

# 低剂量右美托咪定对老年乳腺癌改良根治术后患者镇静和康复的影响\*

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**【摘要】** 目的 探讨低剂量右美托咪定对老年乳腺癌根治术后患者镇静和康复的影响。方法 收集我院 2018 年 2 月~2020 年 7 月收治的老年乳腺癌患者 137 例, 将患者随机分为观察组 69 例和对照组 68 例, 均行乳腺癌根治术, 术中均给予全麻、镇痛等治疗, 其中观察组另给予低剂量右美托咪定, 比较两组手术情况、术后康复情况、应激反应、镇静情况和认知功能。结果 两组患者手术时间、淋巴结清扫数目、出血量等差异均无统计学意义( $P>0.05$ )。与对照组比较, 观察组肛门排气时间(h)缩短; 引流时间缩短; 出院时间缩短( $P<0.05$ )。两组患者术前促肾上腺皮质激素、C 反应蛋白无统计学意义( $P>0.05$ )。术后 24h 与对照组比较, 观察组促肾上腺皮质激素降低; C 反应蛋白降低( $P<0.05$ )。两组 T1 时 BIS 无统计学差异( $P>0.05$ )。与对照组比较, 观察组患者 T2-T5 时 BIS 均显著降低( $P<0.05$ )。两组术前简易智能精神状态检查量表(Mini-Mental State Examination, MMSE)评分无统计学差异( $P=0.388$ )。术后 24h 与对照组比较, 观察组 MMSE 评分显著增高( $P<0.05$ )。结论 低剂量右美托咪定可以降低老年乳腺癌根治术患者应激反应, 改善认知功能, 加快康复。

**【关键词】** 老年; 右美托咪定; 乳腺癌根治术; 镇静; 乳腺癌

**【中图分类号】** R737.9 **【文献标志码】** A **DOI:**10.3969/j.issn.1672-3511.2021.11.023

## Effect of low-dose dexmedetomidine on sedation and rehabilitation in elderly patients with breast cancer after radical mastectomy

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**【Abstract】** **Objective** To investigate the effect of low-dose dexmedetomidine on sedation and rehabilitation in elderly patients with breast cancer after radical mastectomy. **Methods** From February 2018 to July 2020, 137 elderly patients with breast cancer in our hospital were prospectively collected and randomly divided into observation group ( $n=69$ ) and control group ( $n=68$ ). All patients underwent radical mastectomy and received general anesthesia during the operation. The observation group was given low dose dexmedetomidine, and the operation, post-operative rehabilitation, stress response, sedation and cognitive function were observed between the two groups. **Results** There was no significant difference in operation time, number of lymph node dissection and amount of bleeding between the two groups ( $P>0.05$ ). When compared with the control group, the anal exhaust time (h) of the observation group was shortened ( $40.38\pm 9.84$  vs.  $45.04\pm 9.77$  h,  $P=0.006$ ); the drainage time was shortened ( $65.48\pm 12.65$  vs.  $70.66\pm 13.02$  h,  $P=0.019$ ); and the discharge time was shortened ( $9.84\pm 2.47$  vs.  $10.74\pm 2.44$  d,  $P=0.034$ ). There was no significant difference in preoperative corticotropin and C-reactive protein between the two groups ( $P>0.05$ ). When compared with the control group at 24 hours after operation, the corticotropin in the observation group decreased ( $4.24\pm 1.71$  vs.  $4.90\pm 1.28$  ng/mL,  $P=0.012$ ); and C-reactive protein decreased ( $12.62\pm 2.71$  vs.  $17.52\pm 2.62$  mg/L,  $P=0.000$ ). There was no significant difference in BIS at T1 between the two groups ( $P>0.05$ ). When compared with the control group, the BIS of patients in the observation group decreased significantly at T2-T5 ( $P<0.05$ ). There was no significant difference in preoperative Mini-Mental State Examination (MMSE) score between the two groups ( $P=0.388$ ). When compared with the control group at 24 hours after operation, the MMSE score in the observation group was significantly

higher (24.92±1.98 vs. 23.71±1.83,  $P=0.000$ ). **Conclusion** Low dose dexmedetomidine can reduce stress response, improve cognitive function and accelerate rehabilitation in elderly patients undergoing radical mastectomy.

