

硬膜外镇痛和静脉镇痛对结直肠癌根治术患者术后睡眠质量影响的比较

石超[▲] 贾利红[▲] 杨礼 许平波 张军[△]

(复旦大学附属肿瘤医院麻醉科-复旦大学上海医学院肿瘤学系 上海 200032)

【摘要】 目的 比较硬膜外镇痛和静脉镇痛对结直肠癌根治术患者术后睡眠质量的影响。方法 选择择期行腹腔镜下结直肠癌根治术患者70例,性别不限,年龄25~65岁,ASA I~II级, $18.5 \text{ kg/m}^2 \leq \text{BMI} < 28 \text{ kg/m}^2$ 。采用SPSS 19.0软件将患者随机分为硬膜外镇痛组(E组)和静脉镇痛组(V组)。E组全麻诱导前于T12-L1或T11-12节段旁侧入路穿刺置入硬膜外导管4~6 cm,术中及术后镇痛以硬膜外镇痛为主。V组未行硬膜外穿刺,术中及术后镇痛以静脉输注舒芬太尼为主。于术后1、3、7、30天时记录患者匹茨堡睡眠质量指数(Pittsburgh Sleep Quality Index, PSQI)和严重睡眠障碍的发生率;于术后3、7、30天记录患者术后恢复质量量表-15(Postoperative Quality of Recovery Scale-15, QoR-15)。记录患者切皮前和切皮时心率、收缩压和舒张压,麻醉后监护室(postanesthesia care unit, PACU)停留时间, PACU呼吸机支持通气时间和术后住院时间。观察患者住院期间主要不良事件的发生情况。**结果** 2组患者术后1、3、7、30天时PSQI总分及严重睡眠障碍发生率差异无统计学意义;2组患者术后3、7、30天的QoR-15评分差异无统计学意义;2组患者PACU呼吸机支持通气时、术后住院时间、不良事件发生情况差异均无统计学意义。与V组比较, E组患者PACU停留时间较短($P < 0.05$), 切皮时的收缩压和舒张压均较低($P < 0.05$);与术前比较, 两组患者术后1、3、7、30天的PSQI总分增高($P < 0.05$);与术后30天比较, 两组患者术后1、3、7天严重睡眠障碍发生率较高($P < 0.05$)。**结论** 结直肠癌根治术患者术后1周内严重睡眠障碍的发生率较高, 不同的镇痛方法可能对患者睡眠质量及术后恢复无影响。硬膜外镇痛能较好地抑制手术刺激, 加快患者从PACU转出。

【关键词】 匹茨堡睡眠质量指数(PSQI); 结直肠癌; 硬膜外镇痛; 睡眠

【中图分类号】 R735.3, R614 **【文献标志码】** A **doi:** 10.3969/j.issn.1672-8467.2023.02.010

Comparison of effects of epidural analgesia and intravenous analgesia on postoperative sleep quality in patients undergoing radical resection of colorectal cancer

SHI Chao[▲], JIA Li-hong[▲], YANG Li, XU Ping-bo, ZHANG Jun[△]

(Department of Anesthesiology, Fudan University Shanghai Cancer Center-Department of Oncology, Shanghai Medical College, Fudan University, Shanghai 200032, China)

【Abstract】 Objective To compare the effects of epidural analgesia and intravenous analgesia on postoperative sleep quality in patients undergoing radical resection of colorectal cancer. **Methods** Seventy patients who underwent elective laparoscopic radical resection of colorectal cancer were selected, with no gender limitation, age of 25–65 years old, ASA I–II grade, $18.5 \text{ kg/m}^2 \leq \text{BMI} < 28 \text{ kg/m}^2$. Using SPSS19.0 software, they were randomly divided into two groups, epidural analgesia group (group E) and intravenous analgesia group (group V). In group E, an epidural catheter of 4–6 cm was placed by puncture

