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丙泊酚联合舒芬太尼 / 芬太尼对无痛人流患者麻醉效果分析 *

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摘要 目的:研究丙泊酚联合舒芬太尼或芬太尼对无痛人流患者麻醉情况及术后疼痛的影响差异。**方法:**选取我院自愿申请无痛人流孕妇 208 例,通过随机数表法分为实验组(n=104)和对照组(n=104),对照组给予丙泊酚联合芬太尼用药,实验组给予丙泊酚联合舒芬太尼用药。观察并记录患者麻醉前(T0)、麻醉后手术前(T1)、扩宫时(T2)、术后(T3)的 MAP、SpO₂、RR、HR;记录患者丙泊酚用量、苏醒时间、患者醒后宫缩 VAS 疼痛评分;记录两组患者不良反应的发生率。**结果:**与 T0 时比较,两组在 T1 和 T2 时的 MAP、SpO₂、RR、HR 均有所降低,且差异有统计学意义(P<0.05),两组间比较无明显差异(p>0.05);实验组丙泊酚用量低于对照组(P<0.05);实验组的平均苏醒时间、醒后宫缩 VAS 疼痛评分及丙泊酚注射痛均低于对照组,差异有统计学意义(P<0.05)。实验组的恶心呕吐、呼吸抑制等不良反应发生率均较对照组有所降低,但差异无统计学意义(P>0.05)。**结论:**丙泊酚联合舒芬太尼较丙泊酚联合芬太尼镇痛作用更佳,术后恢复更快,值得在无痛人流手术推广使用。

关键词:舒芬太尼;芬太尼;丙泊酚;无痛人流

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Comparison of the Effect of Anesthesia and Postoperative Pain Relief between Propofol Combined with Sufentanil and Propofol Combined with Fentanyl in Painless Abortion*

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ABSTRACT Objective: To research the difference of the effects of anesthesia and postoperative pain relief between propofol combined with sufentanil and propofol combined with fentanyl in painless abortion. **Methods:** 208 cases with voluntarily painless abortion were selected in our hospital. They were randomly divided into experimental group (n=104) and control group (n=104). The control group was given propofol combined with fentanyl and the experimental group was given propofol combined with sufentanil intravenously. Recording MAP, SpO₂, RR and HR at the time of premedication(T0), preoperation(T1), expanding cervix uterus(T2) and postoperation(T3). Recording the dosage of propofol, recovery time and VAS score of uterine pain after the operation. Adverse reactions were also recorded in both groups of patients. **Results:** Compared with those at T0, the MAP, SpO₂, RR, HR were all statistically decreased at the time of T1 and T2 in both groups (P<0.05), but the difference were not significant between both groups (P>0.05). The dosage of propofol in the experimental group was lower than in the control group (P<0.05). The average recovery time was shorter and the VAS score of uterine pain and propofol injection pain were lower in the experimental group than in the control group (P<0.05). The incidence of nausea and vomiting and respiratory depression were lower in the experimental group than in the control group, but the difference was not statistically significant (P>0.05). **Conclusion:** Propofol combined with sufentanil was more effective than propofol combined with fentanyl, with better postoperative recovery. It is worth promoting application in painless abortion operation.

Key words: Sufentanil; Fentanyl; Propofol; Painless abortion operation

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前言

人工流产是妇产科常见手术之一,手术易引起剧烈腹痛、恶心、心率失常及低血压临床症状,对孕妇生命安全具有一定危险性。随着近年人工流产的需求量增大,对无痛人流的医疗技术要求也不断提高,手术具有创伤小、无痛、手术短、恢复快

及副作用小等要求,而在手术中麻醉的方法及有效程度是成功的关键因素^[1]。丙泊酚作为首选麻醉药,具有麻醉快、作用稳定、停药后意识恢复迅速等特点,在临床较为常用,但丙泊酚镇痛作用偏差,大剂量应用对呼吸中枢有一定抑制作用^[2]。临床为了弥补丙泊酚的缺点常联合其他麻醉药使用,减少人流后的综合反映^[3]。本实验研究丙泊酚分别联合芬太尼和舒芬太尼对无痛

