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罗哌卡因复合舒芬太尼在潜伏期分娩镇痛中的应用效果

阮霞¹ 李爱媛² 陈锋² 吴正东² 熊玲玲²

(1 中南大学湘雅医院麻醉科 湖南 长沙 410008; 2 湖南省妇幼保健院麻醉科 湖南 长沙 410008)

摘要 目的:探讨罗哌卡因复合舒芬太尼在潜伏期分娩镇痛中的应用效果。**方法:**择取 2015 年 1 月~2016 年 1 月我院收治的产妇 102 例,随机分为 A、B、C 组,各组 34 例,A 组产妇宫口开至 1 cm 时采取罗哌卡因复合舒芬太尼硬膜外自控分娩镇痛,B 组产妇宫口开至 3 cm 时采取罗哌卡因复合舒芬太尼硬膜外自控分娩镇痛,C 组产妇未采取分娩镇痛,比较两组第一产程潜伏期、活跃期及第二产程持续时间及宫缩时视觉模拟评分(VAS)评分,比较各组产妇产后出血量、新生儿体质量及胎儿娩出后 1 min、5 min Apgar 评分,记录各组治疗 30 d 后不良反应。**结果:**A 组、B 组第一产程潜伏期持续时间明显较 C 组延长,活跃期持续时间较 C 组明显缩短,差异有统计学意义($P<0.05$);A 组产妇宫口开至 2 cm 和 3 cm 时 VAS 评分低于 B 组和 C 组,差异有统计学意义($P<0.05$);A 组、B 组产妇在活跃期、第二产程时 VAS 评分低于 C 组,差异有统计学意义($P<0.05$);各组产妇产后出血量、新生儿体质量、Apgar 评分比较均无统计学意义($P>0.05$);C 组抑郁症发生率均高于较 A 组和 B 组,差异有统计学意义($P<0.05$)。**结论:**从产妇潜伏期开始应用罗哌卡因复合舒芬太尼进行分娩镇痛的效果较好,具有良好的应用价值。

关键词:潜伏期;分娩镇痛;罗哌卡因;舒芬太尼

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Application Effect of Ropivacaine Combined with Sufentanil in Incubation Period Labor Analgesia

RUAN Xia¹, LI Ai-yuan², CHEN Feng², WU Zheng-dong², XIONG Ling-ling²

(1 Department of Anesthesiology, Xiangya Hospital of Central South University, Changsha, Hunan, 410008, China;

2 Department of Anesthesiology, Maternal and Child Health Care Hospital of Hunan Province, Changsha, Hunan, 410008, China)

ABSTRACT Objective: To investigate the application effect of ropivacaine combined with sufentanil in incubation period labor analgesia. **Methods:** Selected 102 puerperas treated in our hospital from January 2015 to January 2016, which were randomly divided into group A, B and C, with 34 cases in each group, the group A was treated with patient controlled epidural analgesia with ropivacaine combined with sufentanil when maternal uterine mouth open to 1 cm, the group B was treated the same analgesia as group A when maternal uterine mouth open to 3 cm, while the group C was not taken any delivery analgesia, then the duration of production and the visual analogue scale(VAS) score at incubation period, active period, the second stage of labor were compared in three groups, as well as compared the maternal bleeding volume, neonatal body mass, and Apgar score 1 min, 5 min after fetal disengagement. **Results:** The duration of incubation period in group A and B were significantly longer than group C, and the duration of active period in these two groups was significantly shorter than group C, the differences were statistically significant ($P<0.05$); The VAS score in group A was lower than group B and group C when the maternal uterine mouth open to 2 cm and 3 cm, the differences were statistically significant ($P<0.05$); The VAS score in group A and group B were lower than group C at active period, the second stage of labor, the differences were statistically significant ($P<0.05$); The maternal bleeding volume, neonatal body mass, and Apgar score in each groups was not statistically significant($P>0.05$); The depression occur rate in group C was higher than group A and group B, the differences were statistically significant($P<0.05$). **Conclusion:** Using ropivacaine combined with sufentanil for labor analgesia has good effect from incubation period, which has good application value.

