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加速康复外科理论对老年股骨颈骨折患者髋关节功能、生活质量及术后认知功能的影响*

张双伟[1] 王朝君[1] 刘永强[1] 白国芳[2] 刘志奇[3] 李 云[1] 张 岩[1]

(1 河北医科大学附属人民医院/石家庄市第一医院骨科 河北 石家庄 050000;
2 河北医科大学附属人民医院/石家庄市第一医院康复科 河北 石家庄 050000;
3 河北医科大学附属人民医院/石家庄市第一医院麻醉科 河北 石家庄 050000)

摘要 目的:探讨加速康复外科理论(ERAS)对老年股骨颈骨折(FNF)患者髋关节功能、生活质量以及术后认知功能的影响。**方法:**选取2018年7月~2019年10月期间我院收治的80例老年FNF患者,按照随机数字表法分为对照组(n=40)和研究组(n=40),对照组给予常规围术期处理,研究组围术期应用ERAS进行处理,比较两组患者围术期指标、髋关节功能、生活质量、术后认知功能及并发症发生情况。**结果:**研究组术中出血量少于对照组,手术时间、住院时间短于对照组(P<0.05)。研究组术后6个月髋关节功能的优良率为92.50%(37/40),高于对照组的70.00%(28/40)(P<0.05)。两组术后6个月SF-36各维度评分均升高,且研究组高于对照组(P<0.05)。两组术后简易智力状态量表(MMSE)评分均较术前降低,但研究组高于对照组(P<0.05);研究组的认知功能障碍(POCD)发生率低于对照组(P<0.05)。研究组的并发症总发生率为7.50%(3/40),低于对照组的25.00%(10/40)(P<0.05)。**结论:**老年FNF患者应用ERAS进行围术期处理,可促进患者术后恢复,减轻认知功能损害及并发症发生率,同时还可有效改善髋关节功能及生活质量。

关键词:加速康复外科理论;老年;股骨颈骨折;髋关节功能;生活质量;认知功能
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Effects of Accelerated Rehabilitation Surgery Theory on Hip Function, Quality of Life and Postoperative Cognitive Function in Elderly Patients with Femoral Neck Fracture*

ZHANG Shuang-wei[1], WANG Chao-jun[1], LIU Yong-qiang[1], BAI Guo-fang[2], LIU Zhi-qi[3], LI Yun[1], ZHANG Yan[1]

(1 Department of Orthopaedics, Affiliated People's Hospital of Hebei Medical University/Shijiazhuang First Hospital, Shijiazhuang, Hebei, 050000, China; 2 Department of Rehabilitation, Affiliated People's Hospital of Hebei Medical University/Shijiazhuang First Hospital, Shijiazhuang, Hebei, 050000, China; 3 Department of Anesthesiology, Affiliated People's Hospital of Hebei Medical University/Shijiazhuang First Hospital, Shijiazhuang, Hebei, 050000, China)

ABSTRACT Objective: To investigate the effect of accelerated rehabilitation surgery theory (ERAS) on hip function, quality of life and postoperative cognitive function in elderly patients with femoral neck fracture (FNF). **Methods:** 80 elderly patients with FNF who were admitted to our hospital from July 2018 to October 2019 were selected, patients were divided into control group (n=40) and study group (n=40) according to the method of random number table. The control group was given routine perioperative treatment. The study group was given ERAS during the perioperative period. The perioperative indicators, hip function, quality of life, postoperative cognitive function and complications situation of the two groups were compared. **Results:** The intraoperative hemorrhage of the study group was less than that of the control group, and the operation time and hospitalization time were shorter than those of the control group (P<0.05). The excellent and good rate of the study group at 6 months after operation was 92.50% (37/40), which was higher than 70.00% (28/40) of the control group (P<0.05). The scores of SF-36 of all dimensions the two groups at 6 months after operation increased, and those of the study were higher than those of the control group(P<0.05). The simple mental state scale (MMSE) score of the two groups after operation was lower than that before operation, but the study group was higher than the control group (P<0.05). The incidence rate of cognitive impairment (POCD) of the study group was lower than that of the control group (P<0.05). The total incidence rate of postoperative complications of the study group was 7.50% (3/40), which was lower than 25.00% (10/40) of the control group (P<0.05). **Conclusion:** The elderly patients with FNF used ERAS during perioperative period can promote postoperative recovery, reduce the cognitive impairment and incidence of complications, and which can effectively improve the hip function and quality of life.

