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不同营养支持方式对进展期胃癌术后病人临床结局比较

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摘要 目的:研究肠内营养、肠外营养、常规补液对胃癌术后患者临床结局的影响。**方法:**择我院住院治疗并行外科手术的胃癌患者 183 例,随机分至肠内营养组、肠外营养组、常规补液组,分别行相应的营养支持治疗,比较三组患者术前/后 1 天及术后 8 天体重、白蛋白、淋巴细胞计数的变化及术后并发症发生情况、营养支持费用、术后住院时间、总费用。**结果:**常规补液组术后第 8 天体重较术前 1 天明显下降;肠内、肠外营养组患者体重下降幅度均明显低于常规补液组;肠内、肠外营养组术后第 8 天白蛋白水平升高显著,且明显高于常规补液组;肠内营养组患者术后第 8 天淋巴细胞明显上升,且较常规补液组有明显升高。肠外营养组、常规补液组患者肝功能损害、血脂升高、血糖升高的发生率均明显高于肠内营养组;肠外营养组患者肝功能损害、血脂升高发生率明显低于常规补液组;肠内营养组患者切口腹腔感染及肺部感染的发生率均明显低于常规补液组。与常规补液组相比,肠外、内营养组患者术后住院时间均明显缩短,肠内营养组患者总费用明显偏高;与肠外营养相比,肠内营养组、常规补液组营养支持费用明显降低,肠内营养组患者总费用显著下降,上述差异均有统计学意义($P < 0.05$)。**结论:**胃癌术后患者行肠内营养可大大降低术后并发症的发生,并减少患者住院费用,缩短术后住院时间。

关键词:胃癌;术后;营养支持;结局

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Comparison of Clinical Outcomes of Different Nutritional Support on the Patients with Advanced Gastric Carcinoma

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ABSTRACT Objective: To study the effect of enteral nutrition, parenteral nutrition, conventional fluid resuscitation on patients with gastric cancer. **Methods:** 183 patients with gastric cancer were selected in our hospital, they were randomly divided to enteral nutrition group, parenteral nutrition group, conventional resuscitation group, with corresponding nutritional support treatment, the body weight of patients before and after 1 days and 8 days postoperative, albumin, lymphocyte, postoperative complications, nutritional support costs, postoperative hospitalization time, and total cost among these groups were compared. **Results:** The body weight of the patients in conventional resuscitation group decreased significantly on the eighth day after operation; the decrease of body weights of enteral nutrition and parenteral nutrition group were significantly lower than those of conventional resuscitation group; The albumin and lymphocyte of the patients in conventional resuscitation group increased significantly on the eighth day after operation. The indexes of impaired liver function, elevated blood lipids, and blood glucose of conventional resuscitation group were significantly higher than that of enteral nutrition group. Compared with the conventional resuscitation group, the hospitalization time of parenteral, enteral nutrition group shortened significantly postoperative, the total cost of enteral nutrition group were significantly higher. Compared with parenteral nutrition group, the nutritional support costs of enteral nutrition group, and conventional resuscitation group was significantly reduced, the differences were statistically significant ($P < 0.05$). **Conclusion:** The enteral nutrition can greatly reduce the incidence of postoperative complications of the patients with gastric cancer, and can reduce the cost of hospitalization, shorten the days of hospitalization after operation.

Key words: Gastric cancer; Postoperative; Nutritional support; Outcome

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前言

胃癌泛指发生于胃窦、贲门、胃体等胃各个部位的癌症。我

国胃癌发病人数、死亡人数分别占全球的 42%、35%,发病率、死亡率均约为世界平均水平的 2 倍;在各类型癌症中,胃癌发病率居第 2 位,死亡率居第 3 位^[1-3]。胃癌患者多伴有营养不良,不仅在一定程度上限制了治疗方案的选择,还可能使术后并发症发生率增加^[4],因此,营养支持治疗对胃癌术后患者的临床结局具有一定的改善作用。本研究旨在调查肠内营养、肠外营养、常规补液对胃癌术后患者临床结局的影响,现将研究结果报道如下。

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1 资料与方法

1.1. 一般资料

所有病历资料均来源于 2010 年 1 月~2012 年 12 月我院住院并行外科手术的胃癌患者,共 183 例,其中,男性患者 114 例,女性患者 69 例;平均年龄为(62.24± 15.31)岁。行外科

