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罗哌卡因腰麻-硬膜外联合麻醉对剖宫产患者血清泌乳素水平的影响及其风险评估*

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摘要 目的:探讨罗哌卡因腰麻-硬膜外联合麻醉对剖宫产初产妇血清泌乳素水平的影响并评估其安全性。**方法:**收集我院就诊的90例剖宫产足月单胎初产妇,随机分为实验组和对照组,每组45例。实验组均采用1%罗哌卡因1.5 mL+生理盐水1.5 mL,对照组产妇给予硬膜外麻醉。术后,比较两组产妇的泌乳素、感觉以及运动阻滞情况、麻醉效果以及不良反应发生率。**结果:**与手术前相比,两组产妇术后的泌乳素水平升高,且实验组产妇的泌乳素水平显著高于对照组($P<0.05$)。与对照组相比,实验组产妇感觉阻滞起效时间、运动阻滞起效时间较短,感觉恢复时间以及运动恢复时间较长,麻醉效果较好,不良反应的发生率较低($P<0.05$)。**结论:**罗哌卡因腰麻-硬膜外联合麻醉对剖宫产患者血清泌乳素水平的变化影响较硬膜外麻醉小,且麻醉效果及安全性更高。

关键词:罗哌卡因;腰麻-硬膜外联合麻醉;剖宫产;泌乳素

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Effects of Ropivacaine in CSEA on the Serum Prolactin Level of Cesarean Section Patients and Risk Assessment*

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ABSTRACT Objective: To investigate the effect of ropivacaine in combined spinal and epidural anesthesia for caesarean section on the maternal serum prolactin level and evaluate its safety. **Methods:** 90 cases of cesarean section in our hospital were randomly divided into the experimental group and control group, 45 cases in each group. The experiment group were treated with 1% ropivacaine hydrochloride 1.5ml+0.9% sodium chloride injection 1.5 mL, the control group was given epidural anesthesia. After the operation, the maternal prolactin, sensory and motor block, anesthesia effect and incidence of adverse reactions of the two groups were compared. **Results:** Compared with before surgery, the level of prolactin in both groups were increased, and the level of prolactin in the experimental group was significantly higher than that in the control group ($P<0.05$). Compared with the control group, the onset time of sensory block, motor block onset time were shorter in the experimental group, the sensory recovery time and motion recovery time were longer, the anesthesia effect was good, the incidence of adverse reactions was lower in the experimental group ($P<0.05$). **Conclusion:** Ropivacaine in combined spinal and epidural anesthesia for cesarean section changes of serum prolactin level in patients with the influence of epidural anesthesia, and the anesthetic effect and higher safety.

Key words: Lo Pacan; Combined spinal epidural anesthesia; Cesarean section; Prolactin

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前言

剖宫产(Cesarean section)是临床常见的分娩方式,临床上应用剖宫产能够解决巨大儿以及难产儿问题,提高新生儿的分娩率^[1]。随着医学的进步,剖宫产的手术指征被扩大,手术的安全性也逐渐得到提高^[2]。据统计,目前在世界范围内剖宫产率约为20%~25%,而我国的剖宫产率更高。在剖宫产术中,麻醉是非常重要的环节,直接关系到孕母以及新生儿的安全,而对于剖宫产手术麻醉的安全性以及效果成是目前临床关注的热点问题^[3]。目前,我国的剖宫产手术主要采用单纯腰麻、硬膜外麻

醉和腰麻硬膜外联合麻醉等椎管内麻醉手段^[4]。单纯腰麻起效迅速,麻醉效果好,但可控性较差,对产妇的血流动力学会产生较大的影响,影响新生儿的状况,且术后头痛的发生率较高;连续硬膜外麻醉能随着手术时间来延长麻醉时间,但麻醉起效时间长,镇痛不完全,肌松欠佳,还有发生全身毒性反应的可能;腰麻和硬膜外联合麻醉具有以上两种麻醉方式的效果好、起效快的优点,是剖宫产麻醉常采用的方法之一^[5,6]。罗哌卡因(ropivacaine)为剖宫产术中常用的药物,是一种新型的长效酰胺类局麻药,具有较低的心脏毒性与神经毒性,是一种比较理想的局部麻醉药^[7]。本研究通过观察剖宫产患者血清泌乳素水平

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的变化,探讨罗哌卡因腰麻-硬膜外联合麻醉对剖宫产患者的作用效果,现报道如下。

