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硬膜外麻醉无痛分娩、剖宫产和自然分娩对盆底组织功能的影响*

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摘要 目的:比较不同的分娩方法(自然分娩、无痛分娩、剖宫产)对产妇盆底组织功能的影响。**方法:**选择2019年10月~2020年11月在我院进行分娩的80例产妇,其中,自然分娩组15例,无痛分娩组26例,剖宫产组39例。记录自然分娩组和无痛分娩组第一、第二产程的疼痛程度和第一、第二产程所需时间,巨大儿、新生儿黄疸、低体重儿和新生儿窒息等母婴结局,Apgar评分、产时出血量和胎儿体重;且检查产妇的盆底肌力,记录自然分娩组、无痛分娩组、剖宫产组的尿失禁发生率。**结果:**无痛分娩组的第一、第二产程的视觉模拟评分法(Visual analog scales,VAS)评分和第一、第二产程所需时间明显低于自然分娩组($P<0.05$);自然分娩组和无痛分娩组的巨大儿、新生儿黄疸、低体重儿和新生儿窒息率无明显差异($P>0.05$);自然分娩组和无痛分娩组的Apgar评分、产时出血量和胎儿体重无明显差异($P>0.05$);无痛分娩组的盆底肌力明显高于自然分娩组($P<0.05$),剖宫产组的盆底肌力明显高于无痛分娩组($P<0.05$);三组尿失禁的发生率对比差异无统计学意义($P>0.05$)。**结论:**无痛分娩不但能减轻分娩疼痛程度,还能减轻对盆底组织功能的损伤,值得进行推广。

关键词:无痛分娩;剖宫产;自然分娩;疼痛;盆底组织功能

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Effects of Epidural Anesthesia on Pelvic Floor Function During Painless Delivery, Cesarean Section and Natural Delivery*

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ABSTRACT Objective: To study the effect of epidural anesthesia on pelvic floor function during painless delivery, cesarean section and natural delivery. **Methods:** Selected 80 cases of delivery woman from October 2019 to November 2020, there were 15 parturients in natural delivery group, 26 parturients in painless delivery group and 39 parturients in planned cesarean section group. The pain degree of the first and second stages of labor, the time required for the first and second stages of labor, the maternal and infant outcomes of macrosomia, neonatal jaundice, low birth weight infants and neonatal asphyxia, Apgar score, intrapartum blood loss and fetal weight were recorded in the natural delivery group and painless delivery group; the pelvic floor muscle strength of the puerpera was examined, and the occurrence of urinary incontinence in the natural delivery group, painless delivery group and cesarean section group was recorded rate. **Results:** The VAS score and time required for the first and second stages of labor in painless delivery group were lower than natural delivery group ($P<0.05$). There was no significant difference in adverse maternal and infant outcomes, Apgar score, intrapartum hemorrhage and fetal weight between natural delivery group and painless delivery group ($P>0.05$), pelvic floor muscle strength of natural delivery group was higher than natural delivery group ($P<0.05$). There was no significant difference in the incidence of urinary incontinence among the three groups ($P>0.05$). **Conclusion:** Painless delivery can not only reduce the degree of labor pain, but also reduce the damage to pelvic floor tissue function.

Key words: Painful childbirth; Cesarean section; Natural childbirth; Pain; Pelvic floor tissue function

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前言

影响妊娠和分娩结局的因素较多,主要有孕周、羊水、宫缩、疼痛、胎儿大小和孕妇心理状态等^[1,2]。自然分娩不但有助于产妇在产后迅速地恢复,还能有效预防手术创伤以及羊水积存等因素导致的不良影响^[3]。但是,自然分娩往往会伴随有极为剧

烈的产痛,不仅会加重产妇的不良情绪,而且会影响宫缩,使产程明显延长,导致胎儿宫内窘迫、新生儿窒息等并发症,而且部分产妇由于无法忍受产痛,即使没有剖宫产的临床医学指征,也会坚持选用剖宫产,对母婴的健康不利^[4-6]。随着医疗技术的发展,无痛分娩技术也在临床上获得了越来越广泛的应用。由于人们生活理念的不断转变,越来越多的产妇及其家属不但要

