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腹腔镜与开腹全胃切除非离断式食道空肠 Roux-en-Y 吻合的临床疗效

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[摘要] 目的: 比较腹腔镜与开腹全胃切除非离断式食道空肠Roux-en-Y吻合的疗效。方法: 回顾性收集2013年10月至2017年3月武汉市红十字会医院普外科收治的胃体癌患者53例, 根据手术方式不同, 分为腹腔镜手术组(A组, 27例)与开腹手术组(B组, 26例), 其中A组又分为完全腹腔镜组(totally laparoscopic group, TLG; 17例)与腹腔镜辅助组(laparoscopy-assisted group, LAG; 10例), 比较各组的手术时间、消化道重建时间、术中出血量、术后排气时间、住院时间和费用及近期并发症。结果: A组与B组手术时间[(248±83.5) min vs (203.6±69.6) min]、消化道重建时间[(44.2±9.0) min vs (30.2±7.8) min]及术中出血量[(231.8±145.2) mL vs (326.8±182.1) mL], 差异均有统计学意义($t=2.098, P=0.040$; $t=6.041, P<0.001$; $t=-2.103, P=0.040$); A组与B组排气时间[(3.1±0.5) d vs (4.6±0.5) d]、住院时间[(9.4±1.5) d vs (14.6±2.0) d]及住院费用[(3.1±0.3)万元 vs (4.2±0.2)万元], 差异均有统计学意义($t=-10.918, P<0.001$; $t=-10.735, P<0.001$; $t=-15.643, P<0.001$)。TLG组与LAG组手术时间[(299±88) min vs (232±55) min]、消化道重建时间[(58.2±6.0) min vs (33.2±3.9) min]及术中出血量[(216.1±36) mL vs (281.5±93) mL], 差异有统计学意义($t=2.162, P=0.040$; $t=11.747, P<0.001$; $t=-2.613, P=0.014$); TLG组与LAG组排气时间[(3.6±0.5) d vs (2.8±0.5) d]、住院时间[(9.8±1.2) d vs (9.0±1.8) d]及住院费用[(3.1±0.2)万元 vs (3.3±0.4)万元], 差异无统计学意义($P>0.05$)。A组与B组术后并发症发生率差异无统计学意义($P>0.05$)。结论: 较之开腹手术, 腹腔镜全胃切除非离断式食道空肠Roux-en-Y吻合术中出血少, 恢复排气时间快, 住院时间短, 住院费用低, 但手术时间与消化道重建时间长。

[关键词] 腹腔镜; 非离断式Roux-en-Y吻合术; 全胃切除

Clinical efficacy of uncut Roux-en-Y esophagojejunostomy after laparoscopic and open total gastrectomy

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Abstract **Objective:** To compare the efficacy of uncut Roux-en-Y esophagojejunostomy after laparoscopy total gastrectomy and open total gastrectomy. **Methods:** A total of 53 patients with gastric body carcinoma from Oct 2013 to Mar

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2017 in our hospital were retrospectively collected and analyzed. The patients were divided into laparoscopic group (group A, 27 cases) and open surgical group (group B, 26 cases) according to the type of operation, and group A was further divided into totally laparoscopic group (TLG group, 17 cases) and laparoscopy-assisted group (LAG group, 10 cases). The observation index included operation time, reconstruction time, blood loss volume, the first time to flatus, hospital day and expenses, and early post complications. **Results:** The differences in operation time [(248±83.5) min vs (203.6±69.6) min], reconstruction time [(44.2±9.0) min vs (30.2±7.8) min] and blood loss volume [(231.8±145.2) mL vs (326.8±182.1) mL] between group A and B were statistically significant ($t=2.098, P=0.040$; $t=6.041, P<0.001$; $t=-2.103, P=0.040$); the differences in the first time to flatus [(3.1±0.5) d vs (4.6±0.5) d], hospital day [(9.4±1.5) d and (14.6±2.0) d] and expenses [(31 000±3 000) yuan vs (42 000±2 000) yuan] of group A and group B were statistically significant ($t=-10.918, P<0.001$; $t=-10.735, P<0.001$; $t=-15.643, P<0.001$). The operation time, reconstruction time and blood loss volume of TLG and LAG were (299±88) min vs (232±55) min, (58.2±6.0) min vs (33.2±3.9) min, (216.1±36) mL vs (281.5±93) mL, respectively. This difference was significant ($t=2.162, P=0.040$; $t=11.747, P<0.001$; $t=-2.613, P=0.014$). The first time to flatus, hospital day and expenses of group A and group B was (3.6±0.5) d vs (2.8±0.5) d, (9.8±1.2) d vs (9.0±1.8) d, and (31 000±2 000) yuan vs (33 000±4 000) yuan, respectively. The difference was not significant ($P>0.05$). The difference of early post complications occurred in group A and B was not significant ($P>0.05$). **Conclusion:** Compared with open total gastrectomy, uncut Roux-en-Y esophagojejunostomy after laparoscopic total gastrectomy is characterized by less blood loss volume, shorter flatus and hospitalization time and less hospitalization expenses, however, longer operation time and reconstruction time.

