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依托咪酯联合丙泊酚用于老年精神疾病患者行无抽搐电休克治疗的安全性分析*

徐 杨 王惠玲[△] 谢 琴 柳小波 赵贤玲 兰 燕

(武汉大学人民医院 精神科 湖北 武汉 430000)

摘要 目的:探讨依托咪酯联合丙泊酚用于老年精神疾病患者行无抽搐电休克治疗的安全性。**方法:**选取我院准备进行无抽搐电休克治疗的≥ 60 岁的老年精神疾病患者 96 例,随机分为依托咪酯组、丙泊酚组和依托咪酯联合丙泊酚组,每组 32 例。丙泊酚组予以 2 mg/kg 丙泊酚静注后给予改良电抽搐疗法(MECT)治疗,依托咪酯组予以 0.3 mg/kg 依托咪酯静注后给予改良电抽搐疗法(MECT)治疗,依托咪酯联合丙泊酚组予以依托咪酯(0.15 mg/kg)和静注丙泊酚(1 mg/kg)后予以改良电抽搐疗法(MECT)治疗。分别于麻醉诱导前、诱导中、电刺激即刻、电刺激后 5 分钟、10 分钟检测患者的心率及血压指标。**结果:**与麻醉诱导前相比,三组患者麻醉诱导后 HR、SBP、DBP 均下降($P<0.05$),电刺激即刻 HR、SBP、DBP 均明显升高($P<0.05$);与电刺激即刻相比,三组患者电刺激后 5 min HR、SBP、DBP 显著下降($P<0.05$);与丙泊酚组及依托咪酯组相比,依托咪酯联合丙泊酚组麻醉诱导后 HR 较低,电刺激即刻 HR、SBP、DBP 水平较低($P<0.05$)。托咪酯联合丙泊酚组不良反应发生率低于依托咪酯组、丙泊酚组($P<0.05$)。**结论:**依托咪酯联合丙泊酚组在老年精神障碍患者进行无抽搐电休克治疗时的安全性较单用依托咪酯组或丙泊酚更高。

关键词: 依托咪酯;丙泊酚;老年精神障碍;改良电抽搐疗法(MECT);安全性

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Analysis of the Safety of Etomidate combined with Propofol in the Treatment of Senile Schizophrenia Patients with Electroconvulsive Shock*

XU Yang, WANG Hui-ling[△], XIE Qin, LIU Xiao-bo, ZHAO Xian-ling, LAN Yan

(Psychiatric department, people's Hospital of Wuhan University, Wuhan, Hubei, 430000, China)

ABSTRACT Objective: To investigate the safety of etomidate combined with propofol in the treatment of senile schizophrenia patients with electroconvulsive shock. **Methods:** 64 senile patients with schizophrenia who were treated in the psychiatric department of our hospital were selected and randomly divided into the etomidate group, propofol group and combination group, with 32 cases in each group. The patients in the etomidate group were treated with 0.3 mg/kg etomidate and modified electric convulsive therapy (MECT), the patients in the propofol group were treated with 2 mg/kg propofol intravenous injection and modified electric convulsive therapy (MECT), and the patients in the combination group were treated with 0.15 mg/kg etomidate and 1 mg/kg propofol and modified electric convulsive therapy (MECT). Then the heart rate and blood pressure of patients at five minutes and ten minutes after the treatment were detected and compared. **Results:** Compared with before induction of anesthesia, the HR, SBP and DBP decreased in the three groups after anesthesia induction, and the HR, SBP and DBP increased in the electrical stimulation immediately time ($P<0.05$); Compared with electrical stimulation time, the HR, DBP and SBP decreased after electrical stimulation for 5 mins ($P<0.05$); Compared with propofol group and etomidate group, the HR, SBP and DBP in the combination group were lower after induction of anesthesia, and the DBP was lower in electrical stimulation time ($P<0.05$); The incidence of adverse reactions in the combination group was lower than those of the propofol group and the etomidate group ($P<0.05$). **Conclusion:** The safety of etomidate combined with propofol in senile patients with mental disorders electroconvulsive therapy was higher compared with etomidate or propofol alone.

Key words: Etomidate; Propofol; Senile schizophrenia; Modified electric convulsive therapy (MECT); Safety

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前言

流行病学调查显示老年精神障碍的发病率约为 0.22‰,其中约 66.67%患者进行入院治疗,但效果不明显^[2]。改良电抽搐

疗法(MECT)是使用肌肉松弛剂、麻醉剂、发作监测及其他改良设施对疾病实施治疗的方法^[1]。丙泊酚和依托咪酯是目前临床较为常用的短效静脉全身麻醉药之一^[3]。丙泊酚属于新型全身麻醉剂,具有具有短效、快速且无不良发应的特点^[4]。依托咪酯

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作者简介:徐杨(1981-),男,硕士研究生,研究方向:精神疾病,电话:15827239095