[▲]SHI Chao and JIA Li-hong contributed equally to this work

[△]Corresponding author E-mail: snapzhang@aliyun.com

网络首发时间:2023-03-17 11:15:51 网络首发地址: <https://kns.cnki.net/kcms/detail/31.1885.r.20230316.1015.008.html>

at the T12-L1 or T11-12 accessory approach before induction of general anesthesia, and intraoperative and postoperative analgesia was mainly based on epidural analgesia. In group V without epidural puncture, intravenous infusion of sufentanil was mainly used for analgesia during and after surgery. The Pittsburgh Sleep Quality Index (PSQI) and the incidence of severe sleep disorders were recorded on the 1, 3, 7, and 30 days after surgery, and the Postoperative Recovery Quality Scale-15 (QoR-15) was recorded on the 3, 7 and 30 days after the surgery. We recorded heart rate, systolic and diastolic blood pressure of the patients before and during the skin incision, postanesthesia care unit (PACU) stay time, PACU ventilator support ventilation time and postoperative hospital stay, and observe the occurrence of major adverse events during the patient's hospitalization. **Results** There was no significant difference in the total PSQI score and the incidence of severe sleep disorders on the 1, 3, 7 and 30 days after the operation between the two groups. There was no significant difference in QoR-15 score on the 3, 7 and 30 days after operation between the two groups. There was no significant differences in the PACU ventilator support ventilation time, postoperative hospital stay, and adverse events between the two groups. Compared with group V, patients in group E had shorter PACU stay ($P<0.05$), and lower systolic and diastolic blood pressure during skin incision ($P<0.05$). Compared with preoperation, the total PSQI scores of the two groups were increased on the 1, 3, 7 and 30 days after operation ($P<0.05$). Compared with 30 days after operation, the incidence of severe sleep disturbance was higher in the two groups on the 1, 3 and 7 days after operation ($P<0.05$). **Conclusion** Patients undergoing radical resection of colorectal cancer have higher incidence of severe sleep disorders within 1 week after operation, and different methods of analgesia may have no effect on the sleep quality and postoperative recovery of patients. Epidural analgesia can better inhibit surgery stimulation, and accelerate the transfer of patients from PACU.

【Key words】 Pittsburgh sleep quality index (PSQI); colorectal neoplasms; epidural analgesia; sleep

结直肠癌是男性第三大高发癌症,女性第二大高发癌症^[1]。睡眠障碍在癌症患者中发生率较高,为30%~93%^[2]。癌症患者会出现广泛的睡眠障碍,如入睡困难、睡眠维持困难和睡眠无法恢复^[3]。研究表明,在癌症患者中观察到的睡眠问题对健康结局和生活质量具有重要影响,睡眠障碍与高血压、炎症以及代谢和内分泌功能受损相关^[4]。手术创伤、麻醉和复杂的应激反应均是造成术后睡眠障碍的重要原因^[6]。阿片类药物通过同时作用于促进睡眠和促进觉醒的系统来影响睡眠,阿片类药物引起的睡眠障碍可能与桥脑网状结构和基底前脑中局部腺苷水平有关^[6]。在健康成年人中快速给予阿片类药物时,会使深度睡眠(阶段3和4)时间减少50%,浅睡眠(阶段2)时间增加33%,并可能导致长期使用成瘾者的深度睡眠不稳定,清醒时间增加,快速眼动时间减少^[7-8]。硬膜外镇痛能够提供良好的镇痛效果,还可以大大减少阿片类药物的用量^[9]。许多加速康复外科方案中,硬膜外镇痛较静脉镇痛

有更好的镇痛效果,并且能加快患者的恢复^[11]。因此,本研究拟比较硬膜外镇痛和静脉镇痛对结直肠癌根治术患者术后睡眠质量的影响。

资 料 和 方 法

研究对象 本研究为单中心随机对照研究。经复旦大学附属肿瘤医院伦理委员会批准(伦理号:2107238-17),于中国临床试验注册中心注册(注册号:ChiCTR2100051980),并与患者及其家属签署知情同意书。选取2020年10月至2021年12月择期行腹腔镜下结直肠癌根治术患者80例。纳入标准:ASA分级Ⅰ或Ⅱ级;年龄25~65岁,性别不限,18.5 kg/m²≤BMI<28 kg/m²;术前睡眠质量良好的患者[匹茨堡睡眠质量指数(Pittsburgh Sleep Quality Index, PSQI)≤5];结直肠癌根治术(仅限直肠Dixon's术,右半结肠肿瘤切除术,左半结肠肿瘤切除术);排除标准:阿尔茨海默病、帕金森病、脑卒