Key words: Incubation period; Labor analgesia; Ropivacaine; Sufentanil

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前言

分娩是女性一个自然的生理过程,而分娩时产生的疼痛不

仅给产妇带来巨大的生理及心理负担,同时也不利于产妇顺利分娩。近年,由于产妇害怕疼痛而选择剖宫产的人数不断增加,故全产程无痛分娩,以及提高自然分娩率,已成为国内外学者共同关注的问题。对产妇而言,理想的分娩镇痛药物不仅有良好的镇痛效果,同时对产程子宫收缩作用较小,且并发症少^[1]。现阶段,临床多采用阿片类药物复合麻醉药物进行分娩镇痛。

作者简介:阮霞(1978-),女,本科,副主任医师,从事妇产科手术麻醉、无痛分娩方面的研究,E-mail:ruanxiarx@sina.com

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其中,舒芬太尼是临床常用的麻醉药物,具有起效快、镇痛作用强、亲脂性强的特点。罗哌卡因是一种阿片类药物,镇痛效果较好,同时为减少不良反应发生,临床多建议使用低浓度罗哌卡因。目前,临床关于从潜伏期开始分娩镇痛的文献报道较少^[2]。本研究从产妇潜伏期开始应用舒芬太尼复合低浓度罗哌卡因进行自控硬膜外镇痛,效果较好,现分析如下:

1 资料和方法

1.1 一般资料

择取 2015 年 1 月~2016 年 1 月我院收治的产妇 102 例,纳入标准^[3]:按美国麻醉师协会(American Society of Anesthesiologists,ASA)分级 I~II 级;均为单胎,头位、盆骨正常;孕周 37~42 周;均为经阴道分娩;入选产妇及其家属均签署知情同意书。排除标准:精神障碍者;妊娠并发症者;胎心监护异常者;胎儿宫内窘迫者;听力障碍者;自愿选择剖宫产手术者。随机分为 A、B、C 组,各组 34 例,A 组产妇宫口开至 1 cm 时采取硬膜外自控分娩镇痛,年龄 22~38 岁,平均(27.54±2.15)岁,孕周 37~42 周,平均(39.24±1.26)周;B 组产妇宫口开至 3 cm 时采取硬膜外自控分娩镇痛,年龄 22~37 岁,平均(27.38±2.26)岁,孕周 37~42 周,平均(39.43±1.32)周;C 组产妇未采取任何分娩镇痛,年龄 22~38 岁,平均(27.41±2.09)岁,孕周 37~42 周,平均(39.26±1.22)周。各组产妇年龄、孕周经比较,无统计学意义($P>0.05$),有临床可比性。

1.2 麻醉方法

各组产妇进入产房后吸氧,建立静脉通路,监测产妇心率、血压、呼吸频率、心电图、血氧饱和度等生命体征指标,A、B 两组产妇取左侧卧位,选择 EC-05400-E 型硬膜外麻醉包(Arrow International Inc 公司生产),于肋骨 L3~L4 间隙行硬膜外穿刺

置入导管 3~5 cm,首先注入 1%盐酸利多卡因 4 mL,随后于蛛网膜下腔注入舒芬太尼(人福制药有限公司)30 μ g+0.75%盐酸罗哌卡因(商品名耐乐品,英国 AstraZeneca 公司生产)10 mL,加入生理盐水混合液 100 mL,连接 CPE-101 型 PCEA 自控镇痛泵(珠海福尼亚医疗设备公司),首次剂量为 10 mL,镇痛泵背景量为 10 mL/h,bolus 5 mL/20 min,直至第三产程结束停止给药。而 C 组产妇潜伏期未采取任何镇痛药物。

1.3 观察指标

详细记录产妇第一产程潜伏期、活跃期及第二产程持续时间及宫缩时视觉模拟评分(visual analogue scale, VAS)。采用 VAS^[4]对镇痛效果进行评定,0 分代表无痛,10 分代表剧烈疼痛,难以忍受。同时全程进行胎心监测,记录胎儿娩出后 1 min、5 min Apgar 评分,比较两组产妇出血量、新生儿体质量及治疗 30 d 后不良反应发生情况。焦虑症状采用汉密尔顿焦虑量表(Hamilton Anxiety Scale, HAMA)^[5]进行评定,共 14 个项目,包括紧张、害怕、失眠、焦虑心境、躯体性焦虑等,采用 5 级评分法,总分>7 分则有焦虑症状发生

