

全身麻醉与椎管内麻醉对老年髋部骨折患者术后谵妄、疼痛和不良事件发生率的影响

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[摘要] 目的 探讨全身麻醉与椎管内麻醉对老年髋部骨折患者术后谵妄、疼痛和不良事件发生率的影响。方法 选取2018年1月至2022年12月江苏省南通市海门区人民医院骨科收治的80例65岁及以上髋部骨折手术患者。按随机数表法将其分为全身麻醉组($n=40$)和椎管内麻醉组($n=40$)。收集患者一般资料,并评估患者术后7 d内谵妄发生率,采用谵妄评定量表(DRS-98)评估患者谵妄得分,采用疼痛数字评价量表(NRS)评估患者术后7 d平均疼痛水平和不良事件发生率。结果 全身麻醉组患者术后谵妄发生率高于椎管内麻醉组患者,差异有统计学意义($P < 0.05$);全身麻醉组患者DRS-98评分高于椎管内麻醉组患者,差异有统计学意义($P < 0.05$);两组患者术后疼痛评分、不良事件发生率比较,差异无统计学意义($P > 0.05$)。结论 与全身麻醉相比,椎管内麻醉可显著降低65岁及以上老年髋部骨折手术患者术后谵妄的发生率。

[关键词] 老年患者; 髋部骨折; 椎管内麻醉; 谵妄; 全身麻醉

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The effect of general anesthesia and intraspinal anesthesia on the incidence of postoperative delirium, pain, and adverse events in elderly patients with hip fractures

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[Abstract] **Objective** To explore the effects of general anesthesia and intraspinal anesthesia on the incidence of postoperative delirium, pain, and adverse events in elderly patients with hip fractures in this study. **Methods** A total of 80 patients aged 65 and above who underwent hip fracture surgery at the Orthopedics Department of Nantong Haimen People's Hospital, Jiangsu Province from January 2018 to December 2022 were selected. They were divided into a general anesthesia group ($n=40$) and an intraspinal anesthesia group ($n=40$) by random number method. The general patient information was collected and the incidence of delirium within 7 days after surgery was assessed. The delirium rating scale(DRS-98)was used to assess the patient's delirium score, and the pain numerical rating scale(NRS) was used to evaluate the average pain level and incidence of adverse events within 7 days after surgery. **Results** The incidence of postoperative delirium in the general anesthesia group was higher than that of patients in intraspinal anesthesia group, with statistically significant difference ($P < 0.05$). The DRS-98 score of patients in the general anesthesia group was higher than that of patients in intraspinal anesthesia group, with statistically significant difference ($P < 0.05$). There was no statistically significant difference in postoperative pain scores and incidence of adverse events between the two groups of patients ($P > 0.05$). **Conclusion** Compared with general anesthesia, intraspinal anesthesia can significantly reduce the incidence of postoperative delirium in elderly patients aged 65 and above undergoing hip fracture surgery.

[Key words] Elderly patients; Hip fracture; Intraspinal anesthesia; Delirium; General anesthesia

老年髋部骨折患者术后可出现多种并发症,使患者围手术期病死率增加超过10%^[1]。谵妄是老年髋部骨折患者的主要并发症,有研究显示,约61%的老年患者在围手术期出现谵妄^[2]。据报道,术后谵妄与患者住院时间延长、日常生活活动功能较差以及认知功能障碍和痴呆的风险增加有关^[3]。目前,

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老年髋部骨折术后患者出现谵妄的原因尚不清楚。

老年髋部骨折患者手术麻醉方式可分为区域麻醉和全身麻醉。全身麻醉涉及诱导睡眠或意识丧失,可通过吸入剂或静脉注射麻醉剂来实现。区域麻醉涉及在脊柱内部(轴神经阻滞)或神经周围(周围神经阻滞)注射局部麻醉剂,以防止髋部骨折引起的腿部疼痛^[4-5]。然而,尚不清楚全身麻醉和椎管内麻醉

对老年髌部骨折患者术后谵妄发生率的影响。本研究将老年髌部骨折手术患者根据麻醉方式分为全身麻醉和椎管内麻醉,旨在比较全身麻醉和椎管内麻醉对老年髌部术后患者术后谵妄、疼痛以及不良事件的影响。

1 资料与方法

1.1 一般资料

选取2018年1月至2022年12月江苏省南通市海门区人民医院(本院)骨科收治的80例65岁及以上髌部骨折手术患者。将所有患者按随机数表法分为全身麻醉组(40例)和椎管内麻醉组(40例)。全身麻醉组和椎管内麻醉组患者平均年龄分别为(69.33±5.61)和(69.82±4.73)岁,男性分别为15例和18例,平均体重指数(body mass index, BMI)分别为(20.53±3.26)和(20.71±3.88)kg/m²;合并糖尿病分别为5例(12.5%)和7例(17.5%)。两组患者一般资料比较,差异无统计学意义($P > 0.05$),具有可比性。本研究经本院医学伦理委员会批准(伦理号:2023-YJKY017)并获取所有患者的知情同意。

纳入标准:年龄≥65岁;因髌部骨折入院接受手术。排除标准:存在除髌部骨折外其他骨折,如病理性骨折、骨盆骨折、股骨骨折;对麻醉药物过敏;入院存在认知功能障碍;易发生恶性高热;参与其他临床试验。