中等脑血管疾病;长期服用精神类药物;术前语言交流及认知障碍;患者拒绝参加。采用SPSS 19.0软件于术前1天将患者随机分为2组:静脉镇痛组(V组)和硬膜外镇痛组(E组),每组40例。其中E组3例患者术后第1天硬膜外导管脱落,术后1个月失访2例,V组术后1个月失访5例,最终分析剩余70例患者的数据。为

方法 患者术前常规禁食禁饮,无术前用药。入室后接受心电图、脉搏氧饱和度、无创血压监测,并在局麻下进行桡动脉和中心静脉穿刺置管;E组除以上操作外,直肠癌根治术患者于T12-L1节段旁侧入路穿刺置入硬膜外导管4~6 cm,结肠癌根治术患者则于T11-12节段穿刺置入硬膜外导管。麻醉诱导丙泊酚TCI 3~4 $\mu\text{g}/\text{mL}$ 、舒芬太尼0.4 $\mu\text{g}/\text{kg}$ 、罗库溴铵0.6 mg/kg 。麻醉诱导气管插管后行机械通气,调节潮气量6~8 mL/kg 、通气频率10~14次/分,吸呼比1:2,维持 PETCO_2 为35~45 mmHg (1 $\text{mmHg}=0.133 \text{ kPa}$,下同)。麻醉维持:V组,TCI丙泊酚1~4 $\mu\text{g}/\text{mL}$,吸入1%七氟烷,舒芬太尼0.1~0.5 $\mu\text{g}\cdot\text{kg}^{-1}\cdot\text{h}^{-1}$ 泵注,舒芬太尼术毕前半小时停止输注;E组,TCI丙泊酚1~4 $\mu\text{g}/\text{mL}$,吸入1%七氟烷,术中断通过硬膜外导管给予0.25%罗哌卡因4 mL,若出现镇痛不足可按需静脉追加舒芬太尼。两组术中均采用Nacrotrend镇静监测,维持在40~60,血压和心率维持在基础值的20%左右,手术体积描计指数(surgical pleth index, SPI)指数20~60。

术后镇痛 V组在术毕前15 min给予氟比洛芬酯100 mg,格拉司琼3 mg;术后应用静脉镇痛泵:舒芬太尼100 μg +氟比洛芬酯150 mg,生理盐水稀释到200 mL,背景输注速率4 mL/h ,患者自控镇痛(patient controlled analgesia, PCA) 4 mL,锁定时间15 min。E组在术毕前15 min给予氟比洛芬酯100 mg,格拉司琼3 mg;术后应用硬膜外镇痛:罗哌卡因400 mg +生理盐水200 mL,背景输注速率5 mL/h ,PCA 5 mL,锁定时间15 min。两组患者均于术后48 h撤出镇痛泵。

观察指标 主要观察指标:采用中文版PSQI评估患者睡眠质量,其在重测信度(r :0.77~0.85)上也具有与英文版PSQI相似的高质量(r :0.82~0.83)^[11]。评价标准:PSQI ≤ 5 ,睡眠质量良好,PSQI > 5 ,存在睡眠障碍,PSQI ≥ 10 ,睡眠障碍^[12]。通常PSQI是评