Keywords laparoscopy; uncut Roux-en-Y reconstruction; total gastrectomy

胃癌是中国发病率最高的恶性肿瘤之一,在肿瘤导致死亡的原因中居第3位。目前腹腔镜根治性全胃切除术逐渐在临床上得以推广,但其主要难点仍是全胃切除后消化道的重建^[1]。食道空肠Roux-en-Y吻合因可预防术后胆汁反流等并发症,是全胃切除术后消化道重建的有效方式,但易发生Roux潴留综合征^[2]。非离断式Roux-en-Y吻合因可降低Roux潴留综合征的发生率而得到广泛应用^[3]。本研究将自开展此项技术以来腹腔镜与开腹行全胃切除非离断式Roux-en-Y吻合术的案例进行比较研究,探讨非离断式Roux-en-Y吻合术在腹腔镜全胃切除术中的应用。

1 资料与方法

1.1 临床资料

2013年10月至2017年3月在武汉市红十字会医院普外科共53例胃体癌患者行全胃切除术。纳入标准:1)经胃镜、影像学资料及生化检查确诊为胃体癌的患者;2)接受腹腔镜或开腹手术的患者;3)检验、影像及随访资料齐全。剔除标准:1)患者已发生远处转移而无法接受手术者;2)有严重的心肝肾功能不全而无法接受手术者;3)检

验、影像及随访资料不齐全者;4)拒绝入组该研究者。

根据手术方式不同分为腹腔镜手术组(A组,27例)与开腹手术组(B组,26例),其中A组又分为完全腹腔镜组(totally laparoscopic group, TLG; 17例)与腹腔镜辅助组(laparoscopy-assisted group, LAG; 10例)。A组男17例,女10例,年龄36~72(中位51)岁;B组男16例,女10例,年龄39~75(中位55)岁。本研究中所有纳入病例均由同一位主任医师带领的医疗组完成,所有纳入病例均经术前胃镜与病理确诊。本研究征得患者及家属同意,并获得医院伦理委员会批准。

1.2 方法

在对患者行全胃切除并淋巴结清扫后行非离断式食道空肠Roux-en-Y吻合术重建消化道^[4-6]。

1.2.1 开腹非离断式食道空肠 Roux-en-Y 吻合术

取距Treitz韧带45 cm处空肠,使用3-0 V-lock缝线于结肠前行食道空肠端侧吻合,在此吻合口下方约40 cm处行空肠Braun吻合,吻合口长度5 cm,在距食道空肠吻合口10 cm处的上升空肠祥用7号丝线适度结扎。

1.2.2 完全腹腔镜非离断式食道空肠 Roux-en-Y 吻合术

腹腔镜下于结肠前行食道空肠端侧吻合, 借助直线切割闭合器及3-0 V-lock缝线完成Braun吻合, 应用3-0 V-lock缝线完成非离断式结扎, 经扩大脐部皮肤穿刺孔至2~3 cm移除切除标本。