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人流的麻醉效果,为临床提供一定参考依据。

1 资料与方法

1.1 一般资料

选取我院 2015 年至 2016 年自愿申请无痛人流孕妇 208 例,纳入标准^[1]:1)美国麻醉医师协会(ASA) I ~ II 级;2)妊娠时间低于 10 周;3)孕妇血常规、肝功能八项、肾功能四项正常;4)无凝血障碍;5)心电图和心功能正常。排除标准:1)对麻醉药物过敏;2)存在系统性免疫疾病。将 208 例孕妇通过随机数表法分为实验组(n=104)和对照组(n=104),对照组平均年龄为(26.20± 5.30)岁,体重为 48~70kg,平均体重为(54.30± 4.80)Kg,平均怀孕时间为(7.30± 1.20)周;实验组平均年龄为(25.80± 5.20)岁,体重为 47~71Kg,平均体重(55.10± 4.40)kg,平均怀孕时间为(6.70± 1.30)周。两组一般资料差异无统计学意义。

1.2 方法

患者术前 8 小时均采取禁食、禁饮,并无用药。截石位,监测患者平均动脉压(MAP),呼吸频率(RR)、心率(HR)及血氧饱和度(SpO₂),面罩吸氧 3~5 L/min。对照组给予缓慢注射芬太尼 0.5 μg/kg,5 分钟后注射丙泊酚 1.5~2.0 mg/kg。实验组给予

缓慢注射舒芬太尼 0.1 μg/kg,5 min 后注射丙泊酚 1.5~2.0 mg/kg。患者出现意识模糊,无明显呼叫应答后开始进行手术,若有明显肢体摆动或呻吟则补注丙泊酚 0.5 mg/kg。手术过程需维持 SpO₂≥ 90%,RR≥ 10 次/min。

1.3 观察指标^[4]

观察并记录患者麻醉前(T0)、麻醉后手术前(T1)、扩宫时(T2)、术后(T3)的 MAP、SpO₂、RR、HR;记录患者丙泊酚用量、苏醒时间、患者醒后宫缩 VAS 疼痛评分;记录两组患者恶心呕吐、呼吸抑制及丙泊酚注射痛等不良反应发生率。

1.4 统计学方法

计数资料行 χ^2 检验或确切概率法,计量资料用($\bar{x} \pm s$)表示,组间比较采用两样本 t 检验,如结果提示 P<0.05,差异存在统计学意义。

2 结果

2.1 两组患者麻醉前生命体征比较

两组在 T1 和 T2 时的 MAP、SpO₂、RR、HR 均有所降低,且差异有统计学意义(P<0.05),两组间比较无明显差异(P>0.05)(表 1)。

表 1 两组间生命体征的比较结果

Table 1 Comparison of the vital signs between the two groups

Indexes	Groups	Pre-anesthesia(T0)	Preoperation(T1)	Expanding cervix uterus(T2)	Postoperation(T3)
MAP(mmHg)	Experience group	85.38± 8.16	73.11± 8.18 ^a	76.42± 7.10	84.43± 8.23
	Control group	84.52± 9.02	73.51± 8.26 ^a	77.11± 7.12 ^a	85.13± 9.03
HR(times/min)	Experience group	87.32± 8.57	70.43± 5.69 ^a	75.34± 5.50 ^a	86.52± 8.35
	Control group	87.44± 7.89	70.37± 5.77 ^a	76.31± 5.47 ^a	86.17± 8.13
RR(times/min)	Experience group	17.18± 2.14	12.48± 1.48	14.40± 1.40 ^a	16.79± 2.14
	Control group	17.65± 2.33	12.86± 1.59 ^a	14.6± 1.47 ^a	14.96± 1.84
SpO ₂ (%)	Experience group	99.47± 0.79	94.56± 0.52 ^a	96.55± 0.42 ^a	98.02± 0.49
	Control group	99.54± 0.62	95.32± 0.68 ^a	95.90± 0.44 ^a	98.02± 0.85

Remarks: Compared with before anesthesia, a: P<0.05.

