·综述·

老年髋部骨折术后谵妄的管理

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【摘 要】 老年髋部骨折患者进行手术具有较高风险,术后谵妄(POD)发生率高,严重影响术后康复及远期预后,需骨科、麻醉科、老年内科、内科、重症医学科、康复科、营养科、精神心理科等多学科团队分工协作,共同管理。术前应对POD相关危险因素进行综合评估,制定个体化综合预防措施;术中应关注老年患者的麻醉方式、微创术式选择等特殊问题;术后应有效控制疼痛、营养支持、预防术后并发症、尽早开展术后康复,保证医疗的连续性。西安交通大学第一附属医院相关专业在老年髋部骨折围术期管理经验基础上,结合国内外指南总结成文,旨在更好地开展老年髋部骨折患者围手术期管理,预防POD发生或及时干预POD进展,改善患者预后。

【关键词】 老年人;髋部骨折;术后谵妄;老年综合评估;术前评估
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Management of postoperative delirium in elderly patients with hip fracture

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【Abstract】 Hip fractures in the elderly patients have a high risk of surgery and a high incidence of postoperative delirium (POD), seriously affecting the postoperative rehabilitation and long-term prognosis and thus warranting multidisciplinary cooperation of the departments of orthopedic, anesthesiology, geriatrics, internal medicine, intensive medicine, rehabilitation, nutrition, and psycho-psychology and in the perioperative management. POD-related risk factors should be comprehensively evaluated, and individualized comprehensive preventive measures should be formulated before operation. Special problems such as anesthetic mode and minimally invasive surgical selection should be paid attention during the operation. Pain control, nutritional support, prevention of postoperative complications and early postoperative rehabilitation should be effectively managed after operation to ensure medical continuity. This review by the clinicians from the First Hospital of Xi'an Jiaotong University aims to promote the perioperative management and to prevent POD in the elderly patients with hip fractures.

【Key words】 aged; hip fracture; postoperative delirium; comprehensive geriatric assessment; preoperative assessment
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髋部骨折是发生在股骨头边缘和小转子远端5 cm之内的骨折,主要包括股骨颈骨折与转子间骨折[1,2]。随着人口老龄化的加剧,我国每年大约有100万人发生髋部骨折,大部分为老年人[3,4],其高致残率和高病死率的特点严重威胁老年人的生命健康[5]。

术后谵妄(postoperative delirium, POD)是老年髋部骨折患者最常见的术后并发症之一,表现为可逆、具有波动性的精神状态的急性改变,主要发生在术后5 d内[6-8]。65岁以上患者POD发生率为4.0%~53.3%[9]。谵妄在临床中十分常见,可产生严重的后果,包括术后并发症、住院时间延长、跌倒和制动[10],增加痴呆和死亡风险。同时显著影响患者的情绪状态,加重了家庭及其照料者的压力,为个人和社会带来了巨大的负担[11]。

现有证据表明,30%~40%的谵妄可以有效预防[12]。此外,外科和重症监护病房患者人群中预防方案的应用,使谵妄的发生率和(或)持续时间均显著降低[13,14]。因此,对于老年髋部骨折患者,应正确识别POD高危患者、预防并尽早干预。

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基于2020年美国促进康复协会与围手术期质量倡议联合共识声明[15]、2017年欧洲麻醉学学会的术后谵妄指南[16]、2016年老年患者术后谵妄防治中国专家共识[17]及2018老年患者围手术期管理北京协和医院专家共识[18],西安交通大学第一附属医院老年内科、骨科联合相关手术科室,依据既往对POD高风险老年患者术前评估会诊的实际工作经验,并参考上述指南,共同撰写了此综述,目的在于完善老年髋部骨折患者的术前评估,发现潜在POD风险,通过积极干预规避或降低风险,改善老年髋部骨折患者的预后。