[△] 通讯作者:王惠玲,电话:15827239095

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是一种短效全身麻醉剂,其作用力强,注入人体内不到 1 min,就可起到理想效果,是临床最为常见的短效的催眠药物^[5]。临床对于两种静脉麻醉药使用于老年精神障碍患者这个特殊人群时如何选择会更安全尚无明确报道,本研究旨在探讨采用不同麻醉给药方式对老年精神障碍患者的安全性,以供临床参考。

1 资料与方法

1.1 临床资料

选取自 2013 年 3 月到 2016 年 3 月来我院需要进行无抽搐电休克治疗的老年精神障碍患者共 96 例,经我院伦理委员会审核通过,排除既往有心、肺、肝、肾等重要脏器疾病的患者,排除脑器质性疾病及严重躯体疾病的患者,排除对研究中药物过敏的患者,排除胆碱酯酶缺乏症患者,治疗前均与患者或其监护人签署知情同意书,积极配合此次研究。按随机数字表法分组,丙泊酚组 32 例,其中男 17 例,女 15 例,年龄 62~75 岁,平均年龄(68.91± 9.84)岁,病程 1~2 月平均 1.57± 0.22 月;依托咪酯组 32 例,其中男 14 例,女 18 例,年龄 61~75 岁,平均年龄(68.72± 9.81)岁,病程 1~2 月,平均 1.49± 0.21 月,依托咪酯联合丙泊酚组 32 例,其中男 16 例,女 16 例,年龄 61~75 岁,平均年龄(68.31± 9.75)岁,病程 1~2 月平均 1.46± 0.20 月,三组间基本资料比较无统计学差异($P>0.05$)。

1.2 治疗方法

患者于治疗前 8 h 禁食、禁饮,肌注阿托品(四川美大康华康药业有限公司,国药准字 H51021428)0.5 mg (治疗前 30 min),将患者送入治疗室,监测其生命体征,面罩给氧,开放患者静脉通道,静注麻醉剂。丙泊酚组给予丙泊酚(江苏恩华药业股份有限公司,国药准字 H20123138)2 mg/kg 静注,依托咪酯组给予依托咪酯(江苏恒瑞医药股份有限公司,国药准字 H32022379)0.3 mg/kg 静注,依托咪酯联合丙泊酚组联合治疗组分别予以依托咪酯(0.15 mg/kg)和静注丙泊酚(1 mg/kg)静脉

注射,三组患者均表现为睫毛反射消失、呼之不应后,给予患者 1.0 mg/kg 琥珀酰胆碱静注。待患者稳定后给予三组组患者 MECT 治疗,采用多功能电痉挛治疗监测仪(thymatron-IV,美国鹰赛公司),根据能量百分比及患者发病情况、年龄、体重确定治疗电量。保持多功能电痉挛治疗监测仪刺激频率 30 Hz,输出电压为 220 V,电流 0.5 A,每次治疗保持在 1~22 s 之间,治疗期间通过面罩辅助呼吸,等到患者意识完全恢复并且能够自主呼吸后才能离开治疗室。所有患者每周治疗 3 次,共治疗 12 次。

1.3 观测指标

分别于麻醉诱导前、诱导中、电刺激即刻、电刺激后 5 分钟、10 分钟检测患者的心率及血压等指标,记录患者在麻醉诱导中和治疗后的不良反应:恶心、呕吐、肌肉阵挛、注射痛以及大小失禁等。

1.4 统计学分析

所有统计数据均统一整理,采用 SPSS 17.0 软件包进行分析,符合正态性的计量资料采用均数± 标准差表示,组内比较采用配对样本 t 检验,组间比较采用单因素方差分析,不良反应状况采用百分率(%)表示,予以 $R \times C$ 卡方检验, $P<0.05$ 表示差异存在统计学意义。

2 结果

2.1 三组患者不同时点 HR、SBP、DBP 水平比较

与麻醉诱导前相比,三组患者麻醉诱导后 HR、SBP、DBP 均下降($P<0.05$),电刺激即刻 HR、SBP、DBP 均升高($P<0.05$);与电刺激即刻相比,三组患者电刺激后 5 min HR、SBP、DBP 下降($P<0.05$),电刺激后 10 min 基本恢复到麻醉前水平。与丙泊酚组及依托咪酯组相比,依托咪酯联合丙泊酚组麻醉诱导后 HR 较低,电刺激即刻 HR、SBP、DBP 水平较低($P<0.05$)。见表 1。

表 1 三组患者不同时点 HR、SBP、DBP 对比($\bar{x} \pm s$)

Table 1 Comparison of the HR, SBP and DBP levels at different time points between three groups($\bar{x} \pm s$)