2.2 对比两组丙泊酚用量、苏醒时间及醒后宫缩疼痛评分

实验组的丙泊酚平均用量为(150.70± 15.60)mg,低于对照组的(172.30± 16.90)mg,差异有统计学意义(p<0.05);实验组的平均苏醒时间为(3.20± 1.10)min,低于对照组的(4.90±

1.40)min,差异有统计学意义(P<0.05);实验组的醒后宫缩疼痛评分为(1.36± 2.35),低于对照组的(3.18± 3.42),差异有统计学意义(P<0.05)(表 2)。

表 2 对比两组丙泊酚用量、苏醒时间及醒后宫缩疼痛评分

Table 2 Comparison of propofol dosage, recovery time and VAS score of uterine pain between the two groups

Groups	Case	Dosage of propofol(mg)	Awaking time(min)	VAS score of uterine pain
Experience group	104	150.70± 15.60	3.20± 1.10	1.36± 2.35
Control group	104	172.30± 16.90	4.90± 1.40	3.18± 3.42
t		9.577	9.737	4.464
P		<0.05	<0.05	<0.05

2.3 对比两组不良反应发生率的比较结果

实验组的丙泊酚输注痛比例为 15.57%, 低于对照组的 32.69%, 差异有统计学意义(P<0.05);实验组的恶心呕吐比例

为 3.85%, 低于对照组的 5.77%, 差异无统计学意义(P>0.05);实验组的呼吸抑制比例为 5.77%, 低于对照组的 7.69%, 差异无统计学意义(P>0.05)。

3 结果

人工流产在现代妇产科为常见手术,但扩张宫颈及刮宫等操作会引起剧烈疼痛,对孕妇的身体及心理都有极大的负担,所以无痛人流逐渐获得了流产手术的主流^[5]。无痛人流有着操作简单快速,起效快,术后恢复快,理想的无痛人流无不良反应及后遗症,术后1小时可自行出院。

无痛人流的关键在麻醉技术及药物使用,丙泊酚是新型麻醉注射液,能快速溶于脂类,其代谢快速且平稳,停药后意识恢复快,并且代谢产物无活性,在门诊及手术运用广泛^[6]。但由于丙泊酚的麻醉强度偏弱,镇痛力低下,术中易引起孕妇肢动不安及子宫后宫收缩,不利于手术的操作^[7,8],但加大药量又容易引起对呼吸中枢的抑制及血压下降等不良反应,所以丙泊酚联合阿片类镇痛药是临床一个高效的选择。在国内,无痛人流手术常采取丙泊酚联合芬太尼或舒芬太尼。由本研究发现麻醉后及扩张宫颈时两组患者的MAP、SpO₂、RR、HR四项生命体征均低于术前,且两组间比较无统计学意义,表明丙泊酚联合舒芬太尼较丙泊酚联合芬太尼都能有效控制患者生命体征,降低手术对患者机体的刺激,均可满足手术要求^[9-11]。

