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## 布比卡因与左旋布比卡因在剖宫产手术中麻醉效果比较\*

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**摘要 目的:**探讨蛛网膜下腔注射左旋布比卡因和布比卡因对剖宫产手术中的麻醉效果。**方法:**选取 2012 年 3 月到 2013 年 3 月期间在我院住院进行剖宫产手术产妇 60 例作为研究对象。随机分为左旋布比卡因组与布比卡因组,观察两组患者的麻醉效果以及术后不良反应的发生情况。**结果:**剖宫产手术中左旋布比卡因和布比卡因的蛛网膜下腔注射麻醉后的 5 min 和 7 min 后 MAP 值与麻醉前比较差异具有统计学意义( $P<0.05$ )。左旋布比卡因和布比卡因的蛛网膜下腔注射麻醉后的 5 min、7 min、10 min 以及 15 min HR 值比较差异具有统计学意义( $P<0.05$ )。左旋布比卡因和布比卡因的蛛网膜下腔注射麻醉后 Bromage 评分 0 分时间和麻醉后切口感觉疼痛时间相比差异具有统计学意义( $P<0.05$ )。左旋布比卡因和布比卡因麻醉后的不良反应的发生率比较差异无统计学意义( $P>0.05$ )。**结论:**剖宫产手术麻醉中布比卡因的麻醉效果好于左旋布比卡因,临床上剖宫产等腹部手术应该选择布比卡因进行临床麻醉。

**关键词:**剖宫产手术麻醉;布比卡因;左旋布比卡因;临床疗效

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## Comparative Analysis on the Anesthetic Effects of Bupivacaine and Levobupivacaine Subarachnoid Injections during Cesarean Section Operation\*

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**ABSTRACT Objective:** To observe and compare the anesthesia effects of bupivacaine and levobupivacaine subarachnoid injections during the operation of cesarean section. **Methods:** Sixty cases of parturients who underwent cesarean section operation in the hospital between March 2012 and March 2013 were selected as study objects. They were randomly divided into levobupivacaine and bupivacaine group. The former received intrathecal levobupivacaine for preoperative anesthesia, and the latter was given subarachnoid injection of bupivacaine anesthesia before the operation. Observations were made to both groups in terms of the anesthesia effects and the occurrence of postoperative adverse reactions. **Results:** After bupivacaine and levobupivacaine subarachnoid injections for anesthesia, the MAP values of 5 min and 7 min during cesarean section operation were of statistically significant difference when compared with that before anesthesia( $P<0.05$ ). There were statistically significant differences between HR values of 5min, 7min, 10min and 15min after bupivacaine and levobupivacaine subarachnoid injection ( $P<0.05$ ), so were the differences between the Bromage scores of 0 min and the time of feeling the incision pain ( $P<0.05$ ). However, there were no significant difference in the incidence of postoperative adverse reactions between levobupivacaine group and bupivacaine group were much the same ( $P>0.05$ ). **Conclusions:** The bupivacaine had better anesthetic effect than levobupivacaine in cesarean section operation.

**Key words:** Caesarean Operation Anesthesia; Bupivacaine; Levobupivacaine; Clinical Effects

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### 前言

剖宫产手术中麻醉的方式最有效的是蛛网膜下腔注射,原因在于蛛网膜肌肉松弛,麻醉后起效较快。妊娠期的女性对局部麻醉药的敏感性增加,容易导致神经毒性,产妇产后神经运动功能的恢复时间延长<sup>[1]</sup>。蛛网膜下腔注射的麻醉药主要是左旋布比卡因和布比卡因,根据两种药物结构功能特点的研究报

道,布比卡因和左旋布比卡因属于同分异构体,但是布比卡因对心脏钠通道的抑制作用、神经细胞钠通道的抑制作用、对细胞膜双分子层的影响以及对 KATP 通道的抑制作用均强于左旋布比卡因。为了确认两种药物的麻醉作用效果,本院针对剖宫产手术中左旋布比卡因和布比卡因的蛛网膜下腔注射的麻醉效果进行研究,现将研究结果总结报道如下。

### 1 资料与方法

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### 1.1 临床资料

选取 2012 年 3 月到 2013 年 3 月期间在我院住院进行剖宫产手术的产妇 60 例作为研究对象。年龄在 26~34 岁之间,平均年龄为(27.59±3.21)岁。排除产妇麻醉药物过敏情况,随机分为两组,使得两组患者在年龄、身体素质方面无明显差异(P>0.05),具有可比性。

