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缩宫素联合卡前列素氨丁三醇对产后出血患者凝血功能及血流动力学的影响*

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摘要 目的：探讨缩宫素联合卡前列素氨丁三醇对产后出血患者凝血功能及血流动力学的影响。**方法：**选取我院于2014年1月-2017年4月期间收治的产后出血患者126例，根据乱数表法分为对照组（n=63）与研究组（n=63），其中对照组给予缩宫素治疗，研究组则给予缩宫素联合卡前列素氨丁三醇治疗。观察并比较两组患者产后出血情况、凝血功能以及血流动力学各项指标，同时观察两组患者的生活质量及不良反应发生情况。**结果：**研究组患者产后出血发生率、产后2 h出血量以及产后24 h出血量均明显低于对照组（P<0.05）。两组患者活化部分凝血活酶时间（APTT）、血浆凝血酶原时间（PT）、血浆凝血酶时间（TT）、纤维蛋白原（Fg）相比无统计学差异（P>0.05）。治疗2 h后两组患者心率（HR）较治疗前升高，且对照组高于研究组，收缩压（SBP）、舒张压（DBP）较治疗前降低，且对照组低于研究组（P<0.05）；治疗24 h后研究组患者SBP高于对照组（P<0.05）；两组患者不同时间的血氧饱和度（SPO_2）比较均无统计学差异（P>0.05）。研究组患者的躯体功能、精神健康、情感职能、社会活动以及社会功能得分均高于对照组（P<0.05）。对照组患者不良反应发生率为7.94%，与研究组的6.35%比较无统计学差异（P>0.05）。**结论：**缩宫素联合卡前列素氨丁三醇可有效减少患者产后出血发生率，维持患者血流动力学稳定，对患者凝血功能无影响，生活质量评分较高，值得临床推广。

关键词：缩宫素；卡前列素氨丁三醇；产后出血；凝血功能；血流动力学

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The Effect of Oxytocin Combined with Carboprost Tromethamine on Blood Coagulation Function and Hemodynamics in Patients with Postpartum Hemorrhage*

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ABSTRACT Objective: To studythe effect of oxytocin combined with carboprost tromethamine on blood coagulation function and hemodynam- ics in patients with postpartum hemorrhage. **Methods:** 126 cases of postpartum hemorrhage admitted in our hospital from January 2014 to April 2017 were selected. The patients were divided into the control group (n=63) and the research group (n=63) according to random number table method, the control group was treated with oxytocin, the study group was treated with oxytocin combined with carboprost tromethamine. The conditions of postpartum hemorrhage, blood coagulation and hemodynamics of two groups were observed and compared, at the same time, at the same time, the quality of life and the incidence of adverse reactions were observed in the two groups of patients. **Results:** The incidence of postpartum hemorrhage, the amount of postpartum 2 h bleeding and postpartum 24 h bleeding after postpartum in the research groupwere significantly lower than that in the control group (P<0.05). There was no significant difference in activated partial thromboplastin time(APTT), prothrombin time (PT), thrombin time (TT), fibrinogen (Fg)between the two groups (P>0.05). After treatment for 2 h, the heart rate (HR) of the two groups was higher than that before treatment, and the control group was higher than the research group, the systolic pressure (SBP) and diastolic pressure (DBP) were lower than those before treatment, and the control group was lower than the research group (P<0.05). The SBP in the research group after treatment for 24 h was higher than that of the control group (P<0.05). There was no significant difference in blood oxygen saturation (SPO_2) between the two groups at different time (P>0.05). The scores of physical function, mental health, emotional function, social activities and social function in the research group were significantly higher than those in the control group (P<0.05). The incidence of adverse reactions in the control group was 7.94%, and there was no significant difference compared with the 6.35% in the research group (P>0.05). **Conclusion:** Oxytocin combined with romethamine can effectively reduce the incidence of postpartum hemorrhage, maintain maternal hemodynamic stability, and have no influence on maternal coagulation function, high quality of life score, which is worthy of clinical promotion.