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求分娩过程中需要有效保障母婴的安全,而且更加重视降低产妇的疼痛程度,而无痛分娩方法的出现,可以明显减轻产痛,缩短产程,有利于确保母婴的安全^[7,8]。但是无痛分娩是否减轻或加重分娩对盆底组织功能的损伤是产妇和产科医师迫切需要了解的一个问题。有研究认为,剖宫产手术对产妇盆底损伤具有部分的保护作用^[9]。目前尚未见关于硬膜外麻醉无痛分娩、剖宫产和自然分娩对盆底组织功能影响的相关报道。鉴于此,本研究创新性地比较分析了硬膜外麻醉无痛分娩、剖宫产和自然分娩对盆底组织功能的影响,现报道如下。

1 资料与方法

1.1 一般资料

选择 2019 年 10 月~2020 年 11 月我院的 80 例产妇,均为单胎和足月产妇;排除既往进行过盆腔手术者,合并严重脏器功能不全者,慢性便秘史者,合并严重产科和内科并发症者,尿失禁、盆腔器官脱垂家族史者。其中,自然分娩组产妇 15 例,年龄 18~36 岁,平均(28.73±4.26)岁;孕周 37~42 周,平均(38.72±1.29)周。无痛分娩组产妇 26 例,年龄 18~37 岁,平均(29.14±3.75)岁;孕周 37~42 周,平均(38.49±1.38)周。初产计划性剖宫产组产妇 39 例,年龄 18~36 岁,平均(28.45±4.03)岁;孕周 37~42 周,平均(38.62±1.54)周。三组的基线资料对比差异无统计学意义($P>0.05$),具有可比性。

1.2 方法

无痛分娩组采取无痛分娩方法,按照产妇的分娩状况持续给予硬膜外神经阻滞麻醉,观察产妇的宫口情况,当开至 2~3 cm 时,实施硬膜外穿刺,然后在硬膜外进行导管,首先使

用 3 mL 的 1%利多卡因当作试验剂量,当产妇给药 5 min,并未出现不适症状时,然后采取枸橼酸舒芬太尼注射液(国药准字:H01A07041,宜昌人福药业,规格:1 mL:50 μ g)5 μ g 以及盐酸罗哌卡因注射液(进口药注册号 H20140763,瑞典 AstraZeneca AB,规格:100 mg/10 mL)10 mg+ 0.9%氯化钠注射液(国药准字:H20093237,安徽丰原药业股份有限公司淮海药厂,规格:250 mL:2.25 g),总计 10 mL 作为首次的给药剂量,当产妇的宫缩痛症状消失后,连接镇痛泵,以有效维持麻醉。自然分娩组常规的自然分娩,剖宫产组给予剖宫产术。

1.3 观察指标

记录自然分娩组和无痛分娩组第一、第二产程的疼痛程度(VAS)和所需时间,巨大儿、新生儿黄疸、低体重儿和新生儿窒息等母婴结局,Apgar 评分、产时出血量和胎儿体重。

在分娩后 42 d,采取单盲法,由我院的同一位临床医师采用三合诊或者双合诊检查产妇的盆底肌力^[10];并记录三组的尿失禁发生率。

1.4 统计学分析

采用 SPSS 22.0,两组间计量资料用($\bar{x}\pm s$)表示,对比用 t 检验,计数资料用%表示,对比用 χ^2 检验, $P<0.05$ 为差异有统计学意义。

2 结果

2.1 两组第一、第二产程的 VAS 评分和所需时间比较

无痛分娩组的第一、第二产程的 VAS 评分和所需时间明显低于自然分娩组,经过统计分析两组比较均有统计学意义($P<0.05$),见表 1。

表 1 两组第一、第二产程的 VAS 评分和所需时间比较($\bar{x}\pm s$)

Table 1 The VAS score and time of the first and second stage of labor were compared between the two groups($\bar{x}\pm s$)

Groups	n	VAS score (points)		Time (h)	
		The first stage of labor	The second stage of labor	The first stage of labor	The second stage of labor
Painless delivery group	26	3.92±1.13*	4.36±1.23*	8.47±1.05*	1.22±0.36*
Natural delivery group	15	8.47±1.29	8.73±1.45	9.03±1.24	1.49±0.53

Note: compared with natural delivery group, * $P<0.05$.

