,具有较高的安全性。

综上所述,快速康复外科理念应用于结直肠癌根治术患者可有效缩短患者术后康复时间、住院时间,减轻术后应激反应,减少患者住院费用,既能促进患者术后康复,又能减轻患者经济压力,同时又具有较高的安全性,值得临床推广。

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