### 1.2 方法

两组产妇术前半小时注射 0.1g 苯巴比妥那和 0.5mg 阿托品,检测产妇的血压、心率、心电图等信息。取患者侧卧位,穿刺成功后两组产妇分别进行蛛网膜下腔注射 0.5%左旋布比卡因(江苏恒瑞医药有限公司, H20020570)和 0.5%布比卡因(上海禾丰制药有限公司, H090302),均是 2 mL,两组产妇在麻醉的过程中保持吸氧。

### 1.3 观察指标

观察两组产妇麻醉后的各项指标、麻醉前后的 MAP 和 HR 值的比较以及不良反应情况。

### 1.4 统计学处理

使用 SPSS17.0 统计软件进行统计学分析,计数资料比较采取  $\chi^2$  检验,组间比较采取独立样本 t 检验,以 P<0.05 为差异具有统计学意义。

## 2 结果

### 2.1 麻醉前后两组患者 MAP 和 HR 变化情况

剖宫产手术中左旋布比卡因和布比卡因的蛛网膜下腔注射麻醉后的 5 min 和 7 min 后 MAP 值与麻醉前比较差异具有统计学意义(P<0.05)。左旋布比卡因和布比卡因的蛛网膜下腔注射麻醉后的 5 min、7 min、10 min 以及 15 min HR 值比较差异具有统计学意义(P<0.05)。

表 1 麻醉前后两组 MAP 和 HR 统计结果(N=30)

Table 1 MAP and HR statistics results of two groups before and after anaesthesia (N=30)

| 指标<br>Indicators | 组别<br>Groups          | 麻醉前<br>Before anaesthesia | 麻醉后 After anaesthesia( min ) |                        |                        |                        |                        |
|------------------|-----------------------|---------------------------|------------------------------|------------------------|------------------------|------------------------|------------------------|
|                  |                       |                           | 1                            | 5                      | 7                      | 10                     | 15                     |
| MAP(mmHg)        | Bupivacaine group     | 76.7± 6.3                 | 78.3± 7.2                    | 69.3± 6.0 <sup>#</sup> | 69.4± 6.4 <sup>#</sup> | 72.4± 7.2              | 77.6± 8.2              |
|                  | Levobupivacaine group | 76.2± 6.5                 | 77.0± 6.4                    | 69.2± 6.0 <sup>#</sup> | 70.6± 7.2 <sup>#</sup> | 72.5± 5.6              | 74.5± 5.8              |
| HR(time/min)     | Bupivacaine group     | 80.3± 7.2                 | 83.2± 7.5                    | 90.2± 6.7 <sup>#</sup> | 91.0± 7.4 <sup>#</sup> | 89.2± 5.5 <sup>#</sup> | 89.2± 5.7 <sup>#</sup> |
|                  | Levobupivacaine group | 80.7± 7.1                 | 82.2± 6.4                    | 91.8± 6.2 <sup>#</sup> | 93.9± 6.8 <sup>#</sup> | 88.2± 6.8 <sup>#</sup> | 89.2± 7.0 <sup>#</sup> |

注:与麻醉前相比, <sup>#</sup>P<0.05,具有统计学意义。

Note: compared with pre anesthesia, <sup>#</sup> P<0.05, with statistical significance.

### 2.2 两组患者麻醉后各项指标变化情况

布比卡因的蛛网膜下腔注射麻醉后 Bromage 评分 0 分时间和麻醉后切口感觉疼痛时间明显低于左旋布比卡因组,两组比较差异具有统计学意义(P<0.05)。两组麻醉后的达到最大阻滞平面、运动阻滞起始时间以及达到最大运动阻滞等指标