2.2 两组不良母婴结局比较

自然分娩组巨大儿、新生儿黄疸、低体重儿和新生儿窒息率等发生率 6.66%(1/15),无痛分娩组的巨大儿、新生儿黄疸、

低体重儿和新生儿窒息率等的发生率为 11.54%(3/26),两组对比不良母婴结局无明显差异($P>0.05$),见表 2。

表 2 两组不良母婴结局比较[例(%)]

Table 2 Comparison of adverse maternal and infant outcomes between the two groups[n(%)]

Groups	n	Fetal Macrosomia	Jaundice Of The Newborn	Low Birth Weight Infants	Neonatal Asphyxia	Total incidence
Painless delivery group	26	0(0.00)	2(7.69)	1(3.85)	0(0.00)	11.54
Natural delivery group	15	0(0.00)	1(6.66)	0(0.00)	0(0.00)	6.66

2.3 两组 Apgar 评分、产时出血量和胎儿体重比较

自然分娩组和无痛分娩组的 Apgar 评分、产时出血量和胎儿体重对比差异无明显意义($P>0.05$),见表 3。

2.4 三组盆底肌力和尿失禁发生率比较

无痛分娩组的盆底肌力明显高于自然分娩组($P<0.05$),剖宫产组的盆底肌力明显高于无痛分娩组($P<0.05$);剖宫产组尿失禁的发生率为 7.69%(3/39),无痛分娩组尿失禁的发生率为 7.69%(2/26),自然分娩组尿失禁的发生率为 13.33%(2/15),三

组尿失禁的发生率对比差异无统计学意义($P>0.05$),见表4。

表3 两组 Apgar 评分、产时出血量和胎儿体重比较($\bar{x}\pm s$)

Table 3 Apgar score, intrapartum blood loss and fetal weight were compared between the two groups($\bar{x}\pm s$)

Groups	n	Apgar score (points)	Intrapartum blood loss (mL)	Fetal weight (g)
Painless delivery group	26	9.07 $\pm$ 0.73	263.75 $\pm$ 34.29	3364.29 $\pm$ 275.83
Natural delivery group	15	9.05 $\pm$ 0.74	269.32 $\pm$ 35.87	3359.71 $\pm$ 268.42

表4 三组盆底肌力和尿失禁发生率比较[例(%)]

Table 4 Comparison of pelvic floor muscle strength and incidence of urinary incontinence among three groups[n(%)]

Groups	n	Pelvic floor muscle strength		Urinary incontinence
		<level 3	$\geq$ level 3	
Cesarean section group	39	5(12.82) [#]	34(87.18) [#]	3(7.69)
Painless delivery group	26	9(34.62) [*]	15(57.69) [*]	2(7.69)
Natural delivery group	15	10(66.67)	5(33.33)	2(13.33)

Note: compared with natural delivery group, ^{*} $P<0.05$, compared with painless delivery group, [#] $P<0.05$.

3 讨论

自然分娩作为产妇最为理想的一种分娩方式,与剖宫产相比较,自然分娩对胎儿以及产妇所造成的损伤相对较轻,在分娩后产妇的恢复速度相对较快,可以明显减少分娩后的并发症^[10-12]。而且,胎儿经产道自然娩出后,胎儿的肺功能可以得到有效的锻炼,而且胎儿的神经末梢和皮肤等均可以得到按摩和刺激,可以有效促进感觉系统和神经系统的发育,明显增强胎儿的抵抗力^[13-17]。但是自然分娩产妇在分娩时,由于子宫收缩而导致的疼痛感会贯穿整个的分娩过程,分娩疼痛会对胎儿及产妇造成如胎盘血流减少、血管收缩等多种的不良影响,而且初产妇之前无分娩的经验,会发生不同程度的心理以及身体改变,导致心率加快和血压升高,造成胎儿宫内缺血及缺氧,不利于母婴的生命安全^[18-20]。随着生活水平的不断提高,越来越多的产妇由于害怕自然分娩的疼痛而选择进行剖宫产,但这对产后的恢复比较不利,也不利于我国产科的健康发展。