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作者简介:张双伟(1983-),男,硕士,主治医师,研究方向:骨外科,E-mail:zhangshuangweiguke@163.com
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前言

股骨颈骨折(FNF)是临床常见的骨折类型,常发于老年群体,近年来随着人口老龄化进程的加快,其发病率呈不断升高趋势[1]。手术是治疗 FNF 的常用方案,可获得一定的治疗效果[2]。然而由于老年患者本身存在各项组织功能的退化,代偿能力差,同时常合并多种基础性疾病,术后的康复过程较为缓慢,导致患者心情焦虑,依从性差,一定程度上影响患者术后恢复效果及生活质量[3-5]。此外,骨科手术患者术后认知功能障碍(POCD)发生率较高,同样不利于患者术后恢复。加速康复外科理论(ERAS)是指患者在围术期过程中,运用多种治疗和康复措施,尽可能减少患者各方面创伤的一种理念[6-8]。本研究通过探讨 ERAS 对老年 FNF 患者髋关节功能、生活质量以及术后认知功能的影响,以期为临床老年 FNF 患者的治疗提供数据支持,整理如下。

1 资料与方法

1.1 一般资料

纳入标准:(1)均经 CT 检查等证实为 FNF,符合全髋关节置换手术指征者,手术均由同一组医师完成操作;(2)患者年龄≥ 60 岁;(3)美国麻醉医师协会(ASA)[9]分级 I~II 级;(4)患者及其家属知情本研究且签署了同意书。排除标准:(1)合并严重慢性系统性疾病患者;(2)合并精神疾患,无法配合治疗者;(3)合并心肝肾等脏器功能不全者;(4)合并其他关节功能障碍患者;(5)既往有 FNF 者;(6)合并恶性肿瘤者。本次研究已通过我院伦理学委员会批准进行。选取 2018 年 7 月 ~2019 年 10 月期间我院收治的 80 例老年 FNF 患者。根据随机数字表法分为对照组(n=40)和研究组(n=40),其中对照组女 23 例,男 17 例,年龄 60~82 岁,平均(72.69± 4.35)岁;ASA 分级 I 级 22 例,II 级 18 例;体质量指数 20~25 kg/m^2,平均(22.87± 0.65)kg/m^2;骨折类型:头下型 10 例,头颈型 12 例,基底型 9 例,经颈型 9 例。研究组女 24 例,男 16 例,年龄 61~80 岁,平均(72.13± 4.81)岁;ASA 分级 I 级 21 例,II 级 19 例;体质量指数 20~27 kg/m^2,平均(22.56± 0.86)kg/m^2;骨折类型:头下型 11 例,头颈型 13 例,基底型 8 例,经颈型 8 例。两组一般资料对比无差异(P>0.05)。

1.2 方法

对照组入院后进行生命体征及心律监测,术前常规禁饮禁食,术前常规尿管,术中进行传统补液,术后尿管留置 3 d,根据患者基本情况选择手术麻醉方式、术后止痛及常规日常治疗等。研究组围术期给予 ERAS 方案处理,具体如下:术前:进行有效的医患交流,告知患者及其家属术中及术后可能出现的并发症,并耐心解答患者对手术的疑问。密切监测患者水、电解质及酸碱平衡,积极控制感染,进行术前常规镇痛。鼓励患者早期适应床上解大小便、功能锻炼等。术中:术中注意控制输液速度和输液量;加强术中体位配合,帮助患者采取良好的手术体位;同时注意术中保暖。术后:监测手术切口及引流情况,加强术后镇痛,常规抗凝。术后由专业的康复师制订康复计划,手术麻醉消退后循序渐进的进行锻炼。

1.3 观察指标

(1)记录两组术中出血量、住院时间、手术时间。(2)采用门诊复查的形式随访 6 个月,采用髋关节功能 Harris 评分[10]评价患者术后 6 个月的髋关节功能,髋关节功能 Harris 评分包括功能、疼痛、活动,总分 100 分,其中≥ 90 分为优,80~89 分为良,70~79 分为可,<70 分为差。优良率 = 优率 + 良率。(3)记录两组围术期并发症发生情况。(4)于术前、术后 6 个月采用简明健康调查量表(SF-36)[11]评价患者生活质量,该量表包括精神健康、躯体疼痛、生理职能、生理功能、总体健康、情感职能、社会功能、活力这 8 个维度,每个维度均为 100 分,得分越高,表示生活质量越好。(5)于术前、术后采用简易智力状态量表(MMSE)[12] 对两组患者认知功能进行评价比较,包括回忆能力、定向力、语言能力、注意力、计算力、记忆力,总分共 30 分,分数越高认知功能越好。当 MMSE 评分<27 分则认定为患者产生了 POCD。