估1个月内的睡眠情况,但Broderick等^[13]评价了不同周期长度(3、7、28天)的PSQI准确性,发现均能有效评估睡眠质量,其他研究^[4,14]也有采用PSQI评估术后1周内的睡眠情况。因此,本研究分别于术前1天、术后1、3、7和30天时记录PSQI。次要观察指标:术后1、3、7、30天严重睡眠障碍发生率,术后3、7和30天时采用术后恢复质量量表-15(Postoperative Recovery Quality Scale-15, QoR-15)^[15]评估患者术后早期康复质量,并记录患者切皮前和切皮时心率、收缩压和舒张压,PACU停留时间,麻醉后监护室(postanesthesia care unit, PACU)呼吸机支持通气时间和术后住院时间。观察患者住院期间主要不良事件的发生情况。

统计学分析 样本量计算依据预实验结果(每组10例),静脉镇痛组和硬膜外阵痛组术后7天PSQI评分分别为 10.40 ± 3.24 和 8.50 ± 2.27 。设定I型错误检验水准0.05(双侧检验),检验效能80%,失访率10%;采用PASS15.0软件计算样本量,每组需要40例患者。采用SPSS19.0软件进行统计分析,正态分布的计量资料以 $\bar{x} \pm s$ 表示,组间比较采用两样本 t 检验,组内比较采用重复测量设计的方差分析;偏态分布的计数资料以 $M(P_{25}, P_{75})$ 表示,采用非参数检验(Mann-Whitney U);计数资料比较采用 χ^2 检验或Fisher确切概率法。 $P < 0.05$ 为差异有统计学意义。

结 果

一般资料数据比较 两组患者年龄、BMI、手术时间、麻醉时间、ASA分级、性别比较差异无统计学意义(表1)。

术中用药比较 两组患者诱导舒芬太尼、丙泊酚、七氟烷用量比较差异无统计学意义;与V组比较,E组术中及术后舒芬太尼用量显著减少,差异有统计学意义($P < 0.001$)。硬膜外镇痛相比静脉镇痛能减少术中和术后阿片类药物的用量,但不能减少术中镇静药物的用量(表2)。

心率血压比较 两组患者术前心率、切皮时心率、术前收缩压和舒张压差异均无统计学意义;与V组比较,E组切皮收缩压和切皮舒张压均较低,差异有统计学意义($P=0.003, 0.013$)。硬膜外镇痛相比静脉镇痛能更好的抑制手术切皮时的应激反应(表3)。

表1 两组结直肠癌根治术患者一般资料比较

Tab 1 Comparison of general conditions in the patients undergoing radical resection of colorectal cancer between the two groups

[M(P_{25} , P_{75}) or n(%)]

Variables	Total (n=70)	Group V (n=35)	Group E (n=35)	P
Age (y)	55.0 (46.0, 59.0)	56.0 (47.0, 59.0)	55.0 (39.0, 59.0)	0.521
BMI (kg/m ²)	22.8 (21.1, 25.0)	22.0 (21.1, 25.0)	22.8 (21.0, 25.1)	0.801
Duration of surgery (min)	130.0 (108.5, 160.0)	125.0 (103.0, 161.0)	130.0 (111.0, 160.0)	0.549
Duration of anesthesia (min)	150.0 (125.0, 179.0)	141.0 (120.5, 178.5)	151.0 (136.0, 177.0)	0.344
Gender				0.632
Male	36.0 (51.4)	17 (48.6)	19 (54.3)	
Female	34.0 (48.6)	18 (51.4)	16 (45.7)	
ASA				0.808
I	41.0 (58.6)	20 (57.1)	21 (60.0)	
II	29.0 (41.4)	15 (42.9)	14 (40.0)	

ASA: American society of anesthesiologists; BMI: Body mass index.

