

帕瑞昔布钠超前镇痛对丙泊酚复合芬太尼行人工流产病人麻醉效果的影响

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[摘要] **目的** 探讨帕瑞昔布钠超前镇痛对丙泊酚复合芬太尼行无痛人流病人麻醉效果的影响。**方法** 自愿接受无痛人流手术产术的妇女 160 例,均为初次妊娠,随机双盲法分为两组,每组各 80 例,试验组病人采用帕瑞昔布钠 40 mg 静脉注射,15 min 后静脉注射芬太尼 1 $\mu\text{g}/\text{kg}$,之后静脉注射丙泊酚 1.5 $\text{mg}/(\text{kg} \cdot \text{min})$,意识消失后手术;对照组以等量的生理盐水代替帕瑞昔布钠,其余同试验组。对术中麻醉效果差的病人,每次静脉注射丙泊酚 0.5 mg/kg 。观察两组病人入手术室后术前平均动脉压(MAP)、心率(HR)以及血氧饱和度(SpO_2)基础值,术中 MAP、HR 及 SpO_2 最低值;记录两组病人术中呼吸抑制发生率;术后 30 min 恶心呕吐、头晕嗜睡、梦境幻觉等副作用的发生率及腹痛发生率、视觉模拟评分法(VAS)评分;记录两组麻醉优良率、丙泊酚用量、手术时间、清醒时间及 VAS 评分。**结果** 与对照组比较,试验组术中麻醉优良率及 SpO_2 最低值显著升高,丙泊酚用量、呼吸抑制发生率、术后腹痛发生率及 VAS 评分显著降低($t=2.899\sim 3.982, \chi^2=5.378\sim 42.133, P<0.05$);两组术中 MAP 和 HR 最低值、手术时间、清醒时间及术后恶心呕吐、头晕嗜睡、梦境幻觉副作用发生情况差异无统计学意义($P>0.05$)。**结论** 帕瑞昔布钠超前镇痛辅助丙泊酚与芬太尼麻醉进行无痛人流产术可减少丙泊酚用量及呼吸抑制发生率,改善麻醉效果,而不增加其副作用。

[关键词] 帕瑞昔布钠;二异丙酚;芬太尼;镇痛;流产,人工;麻醉药,联用;麻醉效果

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EFFECT OF PARECOXIB SODIUM PREEMPTIVE ANALGESIA ON THE ANESTHETIC EFFECT OF PROPOFOL COMBINED WITH FENTANYL IN PATIENTS UNDERGOING INDUCED ABORTION DONG Hua, YANG Xiaohong, LI Mingjuan, LI Xiaozheng, WANG Juntao, CHU Haichen (Department of Anesthesiology, The Affiliated Hospital of Qingdao University, Qingdao 266003, China)

[ABSTRACT] **Objective** To investigate the effect of parecoxib sodium preemptive analgesia on the anesthetic effect of propofol combined with fentanyl in patients undergoing painless induced abortion. **Methods** A double-blind randomized trial was performed for 160 women with pregnancy for the first time who were willing to accept painless induced abortion. These women were randomly divided into experimental group and control group, with 80 patients in each group. The women in the experimental group were given intravenous injection of parecoxib sodium 40 mg, followed by fentanyl 1 $\mu\text{g}/\text{kg}$ 15 min later and then propofol 1.5 $\text{mg}/(\text{kg} \cdot \text{min})$, and those in the control group were given an equal volume of normal saline instead of parecoxib sodium, followed by the same treatment in the experimental group. Intravenous injection of propofol 0.5 mg/kg was given for the patients with poor anesthetic effect. The two groups were observed in terms of mean arterial pressure (MAP), heart rate (HR), and pulse oxygen saturation (SpO_2) before surgery in the operating room and the lowest values of MAP, HR, and SpO_2 during surgery; the incidence rate of intraoperative respiratory depression was recorded; the incidence rates of side effects (including nausea and vomiting, dizziness and somnolence, and hallucination) and abdominal pain were recorded at 30 min after surgery, as well as Visual Analogue Scale (VAS) score; excellent and good rate of anesthesia, amount of propofol used, time of operation, time to awakening, and VAS score were also recorded for both groups. **Results** Compared with the control group, the experimental group had significantly higher excellent and good rate of anesthesia and lowest SpO_2 value and significantly lower amount of propofol used, incidence rates of respiratory depression and postoperative abdominal pain, and VAS score ($t=2.899\sim 3.982, \chi^2=5.378\sim 42.133, P<0.05$). There were no significant differences between the two groups in the lowest values of MAP and HR during surgery, time of operation, time to awakening, and postoperative side effects including nausea and vomiting, dizziness and somnolence, and hallucination ($P>0.05$). **Conclusion** Parecoxib sodium preemptive analgesia can reduce the amount of propofol used and incidence rate of respiratory depression and improve anesthetic effect in assisting propofol combined with fentanyl for painless induced abortion, and meanwhile, it does not increase related side effects.