1.4 统计学方法

使用 SPSS25.0 软件进行分析,计量资料以($\bar{x}\pm s$)表示,行 t 检验,计数资料以率表示,行卡方检验,检验水准为α=0.05。

2 结果

2.1 两组围术期指标比较

研究组手术时间、住院时间短于对照组,术中出血量少于对照组(P<0.05);详见表 1。

表 1 两组围术期指标比较($\bar{x}\pm s$)

Table 1 Comparison of perioperative indexes between the two groups($\bar{x}\pm s$)

Groups	Intraoperative hemorrhage(mL)	Operation time(h)	Hospitalization time(d)
Control group(n=40)	189.68± 15.22	4.71± 0.36	20.68± 1.71
Study group(n=40)	137.16± 14.61	3.68± 0.27	14.62± 1.24
t	15.744	14.476	18.145
P	0.000	0.000	0.000

2.2 两组髋关节功能比较

研究组术后 6 个月髋关节功能的优良率为 92.50%(37/40),高于对照组的 70.00%(28/40)(P<0.05);详见表 2。

表 2 两组髋关节功能比较 例(%)

Table 2 Comparison of hip joint function between the two groups [n(%)]

Groups	Excellent	Good	Can	Bad	Excellent and good rate
Control group(n=40)	7(17.50)	21(52.50)	8(20.00)	4(10.00)	28(70.00)
Study group(n=40)	13(32.50)	24(60.00)	2(5.00)	1(2.50)	37(92.50)
x^2					6.646
P					0.010

2.3 两组生活质量比较

两组术前 SF-36 各维度评分比较无差异(P>0.05);两组术后 6 个月 SF-36 各维度评分均升高,且研究组高于对照组(P<0.05);详见表 3。

表 3 两组生活质量比较($\bar{x}\pm s$,分)

Table 3 Comparison of quality of life between the two groups($\bar{x}\pm s$, score)

Groups	Time	Physiological function	Physical pain	Role physical	Emotional function	Overall health	Social function	Mental health	Vitality
Control group (n=40)	Before operation	51.82± 6.78	48.34± 6.54	51.18± 6.55	42.95± 5.86	47.86± 6.74	42.78± 5.68	52.01± 1.53	49.82± 6.62
	6 months after operation	68.74± 5.65[a]	72.38± 6.27[a]	75.45± 6.26[a]	72.86± 5.61[a]	69.93± 5.52[a]	68.06± 7.39[a]	71.93± 5.69[a]	74.91± 6.25[a]
Study group (n=40)	Before operation	51.23± 7.25	47.53± 6.87	51.34± 7.21	42.49± 6.24	48.25± 5.13	42.05± 6.91	51.79± 5.94	49.31± 6.69
	6 months after operation	79.71± 8.36[ab]	83.98± 7.95[ab]	84.13± 7.45[ab]	83.38± 7.04[ab]	81.86± 7.94[ab]	79.62± 6.95[ab]	82.08± 7.87[ab]	82.67± 6.71[ab]

Notes: compared with before operation, [a]P<0.05; compared with control group, [b]P<0.05.

2.4 两组认知功能情况比较

两组术前 MMSE 评分比较差异无统计学意义(P>0.05);两组术后 MMSE 评分均较术前降低,但研究组高于对照组(P<0.05);研究组的 POCD 发生率低于对照组(P<0.05);详见表 4。

表 4 两组认知功能情况比较

Table 4 Comparison of cognitive function between the two groups

Groups	MMSE score(score)		Incidence rate of POCD (%)
	Before operation	After operation	
Control group(n=40)	29.06± 0.34	27.16± 0.58[a]	14(35.00)
Study group(n=40)	29.11± 0.28	28.34± 0.36[a]	4(10.00)
t/x^2	0.718	10.932	7.168
P	0.475	0.000	0.017

Note: compared with before operation, [a]P<0.05.