**【Key words】** Old age; Dexmedetomidine; Radical mastectomy for breast cancer; Sedation; Breast cancer

近些年随着健康理念的普及和诊疗技术的发展,乳腺癌早期发现率有所提高,其 5 年生存率可达到 90% 以上<sup>[1-3]</sup>。乳腺癌是女性最为常见的恶性肿瘤,由其导致的死亡人数仍处于较高水平<sup>[4-5]</sup>。近些年来虽然乳腺癌发病率有年轻化和增长趋势,但仍以老年女性多见,乳腺癌根治术是治疗乳腺癌的主要方法<sup>[6-8]</sup>,但是手术对患者而言是一个重大创伤,因此患者术后容易出现认知功能障碍等<sup>[9-11]</sup>,严重影响患者术后康复,尤其是对于老年女性患者。最近有研究显示低剂量右美托咪定有利于患者术中镇静<sup>[12-14]</sup>,改善患者术后认知功能,加速患者术后康复,但在老年乳腺癌根治术后患者中相关研究尚缺乏,为此我们设计了本研究。

**1 资料与方法**

**1.1 一般资料** 收集我院 2018 年 2 月~2020 年 7 月收治的老年乳腺癌患者 137 例,随机分为观察组 69 例和对照组 68 例。纳入标准:①浸润性乳腺癌(确诊依据为病理诊断)。②年龄 60~80 岁。③同意参与本研究,已经签署知情同意书。④拟在我院行乳腺癌根治术。排除标准:①肝肾功能不全。②心脑肺等重要脏器功能障碍。③凝血功能障碍。④术前已接受放疗、分子生物治疗等特殊治疗。⑤乳腺转移癌。⑥乳腺癌术后复发。⑦其他重大疾病,不能耐受手术。⑧感染。本研究征得我院伦理委员会批准。

**1.2 治疗方法** 两组患者入院后,均完善相关检验检查(血常规、血清八项、血生化、凝血四项、尿便常规、心电图、胸片、乳腺超声等),明确手术适应症,排

除手术禁忌症,则限期行乳腺癌根治术(同侧乳腺切除+腋窝淋巴结清扫)。术中麻醉:术前 60 min 建立静脉通道,进入手术室,心电监护,给予丙泊酚、瑞芬太尼、肌松等药物进行麻醉诱导,气管插管,丙泊酚和瑞芬太尼维持麻醉,开始手术。观察组在上述基础上,给予低剂量右美托咪定,术前 10 分钟开始给予 2 mL 右美托咪定,1.5 mL/h 速度维持,右美托咪定购买自恒瑞医药股份有限公司,浓度:4 μg·mL<sup>-1</sup>,批号:12071234,手术结束前 10 min 停止。

**1.3 观察指标** ①手术情况:手术时间、淋巴结清扫数目、出血量。②术后康复情况:肛门排气时间、引流时间、出院时间。③应激反应:C 反应蛋白、促肾上腺皮质激素。④镇静情况:脑电双频谱指数(BIS)评估患者镇静情况。⑤认知功能:利用 MMSE 评分量表评估患者认知功能,得分为 0~30 分,得分越高表明得分越高。

**1.4 统计学分析** 采用 SPSS 22.0 软件进行统计学分析,双侧检验,设置 α=0.05 为检验标准。两组计量资料差异均以均值±标准差( $\bar{x} \pm s$ )表示, $t$  检验分析其差异;两组计数资料采用以百分比的形式呈现,卡方检验分析其差异, $P < 0.05$  为差异有统计学意义。