Key words: Oxytocin; Carboprost Tromethamine; Postpartum hemorrhage; Coagulation function; Hemodynamics

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前言

产后出血是指分娩后 24 h 内出血量超过 500 mL 的出血事件,临床表现为产道流血、失血性休克以及继发性失血等,是分娩时期严重的并发症之一[1,2]。据相关研究报道[3,4],分娩后发生产后出血的几率为 2-3%,若未给予及时有效的治疗,产妇将面临切除子宫、死亡等严重后果。子宫收缩乏力、软产道裂伤、凝血功能障碍、胎盘娩出异常等均可引发产后出血,在临床上需要寻找有效的治疗药物积极预防产后出血,改善预后,提高产妇的生活质量,对产妇的生命健康具有重要的意义[5-7]。缩宫素为临床常用的治疗产后出血病症的药物,但由于产妇存在个体差异性,药物的应用效果差别较大[8,9]。卡前列素氨丁三醇是一种前列腺 E1 衍生物,近年来已有研究发现该药物用于产后出血疗效较好[10]。鉴于此,本研究通过对比分析缩宫素与卡前列素氨丁三醇联合使用对产后出血患者凝血功能、血流动力学以及生活质量的影响,旨在为临床患者产后出血防治提供数据支持。

1 资料与方法

1.1 一般资料

选取 2014 年 1 月 -2017 年 4 月间我院收治的产后出血患者 126 例。纳入标准:(1)所有患者均实施剖宫产手术;(2)具有巨大儿、羊水过多、前置胎盘上述高危妊娠因素之一者;(3)所有患者均为单胎头位;(4) 患者及其家属知情本研究并签署知情同意书。排除标准:(1)妊娠期合并高血压、糖尿病者;(2)对本研究使用药物存在禁忌症者;(3) 患有精神疾病史者;(4)伴有凝血功能障碍者;(5)伴有传染性疾病者。按照乱数表法分为对照组(n=63)与研究组(n=63),其中对照组年龄 25-35 岁,平均(29.86± 1.53)岁;孕龄为 38-41 周,平均(39.86± 0.48)周;体质量指数为 21-24 kg/m^2,平均(22.35± 0.28)kg/m^2;危险因素:巨大儿 15 例, 羊水过多 20 例, 前置胎盘 28 例。研究组年龄 25-36 岁,平均(30.15± 1.28)岁;孕龄为 37-41 周,平均(39.57± 0.46)周;体质量指数为 21-25 kg/m^2,平均(23.04± 0.28)kg/m^2;危险因素:巨大儿 18 例,羊水过多 22 例,前置胎盘 23 例。两组患者一般资料比较无统计学差异(P>0.05),本研究符合医院伦理委员会制定的相关规定,并已获得委员会批准。

1.2 治疗方法

所有患者均实施剖宫产手术。术后按以下操作方式进行给药,对照组:胎儿娩出以后给予静脉滴注缩宫素(深圳瀚宇药业股份有限公司,国药准字:H20059993,规格:5U)20 U,并于宫体内注射缩宫素 20 U。研究组:胎儿娩出以后给予静脉滴注缩宫素 20 U,并于宫壁内注射卡前列素氨丁三醇(常州四药制药有限公司,国药准字:H20094183,规格:1 mL:250 μg)250 μg。若上述两种方式注射 15 min 后仍有大量出血, 则进行再次注射,次数控制在 4 次以内,卡前列素氨丁三醇总药量不超过 2 mg。

1.3 观察指标

(1)观察并比较两组患者产后出血情况,包括产后出血发生率、产后 2 h 出血量、产后 24 h 出血量;(2)观察并比较两组患者凝血功能各项指标情况, 包括活化部分凝血活酶时间(APTT)、血浆凝血酶原时间(PT)、血浆凝血酶时间(TT)、纤维蛋白原(Fg)。(3)观察并比较两组患者治疗前、治疗 2 h 后、治疗 24 h 后血流动力学各项指标情况,包括心率(HR)、收缩压(SBP)、舒张压(DBP)、血氧饱和度(SPO_2)。(4)采用生活质量评定问卷 -74(GQOLI-74)量表评分评价两组患者治疗后的生活质量[11]。该量表包括躯体功能、情感职能、精神健康、社会功能、社会活动 5 个维度,分数越高则说明患者的生活质量越高。(5)观察并比较两组患者治疗后不良反应发生情况。