比较差异无统计学意义(P>0.05)。

### 2.3 两组患者不良反应情况

左旋布比卡因麻醉后不良反应的发生率为 30.0%,布比卡因麻醉后不良反应的发生率为 36.7%,两组不良反应的发生率比较差异无明显差异(P>0.05)。

表 2 (N=30)两组麻醉后的各项指标统计结果

Table 2 (N=30) Statistical results of indicators of two groups after anesthesia

| 组别 Groups                    | 达到最大阻滞平面时<br>Time for max block<br>level( min ) | 运动阻滞起始时间<br>( min )Initial time for<br>motor block | 达到最大运动阻滞时<br>Time for max motor<br>block( min ) | 评分 0 分时间<br>Bromage score at 0<br>( min ) | 麻醉后切口感觉疼痛<br>时间 Incision pain time<br>after anesthesia( min ) |
|------------------------------|-------------------------------------------------|----------------------------------------------------|-------------------------------------------------|-------------------------------------------|---------------------------------------------------------------|
| 左旋组<br>Bupivacaine group     | 16.9± 2.2                                       | 2.2± 0.3                                           | 7.0± 0.5                                        | 150.1± 18.4                               | 180.2± 12.1                                                   |
| 布比组<br>Levobupivacaine group | 15.9± 1.9                                       | 2.2± 0.4                                           | 7.0± 0.3                                        | 167.2± 22.1 <sup>#</sup>                  | 246.1± 14.4 <sup>#</sup>                                      |

注:与左旋组相比, <sup>#</sup> P<0.05,具有统计学意义。

Note: compared with Bupivacaine group, <sup>#</sup> P<0.05, with statistical significance.

表 3 (N=30)两组不良反应发生情况

Table 3 (N=30) The incidence of adverse reaction of the two groups

| 组别 Groups                 | 血压下降<br>Drop of blood pressure | 心动过缓<br>Bradycardia | 恶心呕吐<br>Nausea and vomiting | 总发生情况<br>Total occurrence |
|---------------------------|--------------------------------|---------------------|-----------------------------|---------------------------|
| 左旋组 Bupivacaine group     | 5( 16.7 )                      | 3( 10.0 )           | 3( 10.0 )                   | 9( 30.0 )                 |
| 布比组 Levobupivacaine group | 7( 23.3 )                      | 5( 16.7 )           | 2( 6.7 )                    | 11( 36.7 )                |

### 3 讨论

剖宫产手术临床上麻醉要求有良好的肌肉松弛和满意的镇痛效果,经过研究发现蛛网膜注射左旋布比卡因和布比卡因可以满足以上两个要求。根据郑彬<sup>[2]</sup>等人研究蛛网膜注射药物麻醉报道,可以根据手术时间选择不同的局部麻醉药物。布比卡因是常见的用于蛛网膜注射的麻醉药物,麻醉效果较好,但是根据临床经验总结发现大剂量的布比卡因会对患者的心脏产生一定的毒性,并且该毒副作用是不可逆的,复苏比较困难<sup>[3-5]</sup>,但是小剂量注射不会引起心脏的毒性反应。左旋布比卡因麻醉药对患者的心脏的毒副作用比较小,左旋布比卡因和布比卡因都属于长效的麻醉药<sup>[6-8]</sup>,在临床剖宫产手术的麻醉中效果相似,本院针对以上两种麻醉药的研究发现,剖宫产手术中左旋布比卡因和布比卡因的蛛网膜下腔注射麻醉后的 5 min 和 7 min 后 MAP 值与麻醉前比较差异具有统计学意义<sup>[9-12]</sup>。左旋布比卡因和布比卡因的蛛网膜下腔注射麻醉后的 5min、7 min、10 min 以及 15 min HR 值比较差异具有统计学意义。两种药物均是在麻醉 5 min 出现的 MAP 最低值和 7 min 后出现的 HR 最高值,两种药物之间无明显差异<sup>[13]</sup>。左旋布比卡因和布比卡因的蛛网膜下腔注射麻醉后 Bromage 评分 0 分时间和麻醉后切口感觉疼痛时间相比差异具有统计学意义。说明布比卡因相比较于左旋布比卡因的麻醉持续时间更长<sup>[14-17]</sup>。左旋布比卡因和布比卡因麻醉后的不良反应的发生率比较差异无明显差异,主要因为小剂量注射不会引起不良反应发生的差异性。本院本次研究中两种同等剂量麻醉药物的麻醉效果,根据术后医生的满意度反馈以及研究的麻醉效果反映,布比卡因都是优于左旋布比卡因的,这与李肇端等人的研究结论相似<sup>[18-19]</sup>。同时 Harkouk<sup>[20]</sup>等人研究报道左旋布比卡因蛛网膜下腔注射麻醉中多次出现短暂性呃逆,对产妇的不良影响较大。

综上所述,在小剂量蛛网膜下注射麻醉的剖宫产等下腹部手术中,布比卡因的麻醉效果稍好于左旋布比卡因,麻醉持续时间更长,临床应用价值更高,值得在临床上大力推广。

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