1.2.3 腹腔镜辅助非离断式食道空肠 Roux-en-Y 吻合术

选择剑突下正中切口, 长5~8 cm, 置入切口撑开保护器取出标本, 经小切口行食道空肠端侧吻合, 借助直线切割闭合器和3-0 V-lock缝线完成Braun吻合, 在距食道空肠吻合口10 cm处的上升空肠祥用7号丝线适度结扎。

1.3 观察指标

观察记录并比较A, B两组手术相关指标, 包括消化道重建时间、手术时间、术中出血量、住院时间和住院费用及排气时间、近期并发症。

1.4 统计学处理

采用SPSS 21.0统计学软件进行分析, 计量资料以均数±标准差($\bar{x} \pm s$)表示, 行两独立样本的 t 检验, 计数资料采用“例(%)”形式表示, 采用 χ^2 检验或Fishers精确概率法行统计分析。 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 A组与B组手术相关变量的比较

A组的手术时间和消化道重建时间显著长于B组, 差异均有统计学意义($P < 0.001$); A组的术中出血量和住院费用明显低于B组, 差异有统计学意义($P < 0.001$); A组与B组的住院时间和排气时间较B组短, 差异有统计学意义($P < 0.001$, 表1)。

2.2 TLG组与LAG组手术相关变量的比较

TLG组与LAG组的手术时间和消化道重建时间相比, 差异有统计学意义($P < 0.001$); TLG组与LAG组的术中出血量分别为(216.1 ± 36) mL与(281.5 ± 93) mL, 差异有统计学意义($t = -2.613$, $P = 0.014$); TLG组与LAG组的排气时间、住院时间和住院费用之间差异无统计学意义($P > 0.05$, 表2)。

2.3 A组与B组术后并发症的比较

A组术后并发症共有2例, 其中十二指肠残端漏与吻合口狭窄各1例, B组术后并发症共2例, 其中吻合口瘘与吻合口狭窄各1例, 两组比较差异无统计学意义($P > 0.05$), 两组术后均未有吻合口出血与Roux滞留综合征发生(表3)。

表1 A组与B组患者手术相关变量的比较

Table 1 Comparison of operation-associated index between A and B group

组别	<i>n</i>	手术时间/min	消化道重建时间/min	术中出血量/mL	排气时间/d	住院时间/d	住院费用/万元
A组	27	248.0 ± 83.5	44.2 ± 9.0	231.8 ± 145.2	3.1 ± 0.5	9.4 ± 1.5	3.1 ± 0.3
B组	26	203.6 ± 69.6	30.2 ± 7.8	326.8 ± 182.1	4.6 ± 0.5	14.6 ± 2.0	4.2 ± 0.2
<i>t</i>		2.098	6.041	-2.103	-10.918	-10.735	-15.643
<i>P</i>		0.040	<0.001	0.040	<0.001	<0.001	<0.001

表2 TLG组与LAG组患者手术相关变量的比较

Table 2 Comparison of operation-associated index between the TLG and LAG group

组别	<i>n</i>	手术时间/min	消化道重建时间/min	术中出血量/mL	排气时间/d	住院时间/d	住院费用/万元
TLG组	17	299 ± 88	58.2 ± 6.0	216.1 ± 36	3.6 ± 0.5	9.8 ± 1.2	3.1 ± 0.2
LAG组	10	232 ± 55	33.2 ± 3.9	281.5 ± 93	2.8 ± 0.5	9.0 ± 1.8	3.3 ± 0.4
<i>t</i>		2.162	11.747	-2.613	4.014	1.389	-1.739
<i>P</i>		0.040	<0.001	0.014	<0.001	0.177	0.094

表3 A组与B组患者术后并发症比较

Table 3 Comparison of post-operation complications between A and B group

组别	n	术后并发症				
		十二指肠残端瘘	食管空肠吻合口瘘	吻合口出血	吻合口狭窄	Roux滞留综合征
A组	27	1	0	0	1	0
B组	26	0	1	0	1	0
P		1.000	0.433	—	1.000	—