1.4 统计学处理

研究所得数据应用 SPSS19.0 软件进行分析处理,计量资料采用均值±标准差($\bar{x}\pm s$)表示,比较采取 t 检验,计数资料(%)采取 χ^2 检验,检验水准 $\alpha=0.05$ 。

2 结果

2.1 各组产程持续时间比较

A 组、B 组第一产程潜伏期持续时间明显较 C 组延长,活跃期持续时间较 C 组明显缩短,差异有统计学意义($P<0.05$);而各组第二产程持续时间比较无统计学意义($P>0.05$),见表 1。

表 1 各组产程持续时间比较

Table 1 Comparison of duration of production in each group

Groups	n	Incubation period(min)	Active period(min)	The second stage of labor(min)
Group A	34	365.46±108.54 [#]	158.54±65.42 [#]	48.56±14.36
Group B	34	429.67±168.49 [#]	159.64±67.45 [#]	49.76±15.23
Group C	34	286.75±82.34	185.45±96.45	43.62±12.85

Note: Compared with group C, [#] $P<0.05$

2.2 各组不同分娩时间段 VSA 评分比较

A 组产妇宫颈口开至 2 cm 和 3 cm 时 VAS 评分明显较 B 组、C 组低,差异有统计学意义($P<0.05$);A 组、B 组产妇在活跃期、第二产程时 VAS 评分明显较 C 组低,差异有统计学意义

($P<0.05$),见表 2。

2.3 各组妊娠结局比较

各组产妇出血量、新生儿体质量、Apgar 评分比较均无统计学意义($P>0.05$),见表 3。

表 2 各组各分娩时间段 VSA 评分比较

Table 2 Comparison of VSA scores in each group during different delivery time

Groups	n	Incubation period			Active period	The second stage of labor
		1 cm	2 cm	3 cm		
Group A	34	5.73±1.27	1.35±0.56	1.32±0.62	1.18±0.42 [#]	3.36±1.12 [#]
Group B	34	5.48±1.19	7.43±1.32 [*]	7.25±1.46 [*]	1.58±0.87 [#]	3.38±1.14 [#]
Group C	34	5.36±1.15	7.56±1.41 [*]	7.36±1.49 [*]	7.39±1.52	6.59±2.43

Note: Compared with group A, ^{*} $P<0.05$, compared with group C, [#] $P<0.05$.

表 3 各组妊娠结局比较

Table 3 Comparison of pregnancy outcomes in each group

Groups	n	Maternal bleeding volume (mL)	Neonatal body mass (g)	Apgar score	
				1 min	5 min
Group A	34	228.54± 23.18	3428.54± 231.76	8.54± 0.23	8.89± 0.31
Group B	34	225.19± 22.95	3398.62± 245.38	8.62± 0.27	9.02± 0.36
Group C	34	232.84± 23.26	3385.17± 228.54	8.76± 0.29	8.93± 0.34

2.4 各组不良反应比较

A 组、B 组皮肤瘙痒、恶心呕吐用药不良反应发生率比较差异无统计学意义 ($P>0.05$);C 组抑郁症发生率均较 A 组、B

组高,差异有统计学意义 ($P<0.05$);但 A 组、B 组抑郁症发生率比较差异无统计学意义 ($P>0.05$),见表 4。

表 4 各组不良反应比较[n(%)]

Table 4 Comparison of adverse reactions in each group[n(%)]

Groups	n	Skin Itch	Nausea and vomiting	Depression
Group A	34	2(5.88)	1(2.94)	2(5.88) [#]
Group B	34	1(2.94)	0	3(8.82) [#]
Group C	34	0	0	8(23.53)