1 POD的危险因素

老年患者POD的发生常由多因素引起,取决于患者自身内在因素和外在促成因素间的相互作用。谵妄的危险因素分为两大类:易患因素和诱发因素。既往多项回顾性研究和Meta分析发表了POD的常见易患因素[19-27],如高龄、共病、疾病严重程度、酗酒或药物依赖、衰弱、失能、久居安养机构以及各系统器质性疾病等[15]。在易患因素的基础上,任何机体内外环境的紊乱均可促发谵妄,成为诱发因素。常见的POD诱发因素包括手术相关因素如手术复杂程度、手术持续时间、术式、血压、镇静状态;术后疼痛、贫血、睡眠障碍、肾功能受损、感染、低氧、机械通气;药物使用如苯二氮䓬类药物、苯海拉明、哌替啶、吗啡、组胺受体拮抗剂等[15]。许多POD诱发因素均与手术大小及手术后续的医疗措施相关。因此,决定手术之前,在探讨手术过程中其他风险的同时,手术团队成员与患方应共同探讨可能存在的POD风险[15]。

2 髋部骨折患者POD的风险评估

2.1 术前谵妄危险因素评估

老年患者术前应接受谵妄相关危险因素的评估,根据术前存在的危险因素决定POD的风险高低。国际上通常将老年综合评估(comprehensive geriatric assessment, CGA)用于老年患者的术前评估。CGA同样适用于髋部骨折老年患者的围手术期评估。入院后72 h内完成CGA,综合评估老年患者的意识、情绪、营养、衰弱、功能、用药、视力、听力、疼痛、失禁、睡眠障碍等POD相关危险因素,便于手术团队据此进行有效干预及再评估。POD相关危险因素详见表1。

2.2 POD筛查

目前,全球使用最广泛公认的谵妄筛查工具为意识模糊评估法(confusion assessment method, CAM)[28],该表具有较高的灵敏度(94%~100%)和特异度(90%~95%)。

表1 术前谵妄风险评估项目及方式

Table 1 Items and methods of preoperative risk assessment of delirium

Item	Method
Cognitive function	Mini-Cog test or MMSE
Depress/Anxious	PHQ-9/ SDS; GAD-7
Nutritional status	MNA-SF/ NRS2002
Functional status/Risk of falling	ADLs/ IADLs
Frailty	FRAIL scale
Drugs	Types of drugs used, whether there are multiple medications
	Use of perioperative drugs of special concern (anticholinergic drugs, antipsychotics, cardiovascular drugs, gastrointestinal drugs, *etc*)
Pain control	VAS
Vision	Visual screening tool card
Hearing	Hearing detection
Dyssomnia	SRSS
Uroschesis / Constipation/Dehydration	Existence of bladder residual urine/Fecal incarceration
Thrombus/Infection	Assessment of risk classification for venous thromboembolism with reference to prevention of venous thromboembolism in orthopedic surgery
	Existence of respiratory or urinary infection
Latrogenic factors	Presence of urinary catheter, binding, *etc*
Metabolic disturbance	Existence of electrolyte disturbance, blood sugar fluctuation, acid-base balance disorder, vitamin deficiency, poisoning, *etc*
Hypoperfusion	Existence of hypotension, hypovolemia, hypoxemia, *etc*

MMSE: mini-mental state examination; PHQ-9: patient health questionnaire-9; SDS: self-rating depression scale; GAD-7: generalized anxiety disorder-7; MNA-SF: mini-nutritional assessment short-form; NRS2002: nutrition risk screening 2002; ADLs: activities of daily living; IADLs: instrumental activities of daily living; VAS: visual analogue scale; SRSS: self-rating scale of sleep.

3 基于 POD 风险评估的髋部骨折围术期管理

3.1 术前管理

POD 的预防重于治疗,预防是减少 POD 和并发症及相关负性临床事件最有效的手段。预防 POD 的重点在于去除诱因,并强调多学科团队干预的非药物性预防方案。适合老年患者的围手术期工作模式是多学科整合团队共同管理的工作模式[18]。可由老年医学科、内科、麻醉科等医务人员首先全面评估患者,针对患者存在的具体危险因素,个体化地提供相应的多学科团队干预方案。结合老年患者术后谵妄防治中国专家共识[17]、2016 加拿大《老年人的谵妄、痴呆、抑郁:评估和护理》第 2 版、骨科康复中国专家共识[29]及中国骨科大手术静脉血栓栓塞症预防指南[30],我们提出了针对以下危险因素的综合性预防措施。