1.4 统计学方法

采用 SPSS23.0 进行统计分析,产后出血量、凝血功能各项指标等计量资料以($\bar{x}$± s)表示,实施 t 检验,不良反应发生率、产后出血发生率等计数资料以率或百分比表示,实施 x^2 检验,检验标准设置为α=0.05。

2 结果

2.1 两组患者产后出血情况比较

研究组患者产后出血发生率、产后 2 h 出血量以及产后 24 h 出血量均明显低于对照组(P<0.05),见表 1。

表 1 两组患者产后出血情况比较

Table 1 Comparison of postpartum hemorrhage between the two groups

Groups	n	Incidence of postpartum hemorrhage(%)	Amount of postpartum 2 h bleeding(mL)	Amount of postpartum 24 h bleeding(mL)
Control group	63	14(22.22)	465.56± 109.08	527.31± 191.25
Research Group	63	3(4.76)	323.53± 102.15	364.37± 151.12
t/x^2		8.228	7.544	5.306
P		0.004	0.000	0.000

2.2 两组患者凝血功能各项指标情况比较

两组患者 APTT、PT、TT、Fg 相比无统计学差异(P>0.05),见表 2。

2.3 两组患者不同时间的血流动力学各项指标情况比较

两组患者治疗前 HR、SBP、DBP 比较无统计学差异(P>0.05);治疗 2 h 后两组患者 HR 较治疗前升高,且对照组高于研究组,SBP、DBP 较治疗前降低, 且对照组低于研究组(P<0.05);治疗 24 h 后研究组患者 SBP 高于对照组(P<0.05);两组患者不同时间的 SPO_2 比较均无统计学差异(P>0.05),见表 3。

2.4 两组患者生活质量比较

研究组患者的躯体功能、精神健康、情感职能、社会活动以及社会功能得分均高于对照组(P<0.05),见表 4。

2.5 两组患者不良反应发生情况比较

对照组患者有 2 例血压升高,1 例恶心抽搐,2 例面色潮

红，不良反应发生率为 7.94%(5/63)，研究组患者有 2 例腹泻，1 例血压升高，1 例面色潮红，不良反应发生率为 6.35%(4/63)。两组患者不良反应发生率比较无统计学差异(x^2=0.120，P=0.729)。

表 2 两组患者凝血功能各项指标情况比较($\bar{x}\pm s$)

Table 2 Comparison of various indexes of coagulation function between the two groups ($\bar{x}\pm s$)

Groups	n	APTT(s)	PT(s)	TT(s)	Fg(g/L)
Control group	63	29.18± 6.55	12.01± 5.35	18.24± 5.68	4.56± 1.58
Research Group	63	30.01± 6.04	13.23± 5.12	17.78± 5.25	4.24± 1.15
t		0.739	1.297	0.472	1.300
P		0.461	0.197	0.638	0.196

表 3 两组患者不同时间的血流动力学各项指标情况比较($\bar{x}\pm s$)

Table 3 Comparison of hemodynamic indexes at different time between the two groups($\bar{x}\pm s$)

Groups	Time	HR(n/min)	SBP(mmHg)	DBP(mmHg)	SPO_2(%)
Control group(n=63)	Before treatment	91.93± 17.21	125.81± 17.19	74.47± 14.39	98.04± 1.23
	After treatment for 2h	112.56± 19.30*	96.09± 22.10*	56.12± 13.20*	98.35± 1.18
	After treatment for 24h	94.26± 17.31	121.96± 21.83	72.17± 21.34	98.09± 0.46
Research Group (n=63)	Before treatment	92.29± 16.30	127.96± 16.83	74.87± 14.28	98.18± 1.02
	After treatment for 2h	101.81± 18.35*#	117.96± 21.83*#	68.94± 15.01*#	98.38± 1.04
	After treatment for 24h	93.27± 16.22	129.96± 22.54#	73.27± 18.06	98.26± 0.55

Note: compared with before treatment, *P<0.05; compared with control group, #P<0.05.