手术治疗前,将患者按随机数字法分至常规补液组、肠内营养组、肠外营养组三组,各 61 例;三组患者在年龄、性别、术前营养情况及手术方式方面无显著性差异,具有可比性($P>0.05$),详见表 1。在进行治疗前该研究方案已通过伦理委员会审批,且均获得了患者的知情同意,签署了知情同意书;排除患有糖尿病等基础疾病、肝肾功能损害的患者。

表 1 三组患者一般资料比较

Table 1 Comparison of the general information of patients among three groups

Group	Gender		Age	Operation excision			(g/L)
	Male	Female		Gastric resection	Proximal resection	Distal resection	Preoperative albumin (g/L)
Conventional resuscitation group	39	22	61.93± 14.27	6	20	39	35.82± 5.42
Enteral nutrition group	37	24	63.25± 13.69	7	18	37	35.93± 5.91
Parenteral nutrition group	38	23	62.52± 13.83	6	19	38	36.27± 6.25

1.2 营养支持方式

1.2.1 常规补液组 按常规方式进行补液支持治疗,其中,补氮量为 0.12g/(kg·d)(以复方氨基酸注射液 18AA-II 为来源),非蛋白能量为 18kcal/(kg·d)(70%左右来自脂肪乳)。

1.2.2 肠外营养组 补氮量为 0.18g/(kg·d),非蛋白能量为 22kcal/(kg·d)(50%来源于脂肪乳,50%来源于葡萄糖注射液);水溶性维生素、脂溶性维生素等均按常规剂量进行添加;在输液中按 1u:5~9g 糖的比例加入普通胰岛素制剂;将以上脂肪乳、氨基酸、维生素等配制为肠外营养液,经静脉持续静滴 20h,一周后逐渐恢复为正常饮食。

1.2.3 肠内营养组 选用肠内营养乳剂或肠内营养混悬液进行肠内营养。于胃切除术后 12h 通过鼻饲空肠管的方式静脉滴注或泵入肠内营养制剂 1000mL 左右,初始给药速度为 40mL/h,而后根据患者的耐受情况调整给药速度及制剂的浓度,尽量使患者补氮量、能量与肠外营养组相似,不足部分可通过肠外营养进行补充。

1.3 观察指标

术前 1 天及术后 8 天患者体重;术后 1 天及术后 8 天白蛋白、淋巴细胞计数的变化;术后并发症发生情况;营养支持费用、术后住院时间、总费用。

1.4 统计学方法

数据收集及统计采用 SPSS 17.0 数据统计软件,计量资料以 $\bar{x} \pm s$ 表示,采用 t 检验进行组间比较;计数资料以 n 表示,采用 χ^2 检验进行组间对比。以 $P<0.05$ 为二组间存在显著性差异。

2 结果

2.1 三组患者术后第 1 天及术后第 8 天营养情况比较

三组患者术后第 8 天体重较术前 1 天均有一定程度的下降,其中,常规补液组体重下降最为显著($P<0.05$);肠内、肠外营养组患者体重下降幅度均明显低于常规补液组($P<0.05$);肠内、肠外营养组术后第 8 天白蛋白水平较术后 1 天有明显上升,且明显高于常规补液组患者的白蛋白水平($P<0.05$);肠内营养组患者术后第 8 天的淋巴细胞计数较术后第 1 天明显上升,且较常规补液组有明显升高($P<0.05$),见表 2。

表 2 三组患者术后第 1 天及术后第 8 天营养情况比较

Table 2 Comparison of the nutrition facts between the first day and the 8th day of the patients among three groups after operation

Group	Body weight (kg)		Albumin (g/L)		lymphocyte count ($\times 10^9/L$)	
	The first day preoperative	The 8th day postoperative	The first day preoperative	The 8th day postoperative	The first day preoperative	The 8th day postoperative
Conventional resuscitation group	62.31± 8.53	53.42± 9.29 [△]	29.14± 7.52	27.52± 7.82	1.84± .82	1.79± 0.76
Enteral nutrition group	63.01± 9.31	62.42± 8.25 [▲]	28.52± 7.31	36.84± 6.82 ^{▲△}	1.85± 0.74	2.42± 0.79 ^{▲△}
Parenteral nutrition group	62.18± 7.92	63.12± 9.23 [▲]	28.43± 6.21	36.24± 7.24 ^{▲△}	1.83± 0.71	2.05± 0.58

Note: Compared with conventional resuscitation group, ▲ $P<0.05$; Compared with the first day postoperative or preoperative, △ $P<0.05$.