表2 两组结直肠癌根治术患者术中及术后用药情况

Tab 2 Intraoperative and postoperative medication in the patients undergoing radical resection of colorectal cancer

between the two groups

[M(P_{25} , P_{75})]

Variables	Total	Group V	Group E	P
Sufentanil for induction (μg)	27.0 (22.0, 28.0)	25.0 (20.0, 30.0)	27.0 (22.0, 27.0)	0.719
Sufentanil for operation (μg)	31.0 (10.8, 45.0)	41.0 (37.5, 54.0)	15.0 (2.5, 26.0)	<0.001
Sufentanil for postoperation (μg)	34.5 (0.0, 83.9)	83.9 (76.4, 85.9)	0 (0, 0)	<0.001
Propofol (mg)	595.0 (497.5, 760.0)	600.0 (490.0, 760.0)	576.0 (500.0, 760.0)	0.920
Sevoflurane (mL)	13.4 (10.8, 16.4)	12.8 (9.8, 16.2)	13.8 (11.2, 17.0)	0.267

表3 两组结直肠癌根治术患者不同时点血压和心率比较

Tab 3 Comparison of blood pressure and heart rate in the patients undergoing radical resection of colorectal cancer between the

two groups at different time points

[M(P_{25} , P_{75})]

Variables	Total	Group V	Group E	P
HR before operation (beat/min)	78.0 (67.3, 82.0)	80.0 (70.0, 82.0)	78.0 (65.0, 80.0)	0.704
HR during skin cutting (beat/min)	70.0 (60.0, 80.0)	75.0 (60.0, 80.0)	62.0 (60.0, 80.0)	0.142
SBP before operation (mmHg)	142.5 (134.3, 160.0)	140.0 (130, 160.0)	145.0 (138.0, 160.0)	0.583
SBP during skin cutting (mmHg)	138.0 (125.0, 140.5)	140.0 (130.0, 149.0)	130.0 (120.0, 140.0)	0.003
DBP before operation (mmHg)	75.0 (70.0, 80.0)	75.0 (70.0, 80.0)	78.0 (70.0, 80.0)	0.470
DBP during skin cutting (mmHg)	76.5 (70.0, 85.0)	80.0 (70.0, 90.0)	72.0 (68.0, 80.0)	0.013

HR: Heart rate; SBP: Systolic blood pressure; DBP: Diastolic blood pressure.

PACU 停留情况 两组患者 PACU 机械通气时间、拔管后 VAS 评分比较差异无统计学意义;与 V 组比较, E 组 PACU 停留时间较短, 差异有统计学意

义($P=0.004$)。硬膜外镇痛相比静脉镇痛能减少阿片类药物的用量及阿片类药物带来的不良反应, 因此 E 组 PACU 停留时间较短(表 4)。

表4 两组结直肠癌根治术患者 PACU 停留情况

Tab 4 The recovery of pacu in the patients undergoing radical resection of colorectal cancer between the two groups

[M(P_{25} , P_{75})]

Variables	Total	Group V	Group E	P
PACU length of stay (min)	40.0 (31.0, 49.3)	45.0 (35.0, 58.0)	33.0 (30.0, 43.0)	0.004
PACU length of ventilation time (min)	5.0 (0, 17.8)	0 (0, 10.0)	5.0 (0, 20.0)	0.651
VAS after extubation	0 (0, 1.0)	0 (0, 1.0)	0 (0, 0)	0.297

PACU: Postoperative anesthesia care unit; VAS: Visual Analog Score.

PSQI比较 两组患者术前1天,术后1、3、7、30天PSQI差异均无统计学意义;与术前比较,两组患者术后不同时间段的PSQI值均升高,差异有统计学意义($P<0.001$)。两组患者术前1天,术后3、7、30天的严重睡眠障碍发生率差异无统计学意义;与术后30天比较,两组患者术后1、3、7天严重睡眠障碍发生率较高,差异有统计学意义($P<0.01$)。硬膜外

镇痛和静脉镇痛对结直肠癌根治术患者术后睡眠质量的影响无差异,但两组患者术后1个月内均出现了睡眠质量变差,术后1周内2组患者均有严重的睡眠障碍(表5、6)。

QoR-15比较 两组患者术后3、7、30天的QoR-15比较差异无统计学意义(表7)。

表5 两组结直肠癌根治术患者不同时点PSQI总分比较
Tab 5 Comparison of PSQI in the patients undergoing radical resection of colorectal cancer between the two groups at different time points [M(P_{25} , P_{75})]