表 4 两组患者生活质量比较($\bar{x}\pm s$，分)

Table 4 Comparison of the quality of life between the two groups($\bar{x}\pm s$, score)

Groups	n	Somatic function	Mental health	Emotional function	Social activities	Social function
Control group	63	57.24± 16.26	52.56± 15.74	52.78± 10.56	64.79± 13.45	70.45± 15.27
Research Group	63	70.89± 17.35	78.34± 16.51	83.81± 15.56	84.75± 15.63	89.63± 12.34
t		4.556	8.970	13.097	7.683	7.754
P		0.000	0.000	0.000	0.000	0.000

3 讨论

近年来，为了最大程度保障母婴安全，越来越多的高龄妊娠产妇选择剖宫产终止妊娠。而剖宫产产后出血作为分娩时期最为严重的并发症，是导致孕产妇死亡的四大原因之一，由产后出血而引起的输血相关性传染疾病、子宫切除、多器官功能障碍等严重威胁产妇的预后和生活质量[12-14]。目前，临床上治疗产后出血的主要方法有手术、子宫填塞以及药物治疗，其中药物治疗是临床上首选的治疗方式[15]。缩宫素是常用于引产、催产以及产后出血的治疗，在治疗产后出血时其能够与子宫平滑肌收缩受体结合，一经用药 3-5 min 便可产生效果，但缩宫素半衰期及作用时间较短，难以达到理想的治疗效果[16,17]。同时当宫缩效果不佳时，盲目增加缩宫素使用剂量，易增加产妇不良反应发生情况。有研究表明，卡前列素氨丁三醇具有较强的生物活性以及止血作用，其半衰期较长，可直接作用于子宫平滑肌，增强其收缩频率[18,19]。

本研究结果表明，研究组患者产后出血发生率、产后 2 h 出血量以及产后 24 h 出血量均明显低于对照组(P<0.05)，表明缩宫素联合卡前列素氨丁三醇的治疗方案较单用缩宫素治疗方案疗效显著，可有效降低产后出血发生率，同时减少产后出血量。张建梅等人报道与本研究结果基本一致[20,21]。分析其原因，一方面是由于卡前列素氨丁三醇含有天然的前列素氨丁三醇，该药被机体吸收以后，可提高细胞中钙离子浓度，并促进肌原纤维收缩，从而促进子宫平滑肌收缩，压迫胎盘附着部位血窦，并纠正宫缩乏力，最终降低产后出血量，达到治疗效果[22-24]。另一方面卡前列素氨丁三醇与缩宫素联合使用，可刺激细胞间隙连接形成，并刺激血管活性物质的释放，进而降低产后出血量[25-27]。通常情况下，因平滑肌收缩的影响，小部分患者会出现不良反应症状，如恶心、血压升高、面色潮红等，本研究中两组患者不良反应发生率比较无差异(P>0.05)，显示缩宫素联合卡前列素氨丁三醇治疗安全性较好，无不良副作用。本次研究还显示，治疗 2 h 后两组患者 HR 较治疗前升高，且对照组高于研究组，SBP、DBP 较治疗前降低，且对照组低于研究组，治疗 24 h 后研究组患者 SBP 高于对照组(P<0.05)，表明患者接受不同的用药治疗方案后 HR、SBP、DBP 均存在一定程度的差异，提示缩宫素联合卡前列素氨丁三醇可有效维持血流动力学的稳定。究其原因，主要是因为卡前列素氨丁三醇可发挥与催产素类似的药理作用，促进子宫收缩，同时增加子宫张力，对子宫的作用具有高度的选择性。并且对患者自身的循环系统影响不大，可维持患者血流动力学稳定[28-30]。另外研究组患者躯体功

能、精神健康、情感职能、社会活动以及社会功能得分均高于对照组(P<0.05),提示患者经药物联合治疗后预后较好,生活质量显著提升。同时研究组患者 APTT、PT、TT、Fg、SPO_2 与对照组相比差异无统计学意义(P>0.05),表明缩宫素联合卡前列素氨丁三醇治疗产后出血患者对患者本身凝血功能、SPO_2 无影响,安全可靠。

综上所述,缩宫素与卡前列素氨丁三醇联合治疗产后出血具有较好的疗效,可达到减少产后出血量、增强子宫收缩的效果,并有效保持患者凝血功能、血流动力学稳定,提高生活质量,安全性高,适于临床推广。

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