(1)认知障碍、痴呆及定向障碍。房间内提供充足的照明、清晰的标识、时钟、日历,尽量避免不必要的房间更改。(2)感觉剥夺。适当给予认知刺激活动,包括家属探视、构建患者熟悉的活动或场景、往事回忆等,注意避免不必要的隔离、感觉剥夺和感觉超负荷。(3)听力或视力障碍。提供助听器和视觉辅助器(如老花镜、放大镜),确保充足的照明,及时解决可逆性损害原因(如耳垢等)。(4)感染。寻找和治疗感染病灶。(5)留置导尿。避免不必要的置管,筛查及治疗泌尿系感染,尽快拔除留置导管。(6)脱水和(或)便秘及电解质紊乱。监测营养、出入量和膀胱/肠道功能;确保足够的液体摄入量;如有必要,可考虑输液;血清钠、钾和葡萄糖水平维持正常水平;注意脱水风险可能增加的患者(即服用利尿剂、腹泻、肺炎等患者)。(7)营养不良。遵循营养支持建议,保证充足的营养物质和葡萄糖的摄入量,确保假牙正确使用,鼓励家人用餐时间在旁协助进食。(8)贫血。明确贫血病因,纠正贫血。(9)低氧血症。优化氧合,监测氧饱和度水平。(10)疼痛控制。评估、监测和控制疼痛。(11)睡眠障碍。促进高质量睡眠;采用非药物性的睡眠促进方法;避免在睡眠时间进行护理或医疗程序;如果可能,合理安排药物治疗时间,避免干扰睡眠;睡眠时间内将噪音和光线降至最低。(12)固定/约束、术后卧床/镇静、功能障碍。避免使用约束;最大限度地减少可能限制移动或功能的医疗设备的使用(如静脉通路、导管);鼓励康复运动,包括行走(如果可能的话)、下床、运动练习及自理活动;如果需要,可提供适当的助行器;鼓励术后尽快康复运动;术后物理治疗。(13)栓塞。基本预防措施;物理预防措施;药物干预包括:普通肝素、低分子肝素、Xa 因子抑制剂及维生素 K 拮抗剂。(14)多重用药和高危药物(精神活性药物、镇静催眠药、苯二氮䓬类、抗胆碱能类、抗组胺类、哌啶等)的使用。对服用多种药物的患者进行用药评估,并尽可能调整剂量或停用药物,以减少 POD 的风险。

此外,2018 骨科康复中国专家共识[29]推荐,骨科医师应在术前对患者及家属进行相关医学知识宣教,使其主动配合完成术前康复训练,让患者适应并学会康复训炼动作。

3.2 术中管理

老年患者围手术期麻醉风险高,术中管理主要由麻醉科医师负责。老年患者术中面临的风险和术中管理的难易在相当大程度上取决于术前准备是否充分。麻醉的选择应综合考虑手术类型、时长、需求、患者情况等因素,由麻醉科、外科、老年医学科、内科医师共同商议决定,监测不良反应。此外,术中应尽量减少手术创伤,微创是快速康复的重要因素。术中同时关注麻醉方式的选择、体温控制、液体管理及预防感染。

3.3 术后管理

术前及术中需要预防处理的问题在术后同样适用。团队成员均应了解患者的镇痛方式及用药,并监测疼痛情况,应尽量避免使用巴比妥类、苯二氮䓬类等可增加 POD 风险的药物,遵循小剂量起始给药、滴定计量,采用最低有效剂量控制疼痛。同时需注意预防肺部并发症,静脉血栓栓塞症,注意看护、预防跌倒和坠床。

术后应鼓励患者早期下床、早期进行康复活动,避免因尿管、静脉输液管、监护等医疗行为造成约束制动。如果早期难以下地活动,可进行床上肢体功能训练,尽量维持躯体功能。

4 POD 的治疗

至今,对于谵妄没有较好的治疗方案。因此,预防 POD 显得尤为重要。POD 的治疗措施包括消除病因(排除术中药物残留、排除外科病理情况、仔细询问病史、进行体格检查等),支持治疗(给予非药物处理、维持水电解质稳定、积极补充营养等),控制症状(使用低剂量氟哌啶醇或低剂量非典型抗精神病药物、请精神科会诊等)。尽早诊断与治疗可降低 POD 的严