**2 结果**

**2.1 两组患者一般资料比较** 两组患者年龄、患侧、病理分级、TNM 分期、肿瘤直径等差异无统计意义( $P > 0.05$ ),见表 1。

表 1 两组患者一般资料比较 [ $n, n(\times 10^{-2})$ ]

Table 1 Comparison of general data between the two groups

类别	n	年龄	患侧		分化程度		TNM 分期		肿瘤直径(cm)
			右侧	左侧	I 或 II 级	III 级	II 期	III 期	
观察组	69	69.84±3.82	31(44.93)	38(55.07)	49(71.01)	20(28.99)	41(59.42)	28(40.58)	3.28±1.09
对照组	68	69.25±3.24	33(48.53)	35(51.47)	52(76.47)	16(23.53)	38(55.88)	30(44.12)	3.35±1.16
$t/\chi^2$		0.974		0.178		0.526		0.176	0.364
P		0.332		0.673		0.468		0.675	0.716

**2.2 两组手术情况比较** 两组患者手术时间、淋巴结清扫数目、出血量等差异均无统计学意义( $P > 0.05$ ),见表 2。

**2.3 两组患者术后康复情况** 与对照组比较,观察组肛门排气时间(h)缩短(20.38±9.84 vs. 25.04±9.77 h,  $P=0.006$ );引流时间缩短(65.48±12.65 vs. 70.66±13.02 h,  $P=0.019$ );出院时间缩短(9.84±

2.47 vs. 10.74±2.44 d,  $P=0.034$ ),见表 3。

表 2 两组手术情况比较 ( $\bar{x} \pm s$ )

Table 2 Comparison of operation conditions between the two groups

类别	n	手术时间 (min)	淋巴结清扫数目(枚)	出血量 (mL)
观察组	69	83.58±10.58	15.38±3.29	143.85±30.85
对照组	68	82.92±11.84	16.03±3.72	145.83±30.18
t		0.344	1.084	0.380
P		0.731	0.280	0.705

2.4 两组患者应激反应比较 两组患者术前促肾上腺皮质激素、C 反应蛋白无统计学意义 ( $P > 0.05$ )。术后 24h 与对照组比较, 观察组促肾上腺皮质激素降低 ( $4.24 \pm 1.71$  vs.  $4.90 \pm 1.28$  ng/mL,  $P = 0.018$ ); C 反应蛋白降低 ( $12.62 \pm 2.71$  vs.  $17.52 \pm 2.62$  mg/L,  $P = 0.000$ ), 见表 4。

表 4 两组患者应激反应比较 ( $\bar{x} \pm s$ )

Table 4 Comparison of stress reaction between the two groups

分组	n	促肾上腺皮质激素 (ng/mL)				C 反应蛋白 (mg/L)			
		术前	术后 24 h	t	P	术前	术后 24 h	t	P
观察组	69	3.81 ± 1.24	4.24 ± 1.71	1.687	0.094	8.93 ± 2.24	12.62 ± 2.71	8.692	<0.001
对照组	68	3.72 ± 1.22	4.90 ± 1.28	5.524	<0.001	8.89 ± 2.42	17.52 ± 2.62	20.032	<0.001
t		0.428	2.555			0.100	10.757		
P		0.669	0.012			0.920	<0.001		

2.5 两组术中镇静情况比较 两组 T1 时 BIS 无统计学差异 ( $P > 0.05$ )。与对照组比较, 观察组患者

T2-T5 时 BIS 均显著降低 ( $P < 0.05$ ), 见表 5。

表 5 两组术中镇静情况比较 ( $\bar{x} \pm s$ )

Table 5 Comparison of intraoperative sedation between the two groups

类别	n	T1(BIS)	T2(BIS)	T3(BIS)	T4(BIS)	T5(BIS)
观察组	69	93.51 ± 7.48	87.48 ± 6.63	84.48 ± 6.35	81.82 ± 6.04	81.61 ± 6.53
对照组	68	93.62 ± 8.02	90.04 ± 7.02	87.84 ± 6.32	84.38 ± 7.01	84.38 ± 7.12
t		0.083	2.195	3.104	2.291	2.374
P		0.934	0.030	0.002	0.024	0.019