1.2 方法

全身麻醉组:根据患者体重静脉推注依托咪酯(江苏恩华药业股份有限公司,国药准字H32022992,规格:10 ml : 20 mg)0.2 mg/kg、枸橼酸舒芬太尼(江苏恩华药业股份有限公司,国药准字H20203713,规格:2 ml : 100 μg)0.3 μg/kg、苯磺顺阿曲库铵注射液(上海恒瑞医药有限公司,国药准字H20061298,规格:25 mg)0.15 mg/kg,待诱导全身麻醉后,持续丙泊酚(河北一品制药有限公司,国药准字H20093542,规格:10 ml : 100 mg)4 mg/(kg·h)和盐酸瑞芬太尼(江苏恩华药业股份有限公司,国药准字H20143315,规格:2 mg)0.10 μg/(kg·min)静脉泵入,同时持续吸入1%~2%七氟烷(上海恒瑞医药有限公司,国药准字H20070172,规格:120 ml)维持麻醉。

椎管内麻醉组:患者采取健侧卧位,在患者L₂~L₄间隙消毒铺巾。穿刺后置入硬膜外导管,注射0.5%盐酸罗哌卡因注射液(四川海思科制药有限公司,国药准字H20052665,规格:10 ml : 75 mg)2 ml,调控推药速度,密切观察麻醉平面,并调控用药剂量,使其维持在T₁₀₋₁₁麻醉平面。

1.3 观察指标及评价标准

1.3.1 谵妄评定量表(delirium rating scale-98, DRS-98) 使用DRS-98评估患者的谵妄水平。DRS-R-98包括3项诊断项目和13项谵妄严重程度项目。得分越高表示谵妄越严重。DRS-R-98已被验证可在中国人群中使用^[6]。

1.3.2 数字评定量表(numerical rating scale, NRS) 评估术后疼痛 NRS用来评估患者术后疼痛强度,0分为无痛,10分为最痛。分数越高,疼痛程度越高^[7]。

1.3.3 评估安全性 记录两组患者不良反应,包括恶心呕吐、皮肤瘙痒、头晕等。

1.4 统计学处理

使用SPSS 22.0统计学软件进行数据处理,计量资料用均数±标准差($\bar{x} \pm s$)表示,采用 t 检验,计数资料用[n(%)]表示,采用 χ^2 检验, $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 两组患者术后谵妄情况比较

全身麻醉组患者术后谵妄发生率高于椎管内麻醉组患者,差异有统计学意义($P < 0.05$);全身麻醉组患者DRS-98评分高于椎管内麻醉组患者,差异有统计学意义($P < 0.05$)。见表1。

表1 两组患者术后谵妄情况比较

| 组别 | n | 术后谵妄[n(%)] | | DRS-98(分, $\bar{x} \pm s$) |
|--------------|----|------------|-----------|-----------------------------|
| | | 有 | 无 | |
| 全身麻醉组 | 40 | 13(32.50) | 27(67.50) | 20.14±5.05 |
| 椎管内麻醉组 | 40 | 5(12.50) | 35(87.50) | 17.58±4.11 |
| χ^2/t 值 | | 4.587 | | 2.486 |
| P 值 | | 0.032 | | 0.015 |

注 DRS-98:谵妄评定量表

2.2 两组患者术后疼痛评分和不良事件发生率比较

两组患者术后疼痛评分、不良事件发生率比较,差异无统计学意义($P > 0.05$),见表2。

表2 两组患者术后疼痛评分和不良事件发生率比较

| 组别 | n | 术后疼痛评分(分, $\bar{x} \pm s$) | 不良事件[n(%)] | |
|--------------|----|-----------------------------|------------|-----------|
| | | | 有 | 无 |
| 全身麻醉组 | 40 | 2.56±0.75 | 17(42.50) | 23(57.50) |
| 椎管内麻醉组 | 40 | 2.38±0.83 | 21(52.50) | 19(47.50) |
| t/χ^2 值 | | 1.017 | 0.370 | |
| P 值 | | 0.312 | 0.501 | |

3 讨论

随着全球人口迅速老龄化,髌部骨折患者的数

量呈上升趋势。椎管内麻醉和全身麻醉是老年髋部骨折手术最常用的麻醉方式^[8]。然而,椎管内麻醉和全身麻醉能否减少老年髋部骨折患者谵妄发生率,目前尚不清楚。

既往研究表明,与区域麻醉相比,全身麻醉患者术后谵妄和病死率的发生风险较高,围手术期住院时间较长^[9]。近年来,随机对照试验的 meta 分析表明,全身麻醉和区域麻醉之间的失血量存在显著差异,但谵妄发生率或 30 天死亡率无差异^[10]。此外,有研究表明,与全身麻醉相比,全身麻醉复合硬膜外麻醉可降低老年患者肿瘤切除术谵妄的发生率^[11]。本研究发现,对于老年髋部骨折患者,接受椎管内麻醉患者的术后患者谵妄发生率和谵妄评分显著低于全身麻醉患者。

此外,已有研究表明接受全身麻醉的患者术后急性疼痛水平显著高于区域麻醉患者,对于接受髋部骨折手术患者,区域麻醉组疼痛评分显著降低^[12]。然而,也有研究表明,区域麻醉和全身麻醉患者疼痛评分无显著差异^[13]。还有一项 meta 分析使用疼痛视觉模拟评分法评估术后患者疼痛评分,结果显示接受区域麻醉的患者疼痛评分显著低于全身麻醉的患者^[14]。此外,对行手术治疗的创伤骨折患者,区域麻醉可显著减轻全身麻醉患者术后疼痛^[15]。然而,本研究显示,区域麻醉患者和全身麻醉患者术后疼痛评分无显著差异。可能与本研究样本量较少以及两组患者术后疼痛控制较好有关。本研究存在一定的局限性,如仅纳入一个研究中心患者。今后将扩大样本量,并采用多中心分析椎管内麻醉和全身麻醉对老年髋部骨折患者术后谵妄发生率的影响。

综上所述,椎管内麻醉可显著降低 65 岁及以上接受髋部骨折手术的患者术后谵妄的发生率。

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