舒芬太尼是一种脂溶性很强、镇痛作用强及维持时间长的麻醉药物,其实验麻醉效价为芬太尼的10倍,药效是芬太尼7倍,亲和力是芬太尼的7.7倍,脂溶性是芬太尼的2倍。舒芬太尼对血脑屏障的穿透力较芬太尼更强,所以镇痛作用比芬太尼好,同时对呼吸循环及血流循环抑制作用低^[11-13]。研究报道丙泊酚能抑制舒芬太尼在血液的代谢,维持舒芬太尼在血液的浓度,同时舒芬太尼也能有效抑制丙泊酚在血液的代谢,维持丙泊酚在血液的浓度。两者联合使用达到协助作用,效果非常理想^[14,15]。实验组的丙泊酚平均用量及丙泊酚输注痛的发生率均低于对照组,差异有统计学意义($P<0.05$),表明丙泊酚联合舒芬太尼联合使用镇痛效果更佳,能减少丙泊酚的使用,使得患者术后恢复速度更快。舒芬太尼在注射几分钟后即开始发挥药效,其血液半衰期为35 min~73 min,而人流手术时间一般不长于10 min,所以不仅手术中防止缩宫,还能在术后半小时发挥镇痛效果^[16]。本实验亦发现实验组患者的平均苏醒时间及醒后宫缩疼痛评分均低于对照组,研究证实丙泊酚联合舒芬太尼作用范围更广更持久,且安全性更高^[17-19]。实验组的呼吸抑制及恶心呕吐等不良反应的发生率略低于对照组,但差异无统计学意义,表明舒芬太尼联合丙泊酚可能较芬太尼联合丙泊酚降低不良反应发生率,但由于样本量的局限性,需要多机构重复临床实验证实。

综上所述,丙泊酚联合舒芬太尼能有效镇痛,其起效快,且不良反应少,不影响患者生命体征,无明显呼吸抑制,术后能有效抑制宫缩痛,在无痛人流手术中值得推广。

参考文献(References)

- [1] Huang RC, Hung NK, Lu CH, et al. Removal of Laryngeal Mask Airway in Adults Under Target-Controlled, Propofol-Fentanyl Infusion Anesthesia: Awake or Deep Anesthesia? [J]. *Medicine (Baltimore)*, 2016, 95(17): e3441
- [2] Das NJF, das NAMM, de Paiva Araújo F, et al. Colonoscopy sedation: clinical trial comparing propofol and fentanyl with or without midazolam[J]. *Braz J Anesthesiol*, 2016, 66(3): 231-236
- [3] Kizilcik N, Menda F, Bilgen S, et al. Effects of a fentanyl-propofol mixture on propofol injection pain: a randomized clinical trial[J]. *Korean J Anesthesiol*, 2015, 68(6): 556-560
- [4] Fan Xue-mei, Wang Ping, Pan Chu-xiong et al. Effects of target controlled infusion of remifentanyl on EC50 and anesthesia effect of propofol in painless induced abortion [J]. *The Journal of Clinical Anesthesiology*, 2013, 29(11): 1085-1087
- [5] Lu Yan-qiu, Liang Zhi-qiang. Combined application of misoprostol, propofol, fentanyl and atropine in painless induced abortion [J]. *Chinese Journal of Postgraduates of Medicine*, 2013, 36(z1): 88-89
- [6] Zhang De-chun, Zhao Zhi-gang. The clinical effect of sufentanil combined with propofol for painless abortion and uterine contraction pain effect [J]. *Practical Pharmacy and Clinical Remedies*, 2014, 17(1): 24-27
- [7] Şahin, Gülleroğlu, Toker MK, et al. Comparison of paracetamol and fentanyl for pain relief during and after suction termination [J]. *Saudi Med J*, 2016, 37(5): 527-532