1 资料与方法

1.1 临床资料

收集 2014 年 8 月~2015 年 12 月于我院就诊的 90 例需要剖宫产的足月单胎初产妇,随机分为实验组和对照组,每组各 45 例。实验组组内女性平均年龄(27.73 ± 1.12)岁,BMI 指数为(23.22 ± 3.21) kg/m^2 ,孕周(39.92 ± 2.93)周;对照组内女性平均年龄(27.56 ± 1.04)岁,BMI 指数为(23.15 ± 3.24) kg/m^2 ,孕周(39.48 ± 2.75)周。所有产妇均为足月单胎产妇,均为首次怀孕,所有入选对象年龄在 20-39 岁,所有入选对象无心脑血管疾病以及肝肾功能不全,所有入选对象无糖尿病以及家族遗传性疾病,所有入选对象均无麻醉药物过敏,所有入选对象经超声检查无巨大儿或畸形胎儿等情况出现,所有对象均同意进行实验措施,并签署知情同意书。排除不符合纳入标准的研究对象,排除肝肾功能不全的产妇;排除有肝肾功能不全的产妇,排除非首次怀孕的对象;排除合并有产科的复杂情况,如胎盘早剥、前置胎盘等。排除年龄在 40 岁以上的高龄产妇,排除有吸烟、酗酒等不良嗜好的产妇;排除实验前服用过特殊药物的患者;排除麻醉药物过敏的患者;排除不愿接受实验措施的研究对象。两组两组年龄、孕周等一般资料相比无统计学意义,具有可比性。

1.2 方法

1.2.1 麻醉方法 产妇常规术前禁食 6 h,禁水 4 h,推入手术室,取平卧位,手术床左侧倾斜 15° ,使左臀部抬高,连接仪器后监测产妇心电图、血氧饱和度、无创血压 NIBP、脉搏情况。麻醉前,两组产妇均给予常规吸氧,建立静脉通道并予以 400 mL 林格氏液。对照组产妇给予硬膜外麻醉,先经腰 1~2 椎间隙穿刺至硬膜外腔,头侧置管 3~4 cm,利多卡因试探量 4 mL 后,使用 1%的罗哌卡因 5~8 mL,并根据产妇具体情况,调整麻醉

药物剂量。实验组产妇给予腰麻-硬膜外联合麻醉,产妇取右侧卧位,腰 2~3 椎间隙硬膜外以及蛛网膜下腔穿刺,结合产妇的反应,在脑脊液中注入 1%罗哌卡因 1.5 mL+生理盐水 1.5 mL。置入 3 cm 硬膜外导管,用药 10 min 后,观察 T8<阻滞平面<T10 时可行剖宫产手术。手术期间,产妇心率低于 55 次/分时给予阿托品 0.5 mg。手术时间长于 1 h,追加利多卡因 5 mL。

1.2.2 产妇手术前后泌乳素(PRL)水平检测 手术前后所有产妇空腹抽取静脉血 3 mL,静置后离心取上清液,采用化学发光法,应用化学发光仪,严格按照试剂盒说明书,对产妇的泌乳素(PRL)水平进行检测。

1.2.3 产妇感觉阻滞起效时间、运动阻滞起效时间、感觉恢复时间以及运动恢复时间检测

1.2.4 产妇麻醉效果评价 对所有产妇的麻醉效果进行评价:术中无牵拉感及其他不适感,肌松好为优;产妇术中时有牵拉感并感觉不适,但时间较短,程度较轻,肌松稍差为良;产妇牵拉感明显,镇痛效果较差,需经静脉给药完成手术为可;产妇的镇痛效果差,硬膜外追加利多卡因可完成手术为差。

1.2.5 产妇不良反应发生情况检测 手术后对所有产妇恶心、呕吐、瘙痒、低血压、尿潴留等不良反应发生情况进行检测并统计不良反应发生率。

1.3 统计学分析

采用 SPSS 19.0 统计软件进行分析。计量数据以均数 $\pm$ 标准差($\bar{x} \pm s$)表示,采用 t 检验;计数资料采用%表示,采用 χ^2 检验。所有数据比较,以 $P < 0.05$ 认为差异有统计学意义。

2 结果

2.1 两组产妇手术前后泌乳素(PRL)水平比较

两组产妇产后的血清泌乳素水平与术前相比均升高($P < 0.05$);与对照组相比,实验组产妇血清泌乳素水平较高($P < 0.05$),具体见表 1。

表 1 两组产妇麻醉前后泌乳素(PRL)水平比较($\mu\text{g}/\text{L}$, $\bar{x} \pm s$)

Table 1 Comparison of the PRL level between two groups before and after anaesthesia($\mu\text{g}/\text{L}$, $\bar{x} \pm s$)

	Before operation	After operation
Experimental group	192.28 $\pm$ 42.83	413.27 $\pm$ 90.92**
Control group	189.37 $\pm$ 37.18	378.14 $\pm$ 82.49*

Note: Compared with before treatment, * $P < 0.05$; Compared with control group, ** $P < 0.05$.