Note:Compared with group C, [#] $P<0.05$

3 讨论

分娩是女性自然的生理过程,在分娩过程中,产妇难免会产生疼痛,其发生机制主要是由宫颈扩张、子宫收缩及腹膜受到牵拉而引起的疼痛^[6-8]。当子宫收缩及宫口扩张时,子宫肌层缺血,引起 5-羟色胺及组胺的释放,这些因子通过刺激神经末梢,激发传入冲动,可引起疼痛感受;加上产妇对分娩产生的恐惧、焦虑等心理,促进儿茶酚胺、肾上腺皮质激素及内啡肽等激素的释放,使产妇心率加快、血压升高及心肌耗氧量增加,对产妇的生命安全构成严重威胁^[9]。因此,分娩过程中采取适当的镇痛是非常有必要的。

在现代医学模式下,随着人们生活水平的提高,越来越多的人要求在保证母婴安全的条件下实行无痛分娩。舒芬太尼作为一种常用的麻醉药物,是芬太尼的衍生物,与芬太尼麻醉药物比较,具有起效快、镇痛效果好、持续时间长的优点,同时具有较强的亲脂性,与阿片类受体的亲和力较高^[10,11]。罗哌卡因作为一种新型的酰胺类局麻药,低浓度给药时,具有独特的运动和感觉分离的药理学特性,对子宫收缩无明显影响,同时半衰期较短,脂溶性较低,对子宫胎盘的血液供应无影响,适用于分娩镇痛^[12-14]。相关文献报道^[15],舒芬太尼联合罗哌卡因腰硬联合阻滞疼痛冲动的上行而发挥协同效应,可减轻产妇分娩疼痛,同时可减少阿片类药物用量,进而降低不良反应发生率。目前,临床多在产妇分娩第一产程活跃期开始介入镇痛治疗,有研究报道^[16],分娩镇痛不仅有利于减轻产妇分娩疼痛,同时可缩短活跃期持续时间,加速产程进展。但关于从产妇潜伏期实施分娩镇痛的效果,尚存在较大争议。本文从产妇潜伏期开始给予舒芬太尼联合罗哌卡因,结果表明产妇镇痛效果较好,且各组产妇出血量、新生儿体质量、Apgar 评分等比较均无统计学意义 ($P>0.05$),妊娠结局良好。由此说明,局部麻醉药联合阿片类药物对产妇产后出血量无明显影响,对新生儿无明显呼吸抑

制,这与国外文献报道^[17]结果相似。发现 A 组产妇宫颈口开至 2 cm 和 3 cm 时 VAS 评分明显较 B 组、C 组低 ($P<0.05$),主要原因在于产妇宫颈口开大 1 cm 时子宫有规则的收缩,疼痛较轻,随着宫颈口扩张,子宫肌阵发性收缩,子宫下段和宫颈管扩张以及盆底受压,会刺激其中的神经末梢产生神经冲动,沿腰骶丛神经传递至脊髓,再加上传至大脑痛觉中枢,使产妇产生剧烈疼痛。因此,在产妇宫颈口开至 1 cm 时可实施分娩镇痛,不仅可减少产妇整个分娩过程的疼痛,同时可促进产妇顺利分娩^[18]。此外,本文采取低浓度罗哌卡因联合小剂量舒芬太尼的镇痛方案,结果显示 A 组、B 组皮肤瘙痒、恶心呕吐用药不良反应发生率比较差异不明显,这与文献报道^[19]结果相似。产后抑郁是妊娠妇女常见的一种心理及精神障碍,不仅影响产妇的身心健康,同时对婴儿的生长发育也有负面影响。近年,有研究表明,开展全产程无痛分娩可降低产后抑郁症发生率。本研究经统计,结果发现,C 组未实施任何分娩镇痛后,其产后抑郁症发生率均较 A 组、B 组高 ($P<0.05$)。由此说明,采取低浓度罗哌卡因联合小剂量舒芬太尼的镇痛方案可降低产后抑郁症发生率,与文献报道^[20]结果基本一致。

综上所述,为实施全产程无痛分娩,从产妇潜伏期介入低浓度罗哌卡因联合舒芬太尼镇痛治疗的效果较好,且用药不良反应少,产后抑郁症发生率低,值得临床推荐。

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(上接第 1241 页)

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