3 讨论

与传统开腹手术相比,腹腔镜胃癌根治术具有更好的发展前景,且已成为胃肠外科发展的一种新趋势^[7]。腹腔镜辅助胃癌根治术的显著优点是创伤小、胃肠功能恢复快,针对胃上段癌及食管结合部病灶采用最多的是腹腔镜下胃周血管游离并D2淋巴结清扫,辅助上腹部5~8 cm小切口行全胃切除并取出标本,行食道空肠吻合^[8]。完全腹腔镜胃癌根治术不需要做上腹部切口,仅需在脐部扩大穿刺孔至标本取出即可,故完全腹腔镜具有手术创伤更小、安全性更高的优点^[9]。Strong等^[10]报道完全腹腔镜胃癌根治术的中位手术时间为270 min,术后平均住院5 d,开放手术组中位手术时间为126 min,术后平均住院7 d;TLG组术后疼痛显著轻于开放组。Ikeda等^[11]报道了80例胃癌患者的资料,其中有24例行腹腔镜辅助胃癌切除,56例行完全腹腔镜胃癌切除术,较之腹腔镜辅助胃癌切除术,完全腹腔镜胃癌切除术具有出血量更少、术后恢复时间和住院时间更短等优点。这些结果提示完全腹腔镜胃癌根治术治疗胃癌在技术上可行,且能取得与开放手术相似的肿瘤学治疗效果^[10-11]。

腹腔镜下全胃切除术消化道重建以食道空肠Roux-en-Y吻合最为普及,该吻合方式具有显著的优点,其一在于可减少术后反流性食管炎的发生,其二在于减轻倾倒综合征的发生,但仍有约30%的Roux滞留综合征,临床上可出现恶心、呕吐、腹胀及上腹痛等症状。研究^[12]表明:Roux滞留综合征的产生原因与横断空肠后肠袢蠕动异常有关。有报道^[3]称:采用食道空肠非离断式Roux-en-Y吻合法可有效减轻这些症状,并得到广泛认可与应用。采取非离断式Roux-en-Y食道空肠吻合,不仅可维持十二指肠起搏电位与Roux空肠袢间的神经肌肉连续性,且可消除端侧吻合处的机电传导失衡,进而防止全胃切除术后Roux滞留综合征的发生^[13]。但由于腹腔镜下胃肠道吻合技术

难度较高,目前多采用开腹方式行食道空肠uncut Roux-en-Y吻合。武汉市红十字会医院在熟练掌握开腹下非离断式食道空肠Roux-en-Y吻合的基础上,逐渐开展腹腔镜辅助下非离断式食道空肠Roux-en-Y吻合。本研究结果显示完全腹腔镜下食道空肠uncut Roux-en-Y吻合具有良好的可行性与安全性,微创效果较好。

值得注意的是,完全腹腔镜食道空肠uncut Roux-en-Y吻合有一些技巧,以避免吻合口瘘、出血等并发症的发生。实行非离断式食道空肠Roux-en-Y吻合时需注意充分游离食道下段,使食道有足够的残端进行吻合,且要保持无张力吻合,空肠上提也可有效减少吻合口张力。食道下段经超声刀处理后残端出血风险较小。由于非离断式Roux-en-Y吻合仅行空肠上升袢结扎不切断,保持了空肠的连续性,保证了吻合口的血液灌注,降低了吻合口狭窄率^[14]。本研究对腹腔镜手术组和开腹手术组并发症情况进行比较发现:腹腔镜手术组术后并发症共有2例,其中十二指肠残端漏与吻合口狭窄各1例,开腹手术组术后并发症共2例,其中吻合口瘘与吻合口狭窄各1例,两组并发症发生情况差异无统计学意义,提示两种手术方式并发症情况并无差异。

尽管完全腹腔镜下手术难度较大,技术要求高,但本研究结果显示:完全腹腔镜下行非离断式食道空肠Roux-en-Y吻合手术时间尚可接受,相对腹腔镜辅助及开腹胃癌根治术而言,完全腹腔镜手术创伤更小、手术应激更轻。本研究表明完全腹腔镜胃癌根治术的开展,为胃癌患者提供了一种新的手术方式,但其远期安全性及有效性还需进一步研究证实。

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