重程度、缩短持续时间,从而改善患者预后。

最后,该团队在老年髋部骨折围术期管理经验基础上,总结老年髋部骨折POD的管理流程如下:(1)术前常规进行谵妄风险评估,及早识别POD高危患者,采用个体化预防措施,如果术前已出现谵妄,则需专科介入,同时给予病因治疗在内的综合干预;(2)积极术中管理,减轻手术损伤;(3)术后进行POD筛查,未出现POD,则继续非药物性综合干预措施;(4)出现POD,尽早专科干预明确病因,采用适当术后管理,定期评价效果,同时加强患方健康宣教,做好后续转诊医疗,定期随访(图1)。

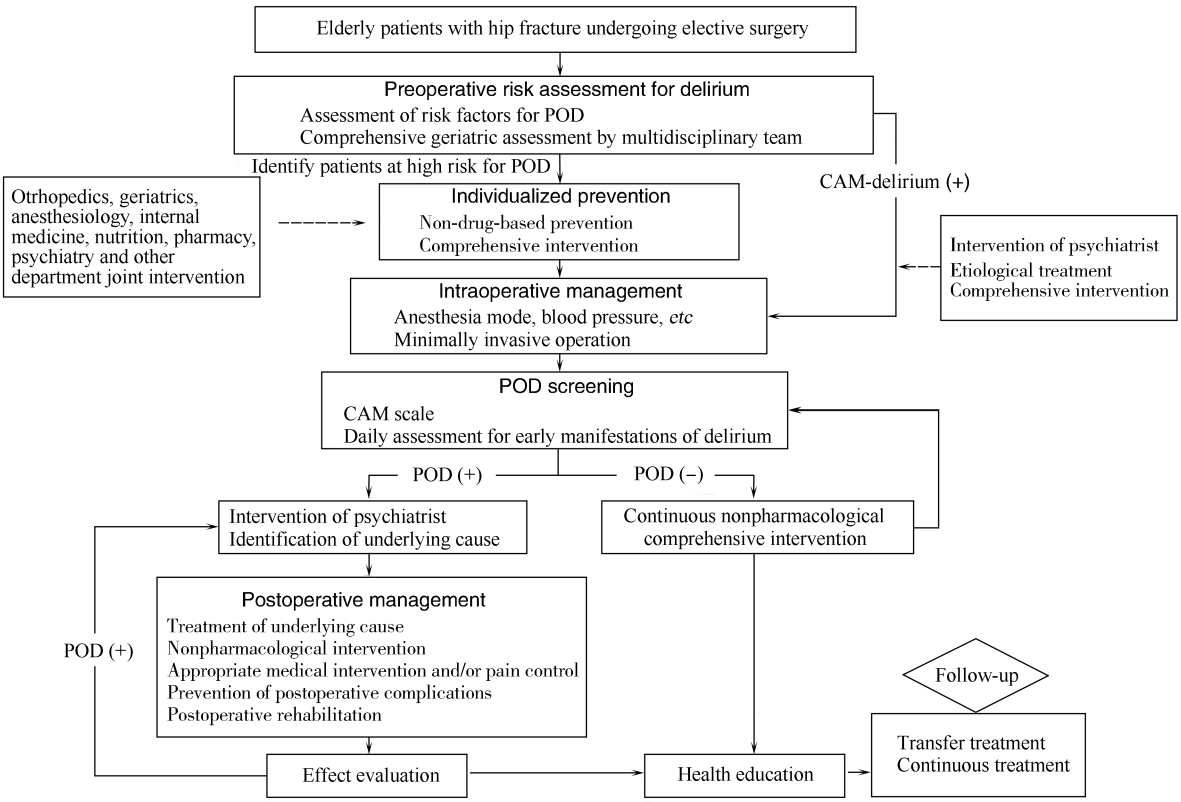

图1 老年髋部骨折POD的管理流程

Figure 1 Management process of postoperative delirium in elderly patients with hip fracture

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