[KEY WORDS] Parecoxib sodium; Propofol; Fentanyl; Analgesia; Abortion, induced; Anesthetics, combined; Anesthetic effect

制^[2];药量不足,则病人术中易出现体动,致使手术无法正常进行;术后也会有相当比例的病人发生术后宫缩痛。研究显示帕瑞昔布钠具有超前镇痛、减少阿片类药物应用及无呼吸抑制作用等优点^[3-5]。有报道采用帕瑞昔布钠复合丙泊酚麻醉行人工流产术镇痛效果良好^[6]。但对于帕瑞昔布钠与丙泊酚、芬太尼三药复合应用少见报道。本研究采用双盲方法,超前使用帕瑞昔布钠并与丙泊酚、芬太尼三药复合静脉麻醉用于人工流产术,观察其麻醉效果及副作用发生情况,旨在为帕瑞昔布钠的临床应用提供有益的指导。

1 资料与方法

1.1 一般资料

选择日照市妇幼保健院 2017 年 6—12 月自愿接受无痛人流术的初次妊娠妇女 160 例,年龄 18~28 岁,体质量 45~65 kg,孕 6~10 周。纳入标准:超声诊断为宫内妊娠;美国麻醉医师协会(ASA)分级Ⅰ级。排除标准:具有吸毒史、心肺肝肾重要脏器疾病史、癫痫及精神病病史或长期服用安定类药物者。按随机双盲法分为试验组与对照组两组,每组各 80 例。两组一般资料(年龄、孕周、身高、体质量)差异无统计学意义($P>0.05$),具有可比性。

1.2 麻醉方法

所有病人均术晨禁饮食,不使用术前药,在入手术室前建立上肢静脉通路。进手术室后监测平均动脉压(MAP)、心率(HR)、血氧饱和度(SpO_2)基础值,面罩吸氧 4 L/min,试验组静脉注射帕瑞昔布钠(美国 Pfizer 公司,批号:20130044)40 mg(2 mL 生理盐水稀释);对照组静脉注射等容量的生理盐水代替帕瑞昔布钠。15 min 后由同一位麻醉医生静脉注射芬太尼(宜昌人福药业有限责任公司,批号:1150808)1 μ g/(kg·min)后静脉注射丙泊酚中/长链脂肪乳注射液(德国 Fresenius Kabi 公司,批号:10BK6877)1.5 mg/(kg·min),待病人睫毛反射及指令性反应消失后,立即开始消毒手术。术中病人头部偏向一侧以维持气道通畅。在面罩吸氧(4 L/min)时病人 $SpO_2<90\%$ 为呼吸抑制,行人工辅助通气。当病人出现麻醉效果差时,每次静脉注射丙

泊酚 0.5 mg/kg,直至效果满意。手术过程中若 HR 低于 50 min^{-1} ,则停止手术,并静脉注射阿托品 0.5 mg;术中病人收缩压下降超过基础值的 30%,则静脉注射麻黄碱 10 mg。手术结束病人完全清醒后,需在手术室外的病床上静卧至少 1 h 后方能离开医院。

1.3 观察指标

记录两组病人入手术室后术前 MAP、HR 以及 SpO_2 基础值,术中 MAP、HR 及 SpO_2 的最低值,术中呼吸抑制发生率;记录病人术后 30 min 恶心呕吐、头晕嗜睡、梦境幻觉等副作用的发生率、腹痛发生率及视觉模拟评分法(VAS)评分;记录病人麻醉优良率、丙泊酚用量、手术时间、清醒时间。

2 结 果

与对照组比较,试验组术中 SpO_2 最低值明显升高($t=3.108, P<0.01$);两组术前 MAP、HR 及 SpO_2 基础值及术中 MAP、HR 最低值比较差异无统计学意义($P>0.05$)。见表 1。