- [8] Pu Jiang-bei, Zhu Shu-ping, Ding Jiu-wei, et al. Effect of intravenous patient-controlled analgesia with sufentanil for analgesia and gastrointestinal function of patients after abdominal surgery [J]. *Progress in Modern Biomedicine*. 2013, 13(22): 4338-4340
- [9] Effects of hypothermia on the disposition of morphine, midazolam, fentanyl, and propofol in intensive care unit patients [J]. *Drug Metabolism and Disposition: The Biological Fate of Chemicals*, 2013, 41(1): 214-223
- [10] Tas A, Mstanoglu V, Darcen S, et al. Tramadol versus fentanyl during propofol-based deep sedation for uterine dilatation and curettage: A prospective study [J]. *The journal of obstetrics and gynaecology research*, 2014, 40(3): 749-753
- [11] Chandar Rumes, Jagadisan Barath, Vasudevan Arumugam, et al. Propofol-Ketamine and Propofol-Fentanyl Combinations for Nonanesthetist-Administered Sedation[J]. *Journal of pediatric gastroenterology and nutrition*, 2015, 60(6): 762-768
- [12] Zhang Ya-ling, Lin Feng. Propofol combined with sufentanil, remifentanyl, fentanyl application effect observation of contrast in painless artificial abortion[J]. *Practical Pharmacy and Clinical Remedies*, 2013, 16(10): 915-917
- [13] Tedders KM, McNorton KN, Edwin SB, et al. Efficacy and safety of analgo-sedation with fentanyl compared with traditional sedation with propofol [J]. *Pharmacotherapy: The Journal of Human Pharmacology and Drug Therapy*, 2014, 34(6): 643-647
- [14] Cherebillo VY, Elizarov AY, Polegaev AV. Membrane-Introduction Mass Spectrometry Analysis of Desflurane, Propofol and Fentanyl in Plasma and Cerebrospinal Fluid for Estimation BBB Properties [J]. *ExpNeurobiol*, 2015, 24(3): 206-210
- [15] Ince IE, Iyilikci L, Yilmaz S, et al. Sedation for short hemato-oncologic invasive procedures in children: Comparison of propofol-remifentanyl and propofol-fentanyl [J]. *Journal of pediatric hematology/oncology: Official journal of the American Society of Pediatric Hematology/Oncology*, 2013, 35(2): 112-117
- [16] Luo Xiong-ying, Chen Tao, Li Zhi-xiang, et al. Propofol combined with fentanyl and sufentanil for painless artificial abortion[J]. *Sichuan Medical Journal*, 2013, 34(4): 509-510