注: T1-T5 分别为手术开始、5 min、15 min、30 min 和手术结束时 BIS

2.6 两组认知功能比较 两组术前 MMSE 评分无统计学差异 ( $P = 0.388$ )。术后 24 h 与对照组比较, 观察组 MMSE 评分显著增高 ( $24.92 \pm 1.98$  vs.  $23.71 \pm 1.83$ ,  $P = 0.000$ ), 见表 6。

表 6 两组认知功能比较 ( $\bar{x} \pm s$ )

Table 6 Comparison of cognitive function between the two groups

分组	n	MMSE 评分		t	P
		术前	术后 24 h		
观察组	69	25.38 ± 2.18	24.92 ± 1.98	1.292	0.198
对照组	68	25.72 ± 2.41	23.71 ± 1.83	5.492	<0.001
t		0.866	3.713		
P		0.388	<0.001		

### 3 讨论

乳腺癌根治术的主要目的是手术切除乳腺原发病灶, 同时辅以术后放化疗, 从而达到彻底杀灭肿瘤细胞的目的。对于老年乳腺癌患者而言, 促进术后康复, 具有重要意义。首先老年患者基础疾病较多, 术后容易发生并发症、认知功能障碍等, 其次促进患者术后康复, 可以为早期放化疗争取时间。本研究探讨了低剂量右美托咪定对老年乳腺癌根治术后患者镇静和康复的影响, 结果显示术中应用低剂量右美托咪定, 可以显著改善患者镇静情况、缩短术后肛门排气

时间、引流时间和住院时间, 改善患者术后认知功能, 降低术后应激反应。

右美托咪定又称盐酸右美托咪定, 在水中较为容易溶解, 其分子式为  $C_{13}H_{16}N_2$ 。右美托咪定生物利用度较高, 注射后 1 h 即可达到峰值浓度, 半衰期短, 可以作用于人体的多种组织, 半衰期为 2 h 左右, 主要经肾代谢。右美托咪定是一种高效的  $\alpha_2$  肾上腺素受体激动剂, 对其亲和力高达可乐定的 8 倍, 但右美托咪定对  $\alpha_1$  受体亲和力则较弱, 虽然大剂量使用右美托咪定时, 右美托咪定可同时激动  $\alpha_2$  肾上腺素受体激动剂和  $\alpha_1$  受体, 但低剂量时, 主要激动  $\alpha_2$  肾上腺素受体激动剂, 对  $\alpha_1$  受体几乎无明显作用。这种特性使得临床使用右美托咪定时, 可以有效镇静, 但又能有效避免激活  $\alpha_1$  受体而带来的心血管不良反应 (血管收缩、瞳孔扩大等)。激动  $\alpha_2$  肾上腺素受体激动剂后, 可以减少去甲肾上腺素释放, 从而减轻应激反应。基于上述特点, 目前右美托咪定被学者广泛用于机械通气和术后患者, 并发现, 右美托咪定可以有效改善患者镇静情况, 降低术后应激反应, 改善患者术后认知功能, 甚至降低术后并发症<sup>[15-20]</sup>。支持本研究, 本研究显示低剂量右美托咪定可以显著改善患者镇静情况、缩短术后肛门排气时间、引流时间和住院时间, 改善患者

术后认知功能,降低术后应激反应。国外的两项研究也证实了右美托咪定在乳腺癌患者中的价值<sup>[20-21]</sup>。但与本研究不同的是,本研究侧重的是老年患者,老年患者更容易发生不良反应,在这类患者中研究更有意义。

#### 4 结论

本研究结果显示,低剂量右美托咪定可以降低老年乳腺癌根治术患者应激反应,改善认知功能,加速患者康复。

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(收稿日期:2020-11-26; 修回日期:2021-02-29; 编辑:张翰林)