2.2 三组患者外科手术治疗后并发症发生比较

肠外营养组、常规补液组患者肝功能损害、血脂升高、血糖升高的发生率均明显高于肠内营养组($P<0.05$);肠外营养组患者肝功能损害、血脂升高发生率明显低于常规补液组($P<0.05$);肠内营养组患者切口腹腔感染及肺部感染的发生率均明显低于常规补液组($P<0.05$),见表 3。

2.3 三组患者营养支持费用、术后住院时间、总费用比较

与常规补液组相比,肠外、内营养组患者术后住院时间均明显缩短,肠内营养组患者总费用明显偏高($P<0.05$);与肠外营养相比,肠内营养组、常规补液组营养支持费用明显降低,肠内营养组患者总费用显著下降($P<0.05$),详见表 4。

表 3 三组患者外科手术治疗后并发症发生比较

Table 3 Comparison of the complications of patients with surgical operation treatment among three groups

Group	Liver function damage	Elevated blood lipids	Elevated blood sugar	Incision of abdominal infection	Pulmonary infection	Anastomotic fistula
Conventional resuscitation group	15	17	13	11	15	3
Enteral nutrition group	0 ^{▲△}	1 ^{▲△}	4 ^{▲△}	2 [▲]	1 [▲]	1
Parenteral nutrition group	4 [▲]	6 [▲]	14	5	4	1

Note: Compared with conventional resuscitation group, ▲P < 0.05; Compared with parenteral nutrition, △P < 0.05.

表 4 三组患者营养支持费用、术后住院时间、总费用比较

Table 4 Comparison of the nutritional support cost, postoperative hospitalization time and the all-in cost among three groups

Group	Nutritional support cost (yuan per day)	Postoperative hospitalization time	All-in cost
Conventional resuscitation group	382.29± 142.41 [△]	16.32± 5.42	39402.42± 8242.59
Enteral nutrition group	319.32± 89.31 [△]	11.45± 4.78 [▲]	34921.29± 8025.23 ^{▲▲}
Parenteral nutrition group	701.32± 136.42	13.12± 4.91 [▲]	42783.32± 7842.25

Note: Compared with conventional resuscitation group, ▲P < 0.05; Compared with parenteral nutrition, △P < 0.05.

3 讨论

胃癌患者行外科手术治疗前多伴有消耗增加、异常代谢、进食量下降,故较易发生营养不良,胃癌患者出现的营养不良不仅使手术风险增加,还可降低其机体免疫力^[5-8],增加术后感染的发生率,故营养不良为该人群主要死因之一。营养支持治疗可改善患者的营养不良状况,广泛用于癌症患者的辅助治疗。

为避免发生术后吻合口瘘,胃癌患者术后禁食时间较长,故营养支持治疗方式的选择对患者的预后尤为重要。肠外营养支持治疗简便易行,消化系统不良反应发生率低,故患者依从性较好,但术后并发症及营养支持费用高^[9-15],在一定程度上限制了其使用,尤其是近年研究表明肠内营养具有使门静脉系统血液供应增加、利于胃肠道功能恢复、胃肠激素分泌增多的优点^[16-18],并对机体的体液免疫具有一定的保护作用,可降低胃癌患者术后感染的发生率,加快伤口的愈合速度,为外科手术首选营养支持治疗方法之一。

在肠内营养支持治疗时机选择方面,研究表明^[19,20],腹部手术对结肠和胃的蠕动影响较明显,而小肠的吸收功能可在短时间内得到恢复,亦为胃癌患者实施肠内营养的合理性提供了一定的依据。因此,多数专家学者支持在胃癌手术术后早期即给予肠内营养,以尽早刺激患者胃肠道系统,提前患者术后排气时间及肠鸣音的恢复时间。除此之外,肠内营养支持治疗可使静脉补液量明显减少,进而使心脏负荷减轻,降低循环及呼吸衰竭等胃癌术后并发症。与肠外营养相比,肠内营养支持治疗胃肠道不良反应发生率较高,部分患者因不能耐受肠内营养浓度及用量的增加而不愿继续治疗,大大影响患者的依从性,在本项研究中,通过调整肠内营养的温度、浓度、滴注速度及止泻、促进胃肠蠕动等对症处理措施,大部分患者胃肠道不良反应均可消失,使肠内营养支持治疗顺利进行。因此,只有医护人员具备专业知识、对患者付出更多的关心,才能使胃癌术后早期肠内营养支持治疗得以顺利进行。

综上所述,肠内营养支持治疗可显著提高患者术后白蛋白水平及淋巴细胞计数,肝功能损害、血脂升高、血糖升高、切口腹腔感染、肺部感染等并发症的发生率较低,且营养支持费用、总费用较低,术后住院时间短,是一种安全、有效、经济的营养支持治疗方式。

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