目前,随着人性化助产服务理念的发展以及医疗技术的进步,产妇对"舒适分娩"提出了更高的要求,分娩镇痛是临床产科研究领域的一个重要课题,并且是"生育文明"的重要体现,是社会文明程度的标准之一,也体现了对生命个体的充分尊重^[21,22]。无痛分娩是指在确保胎儿以及产妇生命安全的状况下,采取各种有效的手段降低产妇在分娩过程中疼痛的一种分娩方法^[23,24]。无痛分娩具有方便、安全、适合人群比较广和药效持久等多种优点。有研究发现,无痛分娩不但可以缓解产妇的心理障碍,还可以改善由于疼痛刺激导致产妇的泌乳功能降低的情况^[25]。本研究对观察组产妇使用了硬膜外麻醉方法,镇痛药物为舒芬太尼加罗哌卡因。低浓度以及小剂量的药物通过镇痛泵的形式采取持续硬膜外给药法,可以有效防止子宫胎盘的血流量出现减少,使胎儿的氧供应情况得到明显改善,从而实现有效的无痛分娩效果。由于无痛分娩属于区域性镇痛,可以使运动阻滞的程度明显减轻,产妇能于产程的早期保持比较强的活动能力和精力,减少助产机会,增加产妇的满意度,而且可以降低尿潴留以及膀胱麻痹等可能导致的风险^[26]。本研究发

现,无痛分娩组的第一、第二产程的VAS评分和所需时间明显低于自然分娩组。表明无痛分娩麻醉药物的松弛效果可以使观察组产妇的子宫平滑肌得到明显松弛,使宫口的扩张速度加快,明显缩短第一产程,第一产程的镇痛效果比较明显,产妇的疼痛程度较轻,从而明显缩短产程。

盆底功能障碍性疾病是指由于女性盆底的支持结构受到损伤或者有先天性的缺陷,而造成压力性尿失禁、盆腔脏器脱垂、性功能障碍以及粪失禁等^[27]。产妇在妊娠的后期因为巨大的子宫的压迫作用,加之雌激素、松弛素和孕激素的作用,使盆底组织受压、损伤以及拉伸,而分娩过程会使盆底组织受到损伤的程度明显加重,剖宫产手术对盆底组织具有部分的保护效果^[28,29]。无痛分娩减轻了分娩疼痛所造成的儿茶酚胺增高,改善血压升高、血管收缩子宫缺血,而且麻醉后的子宫收缩、盆底组织松弛结合胎头降低所致的盆底组织损伤程度比较轻^[30]。本研究发现,无痛分娩组的盆底肌力明显高于自然分娩组,剖宫产组的盆底肌力明显高于无痛分娩组,三组尿失禁的发生率对比差异无统计学意义。表明无痛分娩在减轻盆底组织功能损伤上具有一定的优势。无痛分娩可通过减轻疼痛刺激对产妇宫颈扩张以及子宫收缩造成的影响,有助于缩短产程和减少体力消耗,防止分娩过程中压迫盆底而导致的盆底组织受损。马向莉^[31]研究发现,与传统的阴道分娩方法相比较,自控镇痛无痛分娩不但能降低产妇的疼痛程度,缩短各产程所需要的时间,而且可以减轻分娩过程对产妇盆底功能造成的损伤,同时不会影响母婴结局,与本研究结果一致。本研究也存在一定的不足,样本量少,结果可能存在一定的偏倚,后续研究需要联合多家医院,扩大样本量进行探究。

综上所述,硬膜外麻醉无痛分娩不但能减轻分娩疼痛程度,缩短产程,还能减轻对盆底组织功能的损伤,且不影响母婴结局,对改善产妇的分娩过程比较有利,是一种值得进行推广的分娩方式。

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