Variables	Total	Group V	Group E	P
PrePSQI	3.5 (2.0, 5.0)	4.0 (2.0, 5.0)	3.0 (2.0, 5.0)	0.565
Pos1PSQI	9.0 (8.0, 10.0) ⁽¹⁾	9.0 (8.0, 10.0) ⁽¹⁾	9.0 (8.0, 10.0) ⁽¹⁾	0.551
Pos3PSQI	8.0 (6.0, 11.0) ⁽¹⁾	8.0 (7.0, 11.0) ⁽¹⁾	7.0 (5.0, 11.0) ⁽¹⁾	0.060
Pos7PSQI	8.0 (7.0, 10.0) ⁽¹⁾	8.0 (8.0, 12.0) ⁽¹⁾	8.0 (7.0, 10.0) ⁽¹⁾	0.232
Pos30PSQI	5.0 (3.8, 7.0) ⁽¹⁾	5.0 (4.0, 7.0) ⁽¹⁾	4.5 (3.0, 6.0) ⁽¹⁾	0.153
P	0.001	0.001	0.001	

⁽¹⁾vs. PrePSQI, $P<0.05$. PSQI: Pittsburgh Sleep Quality Index.

表6 两组结直肠癌根治术患者不同时点严重睡眠障碍发生率
Tab 6 Incidence of severe sleep disorders in the patients undergoing radical resection of colorectal cancer between the two groups at different time points [$n(\%)$]

Variable	Total ($n=70$)	Group V ($n=35$)	Group E ($n=35$)	P
Pos1PSQI%	30 (42.9) ⁽¹⁾	14 (40.0) ⁽¹⁾	16 (45.7) ⁽¹⁾	0.629
Pos3PSQI%	24 (34.3) ⁽¹⁾	13 (37.1) ⁽¹⁾	11 (31.4) ⁽¹⁾	0.615
Pos7PSQI%	25 (35.7) ⁽¹⁾	14 (40.0) ⁽¹⁾	11 (31.4) ⁽¹⁾	0.454
Pos30PSQI%	4 (5.7)	1 (2.9)	3 (8.6)	0.614
P	0.010	0.010	0.010	

⁽¹⁾vs. Pos30PSQI%, $P<0.05$; Severe sleep disturbance: PSQI ≥ 10 .

表7 两组结直肠癌根治术患者不同时点QoR-15总分比较
Tab 7 Comparison of QoR-15 in the patients undergoing radical resection of colorectal cancer between the two groups at different time points [M(P_{25} , P_{75})]

Variables	Total	Group V	Group E	P
Pos3QoR-15	115.0 (108.0, 119.0)	115.5 (108.0, 119.0)	115.0 (108, 119.0)	0.860
Pos7QoR-15	120.5 (116.8, 125.0)	120.0 (115.0, 126.0)	122.0 (117.0, 125.0)	0.613
Pos30QoR-15	128.5 (124.0, 132.3)	128.0 (123.0, 131.0)	129.0 (125.0, 133.0)	0.451

QoR-15: Postoperative Recovery Quality Scale-15.

住院天数及不良反应比较 两组患者住院天数、疼痛、发热、肠梗阻等不良反应差异无统计学意义(表8)。

讨论

睡眠是一种周期性的生理现象,对各种生物体的功能恢复都起到很大的作用,人类的睡眠包含两

种时相:快动眼睡眠期(rapid eye movement, REM)和非快动眼睡眠期(nonrapid eye movement, NREM)^[16]。围术期的睡眠评估有多种方法,PSQI是其中之一,其所得的结果与多导睡眠仪(polysomnography, PSG)所测得的结果较为相符,在临床睡眠质量的评估及睡眠障碍的筛查等方面,其可靠性和有效性都得到了广泛证实^[17]。因此本研究采用该量表进行睡眠的评估。围术期患者睡

表8 两组结直肠癌根治术患者住院天数及术后不良反应发生率

Tab 8 Hospitalization days and incidence of postoperative adverse events in the patients undergoing radical resection of colorectal cancer between the two groups