Groups	Time point	HR(times/min)	SBP(mmHg)	DBP(mmHg)
Propofol group (n=32)	Before Anesthesia induction	81.34± 11.62	115.72± 16.53	74.72± 10.67
	After Anesthesia induction	71.19± 10.18*	94.31± 13.47*	66.48± 9.49*
	Immediate electrical stimulation	114.37± 16.33*	149.64± 21.37*	96.07± 13.72*
	Electrical stimulation 5 min	97.21± 13.88*	126.61± 18.08*	75.01± 10.71*
	Electrical stimulation 10 min	82.51± 11.78	116.02± 16.57	73.93± 10.56
Etomidate group (n=32)	Before Anesthesia induction	80.13± 11.44	113.77± 16.25	72.94± 10.42
	After Anesthesia induction	72.03± 10.19*	92.99± 13.28*	68.13± 9.87*
	Immediate electrical stimulation	116.22± 16.60*	147.81± 21.11*	98.10± 14.01*
	Electrical stimulation 5 min	95.83± 13.69*	124.22± 17.74*	77.21± 11.03
	Electrical stimulation 10 min	80.83± 11.54	118.10± 16.87	73.21± 10.45
Combinationl group (n=32)	Before Anesthesia induction	82.11± 11.73	117.11± 16.73	75.11± 10.73
	After Anesthesia induction	81.96± 11.70 [#]	106.97± 15.28	67.43± 9.63*
	Immediate electrical stimulation	105.61± 15.08**	138.21± 19.74**	90.79± 12.97**
	Electrical stimulation 5 min	96.30± 13.75*	123.05± 17.57*	76.42± 10.91
	Electrical stimulation 10 min	83.05± 11.86	118.45± 17.92	74.95± 10.70

Note: compared with before treatment, * $P<0.05$; compared with the combination group, [#] $P<0.05$.

2.2 三组不良反应发生情况的比较

泊酚组注射痛的发生率高于另外两组,而依托咪酯组恶心、呕吐,肌肉阵挛和大小失禁的发生率高于另外两组。依托咪

酯联合丙泊酚组的总的不良反应发生率要低于另外两组,与依托咪酯组比较有显著性差异($P<0.05$)。见表2。

表2 三组患者不良反应发生情况的比较[例(%)]

Table 2 Comparison of the incidence of adverse reactions between three groups[n(%)]

Groups	Case	Nausea and vomiting	myoclonus	Injection pain	Incontinence	Rate of adverse reactions
Propofol group	32	0(0,0)	0(0,0)	3(9,3)	0(0,0)	3(9,3)
Etomidate group	32	4(12,5)	3(9,3)	0(0,0)	1(3,1)	8(25)*
Combination group	32	1(3,1)	0(0,0)	0(0,0)	0(0,0)	1(3,1)

Note: Compared with the combination group, $P<0.05$.

3 讨论

MECT是目前临床广泛使用于精神科的一种有效的物理治疗方法,特别是对于药物治疗疗效欠佳、对药物较敏感不耐受的患者以及精神障碍急性期如严重的消极、自伤和木僵的患者有良好疗效。但使用无抽搐电休克治疗特殊人群例如老年患者、儿童青少年以及妊娠期的患者安全性的问题尤为重要,特别是老年精神障碍患者进行无抽搐电休克时瞬间的电流刺激会产生生理应激,机体释放大量内源性儿茶酚胺类物质,引起血压迅速升高及心动过速,严重者可引起脑血管疾病的发生^[12]。老年精神障碍患者血管弹性降低,血压调节困难,且老年人心血管储备功能下降,进行无抽搐电休克治疗时需要维持血流动力学稳定,以免出现意外^[13]。因此,麻醉药品的合理选择显得尤为重要。

依托咪酯和丙泊酚均有起效快、苏醒迅速的特点。依托咪酯主要经肝肾代谢,具有稳定的血流动力学作用,对循环系统几乎无影响,其心血管稳定性较好,引起心率及血压变化范围小,可维持3~5 min的作用时间^[14-16],麻醉后能增加心脏指数降低冠状血管及周围血管阻力,无明显药物毒性且不发生呼吸抑制^[7,8]。丙泊酚主要通过降低兴奋性递质的传递发挥镇静催眠作用,能抑制呼吸系统、循环系统及二氧化碳的通气反应,应用丙泊酚诱导全身麻醉可使潮气量减少血压降低^[9],具有抑制心血管系统的作用,易导致患者出现心动过缓及低血压等病理现象^[17-19]。二者因药理作用的不同导致在临床使用时各有优劣势。本研究结果显示依托咪酯联合丙泊酚组治疗的患者血压、心率变化幅度的明显小于丙泊酚组及依托咪酯组,提示去可更有效稳定维持老年患者的血液循环。在药物不良反应方面,丙泊酚组注射痛的发生率高于丙泊酚组及依托咪酯组,而依托咪酯组恶心、呕吐,肌肉阵挛和大小失禁的发生率要高于另外两组。依托咪酯联合丙泊酚组的总的不良反应发生率要低于另外两组,特别是显著低于依托咪酯组。因此,在无抽搐电休克治疗时使用依托咪酯联合丙泊酚组诱导麻醉治疗老年精神障碍患者安全性更高^[20]。

综上所述,对老年精神障碍患者进行无抽搐电休克治疗时采用依托咪酯联合丙泊酚用药安全性高,值得推广。本研究的不足之处在于研究时间较短、样本数有限,检测指标偏少,以后还需进一步扩大样本量和检测指标进一步研究。

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