现波动,实验数据表明实验组患者治疗后心功能及肾功能较前好转,缓解其他器官出现继发性病变的进程。

综上所述,稳心颗粒联合瑞舒伐他汀治疗老年冠心病患者能有效缓解临床症状,调整患者的血脂水平,虽然使用瑞舒伐他汀后,会使转氨酶升高,但并无其他严重的不良反应,安全性较高,适合在临床上推广应用。

参考文献(References)

- [1] Pu Meili. Endothelial nitric oxide synthase gene polymorphism and coronary heart disease [J]. Chinese Journal of cardiovascular disease research, 2014, 12 (3): 261-265
- [2] Sun Jian-xun, Zhou Qiu-xia, Yue Shu-mei. Investigation on the prevalence of chronic diseases in the elderly population and pharmaceutical care requirements in China[J]. Journal of Chinese medicine, 2016, 51 (2): 155-158
- [3] Geng Hui, Liu Mei-lin. Advances in treatment of dyslipidemia in the elderly[J]. Chinese Journal of cardiovascular and cerebrovascular diseases, 2014, 16 (7): 768-769
- [4] Zhu Li-xin, Hua Hua. Evaluation of the efficacy and safety of large dose of atorvastatin in patients with acute coronary syndrome [J]. Journal of applied clinical medicine, 2014, 18(17): 105-106
- [5] Zhang Liang, Li Jing-bin, Li Jia-zhuo. Guizhi Gancan Longgu Muli Decoction Decoction in the treatment of coronary heart disease and ventricular premature beat in 30 cases of clinical observation [J]. Information of traditional Chinese medicine 2015, 32 (1): 101-103
- [6] Bao Jin-gui, Xiong Xiong, Chen Yi. The application value of 4 laboratory indexes in the early diagnosis of coronary heart disease [J]. Laboratory medicine and clinic, 2016, 13(2): 252-254
- [7] Xu Qun-wei. Efficacy of traditional Chinese medicine and Western medicine in treating acute myocardial infarction after acute myocardial infarction [J]. Chinese chronic disease prevention and control, 2014, 22 (4): 484-485
- [8] Li Ting-ting, Jiang Yi, Tang Yu-ping, et al. Analysis of the efficacy of the treatment of hypertensive heart disease with stable heart granules [J]. Progress in modern biomedicine, 2014, 14 (33): 6479-6482
- [9] Guo Jin-jian, Zeng Kai, Wei Xie-sheng, et al. Steady heart pellet on ischemic myocardium in cardiac arrhythmia and P wave dispersion dispersion[J]. China Medical Herald, 2014, 11 (31): 64-68
- [10] Zhang Yan. ECG analysis of 133 cases of elderly patients with chest pain[J]. Jiangsu medicine, 2014, 40 (24): 3064-3065
- [11] Wang X H, Dou L Z, Gu C, et al. Plasma levels of omentin-1 and visfatin in senile patients with coronary heart disease and heart failure[J]. Asian Pacific journal of tropical medicine, 2014, 7(1): 55-62
- [12] Mohammed S F, Mirzoyev S A, Edwards W D, et al. Left ventricular amyloid deposition in patients with heart failure and preserved ejection fraction[J]. JACC: Heart Failure, 2014, 2(2): 113-122
- [13] Rusanen M, Kivipelto M, Levalahti E, et al. Heart diseases and long-term risk of dementia and Alzheimer's disease: a population-based CAIDE study [J]. Journal of Alzheimer's Disease, 2014, 42(1): 183-191
- [14] Zhou W, Wang Y. A network-based analysis of the types of coronary artery disease from traditional Chinese medicine perspective: potential for therapeutics and drug discovery [J]. Journal of ethnopharmacology, 2014, 151(1): 66-77
- [15] Picano E, Bruno R M, Ferrari G F, et al. Cognitive impairment and cardiovascular disease: so near, so far[J]. International journal of cardiology, 2014, 175(1): 21-29
- [16] Cardim N, Galderisi M, Edvardsen T, et al. Role of multimodality cardiac imaging in the management of patients with hypertrophic cardiomyopathy: an expert consensus of the European Association of Cardiovascular Imaging Endorsed by the Saudi Heart Association[J]. Eur Heart J Cardiovasc Imaging, 2015, 16(3): 280
- [17] Cheng C L, Lee C H, Chen P S, et al. Validation of acute myocardial infarction cases in the national health insurance research database in taiwan[J]. Journal of Epidemiology, 2014, 24(6): 500-507
- [18] Shenhar-Tsarfaty S, Berliner S, Bornstein N M, et al. Cholinesterases as biomarkers for parasympathetic dysfunction and inflammation-related disease [J]. Journal of Molecular Neuroscience, 2014, 53 (3): 298-305
- [19] Falk R H, Quarta C C, Dorbala S. How to image cardiac amyloidosis [J]. Circulation: Cardiovascular Imaging, 2014, 7(3): 552-562
- [20] Liu Z, Ho S C, Chen Y, et al. Whole soy, but not purified daidzein, had a favorable effect on improvement of cardiovascular risks: A 6-month randomized, double-blind, and placebo-controlled trial in equol-producing postmenopausal women [J]. Molecular nutrition & food research, 2014, 58(4): 709-717
- (上接第 1687 页)
- [17] Khalighinejad P, Rahimi M, Naghibi K, et al. Changes in blood glucose level during and after light sedations using propofol-fentanyl and midazolam-fentanyl in diabetic patients who underwent cataract surgery[J]. Adv Biomed Res, 2015, 4(3): 222
- [18] Comparison of propofol and fentanyl for preventing emergence agitation in children [J]. British journal of anaesthesia, 2013, 111 (1): 121-122
- [19] Wonki Kim, In Ho Song, Yong Hoon Lim, et al. Influence of propofol and fentanyl on deep brain stimulation of the subthalamic nucleus [J]. Journal of Korean medical science, 2014, 29(9): 1278-1286