[M(P₂₅,P₇₅) or n(%)]

Variable	Total (n=70)	Group V (n=35)	Group E (n=35)	P
Hospitalization days (d)	7.0 (6.0,9.0)	7.0 (6.0,9.0)	7.0 (6.0,9.0)	0.562
Pain	15 (21.4)	6 (17.1)	9 (25.7)	0.382
Fever	28 (40.0)	13 (37.1)	15 (42.9)	0.626
Ileus	5 (7.1)	2 (5.7)	3 (8.6)	1.000
Hypnotics	8 (11.4)	4 (11.4)	4 (11.4)	1.000
Nausea or vomiting	13 (18.6)	7 (20.0)	6 (17.1)	0.759

Pain:Need intravenous NSAIDs;Fever: Axillary temperature≥38 ℃;Ileus:According to abdominal CT diagnosis.

眠障碍的发生率较高^[18],睡眠障碍会对患者主观感觉、行为、免疫功能等方面均可产生不利影响,例如REM在情绪调节和情感性记忆巩固中起着重要作用,REM的延长和缩短与一系列系列精神症状和障碍(如抑郁、躁狂、自杀)有关^[19]。

阿片类药物对睡眠的影响在动物试验和临床试验都已经得到证明,如Nelson等^[20]向大鼠脑中注射阿片类药物,直接降低了桥脑网状结构和基底前脑中调节睡眠区域的腺苷浓度,导致动物睡眠模式的严重中断。一项随机、对照、开放的多中心试验中,180名拟行经腹子宫切除术的患者被随机分为两组(腰麻或全麻),全麻组术后第1晚的睡眠质量明显低于腰麻组(OR=2.45,P=0.03),术后第1晚睡眠质量不良的危险因素为阿片类药物(OR=1.07,P=0.03)^[21]。Arthu等^[22]比较了妇科手术患者硬膜外分别输注芬太尼和布比卡因进行镇痛的术后睡眠质量,发现术后早期REM睡眠和慢波睡眠(slow wave sleep,SWS)均有减少,但阿片类药物组SWS减少程度较低。因此,本研究通过硬膜外镇痛来减少阿片类药物的用量进而来改善睡眠有较好的科学性和创新性。

本研究结果显示,硬膜外镇痛可以显著减少术中和术后舒芬太尼的的用量,与V组比较,E组患者切皮时的收缩压和舒张压更加稳定,说明硬膜外镇痛能更好地抑制手术的应激反应;与V组比较,E组患者PACU停留时间更短,可能与E组患者舒芬太尼用量少,拔管后呼吸抑制发生率低有关。

本研究结果显示,两组患者术后PSQI评分和QoR-15评分差异无统计学意义,硬膜外镇痛并不能改善患者术后睡眠质量,也不利于术后恢复。这可能与睡眠受环境干扰因素较大有关,本研究术后随访过程中发现环境因素对患者的睡眠影响较大。

本研究过程中以PSQI≥10为发生严重睡眠障碍,观察得到两组患者术后1周内均有较高的严重睡眠障碍发生率;术后30天严重睡眠障碍率较低,可能说明阿片类药物对睡眠的影响存在剂量效应和时效性。

本研究有一定的局限性:睡眠的环境干扰因素较多,无法做到两组统一;睡眠质量的评估缺乏客观指标;为单中心小样本研究,有待多中心大样本研究。

结直肠癌根治术患者术后1周内严重睡眠障碍的发生率较高,不同的镇痛方法可能对患者睡眠质量及术后恢复无影响。硬膜外镇痛能抑制手术的应激反应,加快患者PACU的转出。

作者贡献声明 石超,贾利红 论文构思、撰写和修订,数据采集和分析。杨礼,许平波,张军 论文构思、撰写和修订,数据分析。

利益冲突声明 所有作者均声明不存在利益冲突。

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(收稿日期:2022-04-28; 编辑:王蔚)