2.5 两组并发症发生情况比较

研究组的并发症总发生率为 7.50%(3/40),低于对照组的 25.00%(10/40)(P<0.05);详见表 5。

3 讨论

全髋关节置换术是治疗 FNF 的常用方式,其有效性毋庸置疑[13,14]。然而全髋关节置换术术中需要剥离大面积的软骨组织,同时还需要对骨组织进行切割打磨等处理,术后可能会伴有显性失血或隐性失血,加之 FNF 患者多为老年群体,身体各项机能减退,手术耐受性差,以上原因均可能导致术后的治疗效果变差,不利于患者术后早期恢复[15-17]。此时,给予合理有效的康复治疗措施对于患者术后关节功能的恢复、生活质量的提

表 5 两组并发症发生情况比较 例(%)

Table 5 Comparison of complications between the two groups [n(%)]

Groups	Urinary tract infection	Pain	Deep vein thrombosis	Dyspepsia	Total incidence rate
Control group(n=40)	3(7.50)	2(5.00)	3(7.50)	2(5.00)	10(25.00)
Study group(n=40)	1(2.50)	1(2.50)	1(2.50)	0(0.00)	3(7.50)
x^2					4.501
P					0.034

高具有积极的促进作用。FNF 患者的围术期康复训练具有一定的特殊性和难度,其一,多数患者的骨折均为突发性,大部分患者均希望尽快恢复正常生活及工作,但此类患者术后一般住院时间较长,违背患者初衷。其二,骨科手术患者术前需禁饮、禁食,同时遭受麻醉、手术操作、术后疼痛等多种刺激,患者可产生不同程度的应激反应, 部分甚至伴有 POCD,POCD 不但延长住院时间,还可增加痴呆发生风险[18-20]。基于以上问题的特殊性和难度,导致以往的常规围术期处理并不能很好的满足患者快速康复的迫切需求。

ERAS 作为一种新型、科学的康复模式,是欧洲先进的外科围手术期治疗理论,广泛应用于普外科、妇产科围手术期[21,22]。ERAS 的基本内容包括完善的术前准备、严格的术中操作、良好的术后镇痛及规范的康复训练,其应用于老年股骨颈骨折手术患者中,完善的术前准备可增强患者战胜疾病的信心,并通过调整患者至最佳手术状态,可有效加强其手术耐受性[23,24]。围术期疼痛是引起患者围术期应激反应的最主要原因,同时也是阻挡患者尽早行康复训练的主要原因,而超前镇痛可减轻围术期应激反应,降低患者术后疼痛程度,并降低术后并发症发生风险[25]。此外,超前镇痛还可减少中枢神经系统并发症,减轻机体认知功能损害[26]。术中严密监测患者生命体征,并注意术中保暖和限制液体量 / 速度,可降低心、肺功能不全和第三间隙积液及出血的风险。以往也有不少研究显示[27,28],围术期补液过量可影响患者术后康复进程,同时术后无限制性补液也将延长患者住院时间。ERAS 的术后镇痛与传统被动式疼痛控制模式不同,主动为患者提供疼痛干预,进一步减少疼痛应激。患者术后疼痛处理不当易导致患者术后恢复缓慢,且容易造成向慢性疼痛的转归,增加并发症发生率。良好的术后镇痛可为患者术后早期活动提供准备,患者可尽早克服疼痛障碍,提高其想有下一步运动康复的信念。此外,规范的康复训练可以降低感染率、促进伤口愈合、增加肌肉量,提高患者活动耐力,有利于患者肌力恢复和预防术后并发症[29,30]。不同的围术期干预,两组采用相同治疗方案的患者预后情况差异明显,本研究中围术期应用 ERAS 进行处理的患者其术中出血量减少,手术时间、住院时间缩短,髋关节功能恢复效果良好,同时其 POCD 及并发症发生率均得到明显降低,且患者围术期应用 ERAS 处理,其生活质量得到明显改善,这可能与 ERAS 可有效缓解疼痛、促进髋关节功能恢复, 使患者得以尽早回归正常生活及工作中,幸福感提升有关。

综上所述,老年 FNF 患者围术期应用 ERAS 处理,可促进患者术后恢复,减轻认知功能损害及并发症发生率,同时还可有效改善髋关节功能及生活质量。

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