与对照组相比较,试验组术中呼吸抑制发生率降低,术后 30 min 腹痛发生率降低,VAS 评分明显降低,丙泊酚用量明显减少,麻醉优良率显著增高,差异具有显著统计学意义($t=2.899\sim3.982, \chi^2=5.378\sim42.133, P<0.05$);两组患者术后 30 min 恶心呕吐、头晕嗜睡及梦境幻觉的发生率及手术时间、术后清醒时间比较差异无显著统计学意义($P>0.05$)。见表 2。

3 讨 论

超前镇痛是指在伤害性刺激作用在机体之前即采取措施,抑制外周和中枢神经的痛觉敏化,从而达到减轻或消除伤害性刺激引起的疼痛,以达到延长

表 1 两组病人 MAP、HR 及 SpO_2 比较($n=80, \bar{x} \pm s$)

组别	MAP(p/kPa)	HR(f/min^{-1})	$SpO_2(\%)$
对照组			
术前基础值	11.6 \pm 1.7	82 \pm 12	98.6 \pm 0.9
术中最低值	8.9 \pm 1.7	61 \pm 7	90.6 \pm 0.7
试验组			
术前基础值	11.6 \pm 1.6	82 \pm 11	98.8 \pm 1.0
术中最低值	9.0 \pm 1.9	63 \pm 7	92.4 \pm 0.5

表 2 两组病人其他相关指标比较($n=80, \bar{x} \pm s$)

组别	呼吸抑制率 ($\%$)	腹痛 (例($\%$))	VAS 评分	麻醉优良率 ($\%$)	丙泊酚用量 (m/mg)	手术时间 (t/min)	清醒时间 (t/min)	恶心呕吐 (例($\%$))	头晕嗜睡 (例($\%$))	梦境幻觉 (例($\%$))
对照组	28.8	51(63.8)	46 \pm 15	68.8	156 \pm 18	6.0 \pm 1.2	7.7 \pm 1.4	9(11.3)	19(23.8)	3(3.8)
试验组	13.8	11(13.8)	17 \pm 10	97.5	118 \pm 12	5.8 \pm 1.1	7.5 \pm 1.3	8(10.0)	18(22.5)	2(2.5)

镇痛时间及减少止痛药用量的目的^[7]。帕瑞昔布钠为高选择性的环氧化酶-2(Cox-2)抑制剂,临床应用副作用较少,研究发现其具有超前镇痛效应^[8],静脉注射后经肝脏酶迅速转化为有药理学活性的伐地昔布,特异性地抑制 Cox-2,减少花生四烯酸合成前列腺素,从而发挥镇痛抗炎及抑制外周及中枢神经系统痛觉敏化作用^[9-11]。

人工流产术是妇科门诊常见的短小手术,由于术中牵拉、扩张子宫颈、负压吸引、刮匙刮除子宫壁,可刺激分布在这些区域的神经末梢而产生疼痛,术后常由于子宫强烈的兴奋收缩而发生下腹部疼痛,而初次宫内妊娠接受人工流产的病人由于子宫颈较韧、病人又高度紧张等原因,疼痛表现更为强烈,术中体动及术后宫缩痛发生率较高^[12]。丙泊酚作为无痛人流术最常用的静脉麻醉药,具有起效快、时效短、可控性强、苏醒快、无药物蓄积,且能抑制迷走神经反射等优点,但其镇痛作用较弱,容易引起与剂量有关的呼吸抑制^[13]。芬太尼亦具有致心动过缓、呼吸抑制等副作用^[14],当两者合用时,可增强丙泊酚对心血管功能的抑制作用,并经常会使病人出现不同程度的血压下降、HR 减慢及延长呼吸暂停时间的现象^[15]。

本研究结果表明,手术前静脉注射帕瑞昔布钠 40 mg 可明显减少无痛人流术中丙泊酚用量,降低呼吸抑制发生率、术后腹痛发生率、术后 VAS 评分,增加麻醉优良率,均与帕瑞昔布钠的超前镇痛有关。另外本研究表明,超前使用帕瑞昔布钠,试验组术中 SpO₂最低值较对照组明显提高,可能与帕瑞昔布钠的应用导致显著降低丙泊酚用量及帕瑞昔布钠本身并无呼吸抑制作用有关,这一点与傅艳妮等^[16]的研究结果不同。

本研究试验组较对照组恶心呕吐、头晕嗜睡、梦境幻觉等副作用未见明显增加,清醒时间未见明显延长,显示超前使用帕瑞昔布钠不明显增加副作用。

总之,本研究表明帕瑞昔布钠超前镇痛辅助丙泊酚并芬太尼用于人工流产麻醉优于丙泊酚与芬太尼二药联合应用。

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