2.2 两组产妇感觉阻滞起效时间、运动阻滞起效时间、感觉恢复时间以及运动恢复时间检测

与对照组相比,实验组产妇感觉阻滞起效时间、运动阻滞起效时间较短($P < 0.05$),感觉恢复时间以及运动恢复时间较长

($P < 0.05$),具体见表 2。

2.3 两组产妇麻醉效果的比较

实验组患者治疗的总有效率(91.11%)与对照组(75.56%)相比较(P<0.05),具体见表 3。

表 2 两组产妇感觉阻滞起效时间、运动阻滞起效时间、感觉阻滞维持时间以及运动阻滞维持时间比较(min, $\bar{x} \pm s$)

Table 2 Comparison of the Sensory block onset time, motor block onset time, Sensory block duration time and motor block duration time

between two groups (min, $\bar{x} \pm s$)

	Sensory block onset time	Motor block onset time	Sensory block duration time	Motor block duration time
Experimental group	3.02 $\pm$ 0.98*	7.36 $\pm$ 1.21*	121.39 $\pm$ 42.28*	144.36 $\pm$ 41.37*
Control group	4.23 $\pm$ 1.17	11.26 $\pm$ 3.38	91.28 $\pm$ 20.59	131.19 $\pm$ 21.28

Note: Compared with Control group, * $P < 0.05$.

表 3 两组产妇的麻醉效果比较(% , $\bar{x} \pm s$)Table 3 Comparison of the anesthetic effect between two groups(% , $\bar{x} \pm s$)

	Excellent	Good	Fair	Poor	Total effective rate
Experimental group	21(46.67)	15(33.33)	5(11.11)	4(8.89)	41(91.11)*
Control group	15(33.33)	8(17.78)	11(24.44)	11(24.44)	34(75.56)

Note: Compared with the control group, *P<0.05.

2.4 两组产妇不良反应发生情况的比较

相比较低(P<0.05),具体见表 4。

实验组产妇不良反应的发生率(13.33%)与对照组(26.67%)

表 4 两组产妇不良反应发生情况比较(% , $\bar{x} \pm s$)Table 4 Comparison of the incidence of side effects between two groups(% , $\bar{x} \pm s$)

	Nausea	Vomiting	Itching	Low blood pressure	urinary retention	Incidence of adverse reactions
Experimental group	2(4.44)	1(2.22)	3(6.67)	0(0)	0(0)	6(13.33)*
Control group	5(11.11)	3(6.67)	3(6.67)	1(2.22)	0(0)	12(26.67)

Note: Compared with the control group, *P<0.05.

3 讨论

自从腰麻-硬膜外联合麻醉应用于临床剖宫产手术被报道后,之后的研究对于这种麻醉方式不断改进,目前已经被广泛应用于临床麻醉^[8-11]。由于单纯使用腰麻或者硬膜外麻醉具有影响产妇的血流动力学,可控性较差,产妇容易出现低血压,胎盘血流量低等缺点,因此,临床采用腰麻-硬膜外联合麻醉不仅具有腰麻或者硬膜外麻醉的优点,麻醉药物的用量小,起效快,效果确切,且术后也可用于镇痛,此外管内针技术也避免了和皮肤的直接接触,减少了产妇发生感染的机会^[12-15]。大量的临床应用表明^[16-18],腰麻硬膜外联合麻醉安全,可行的,腰麻硬膜外联合麻醉将药物直接注入蛛网膜下腔,药物作用于脊神经,对循环的影响小,对重要器官的血液供应进行保护,并且不会对胎儿造成不良影响,产妇不良反应的发生率低,尤其是对妊娠合并心衰的产妇,还能够改善了产妇的心衰症状。

母乳是婴儿最为理想的食物来源,产妇产后泌乳的早与多是母乳喂养成功的关键。对于产后产妇泌乳素(PRL)水平产生影响的因素很多,分娩时的疼痛、焦虑、睡眠、产后运动以及产妇产后的开奶时间均是影响产妇泌乳素水平的因素^[19]。泌乳素是子宫内腺分泌晚期时间质细胞、垂体等分泌的一种肽类激素,其氨基酸的排列顺序与生长激素等相似,正常的孕妇在妊娠期泌乳素的水平会升高,能够随着妊娠的过程的进展而逐渐上升,并且能够对胎儿起到保护作用。以往的研究已经表明^[20],硬膜外麻醉会减少对于泌乳素分泌的抑制,使泌乳素分泌增加。我们的研究表明:手术后两组产妇的泌乳素水平均升高,与对照组相比,实验组产妇的血清泌乳素水平较高,表明罗哌卡因能够通过改善镇痛效果,改善产妇泌乳,该结果与之前的研究一致。

综上所述,罗哌卡因腰麻-硬膜外联合麻醉对剖宫产患者血清泌乳素水平的变化影响较硬膜外麻醉小,且麻醉效果更好,安全性更高。

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