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产程时间及产程干预对单胎足月初产妇宫缩乏力性产后出血的影响

史文华 孙 蕾 孙思维 李绪东 戴 旭 蔡 雁[△]

(哈尔滨医科大学附属第四医院 黑龙江 哈尔滨 150001)

摘要 目的:探讨产程时间及产程干预对单胎足月初产妇宫缩乏力性产后出血的影响。**方法:**本次研究纳入 2017 年 1 月-2020 年 12 月于我院分娩单胎足月初产妇患者,根据第一产程时间并通过 PSM 法匹配分组,第一产程时间 <8 h 和 ≥ 8 h 产妇各 771 例;分析一般资料、产程时间及宫缩乏力性产后出血发生情况,评价产程时间及产程干预与宫缩乏力性产后出血发生情况间关系。**结果:**两组年龄、孕次及孕周比较差异无统计学意义($P>0.05$); ≥ 8 h 组及各亚组第二产程时间和第一产程+第二产程时间均显著长于 <8 h 组($P<0.05$); ≥ 8 h 组、16~20 h 组及 ≥ 20 h 组产后出血率均显著高于 <8 h 组($P<0.05$);接受或未接受产程干预情况下 ≥ 8 h 组第二产程时间和第一产程+第二产程时间均显著长于 <8 h 组($P<0.05$); ≥ 8 h 和 <8 h 组接受产程干预后第一产程时间、第二产程时间及第一产程+第二产程时间均显著长于未接受产程干预($P<0.05$); ≥ 8 h 组接受产程干预后产后出血率显著高于未接受产程干预($P<0.05$)。**结论:**单胎足月初产妇宫缩乏力性产后出血发生随第一产程时间增加而升高,同时第二产程时间往往随第一产程时间增加而增加。

关键词:产程时间;单胎;足月初产妇;宫缩乏力性产后出血

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Influence of Labor Process Time and Intervention on Postpartum Hemorrhage Caused by Uterine Atony in Singleton Full-term Primipara

SHI Wen-hua, SUN Lei, SUN Si-wei, LI Xu-dong, DAI Xu, CAI Yan[△]

(The Fourth Affiliated Hospital of Harbin Medical University, Harbin, Heilongjiang, 150001, China)

ABSTRACT Objective: To investigate the influence of labor process time and intervention on postpartum hemorrhage caused by uterine atony in singleton full-term primipara. **Methods:** Singleton full-term primipara were chosen in the period from January 2017 to December 2020 in our hospital and were grouped according to the first stage time of labor and matched by PSM method included <8 h group and ≥ 8 h group each with 771 cases. The general information, duration of labor and uterine atony postpartum hemorrhage were analyzed and the relationship between the time and intervention of labor process and the occurrence of postpartum hemorrhage due to uterine inertia were evaluated. **Results:** There was no significant difference in age, gestational times and gestational weeks between 2 groups($P>0.05$). The second stage time of labor and the first stage + second stage of labor in gestational weeks between 2 groups inertia were evaluated. relations ($P<0.05$). The postpartum hemorrhage rate of tage + second stage of labor in gestational weeks between 2 groups inertia h group($P<0.05$). The second stage of labor and the first stage + second stage of labor in ional weeks between 2 groups inertia were evaluated. relationship between intervention($P<0.05$). The first, second and first stage + second stages of labor of f laboroup and <8 h group with labor intervention were significantly longer than without labor intervention ($P<0.05$). The postpartum hemorrhage rate of rvention were significantly longer than without laborhigher than without labor intervention ($P<0.05$). **Conclusion:** The incidence of postpartum hemorrhage due to uterine atony in singleton term primipara increased with the increased of the first stage time of labor, while the second stage time of labor often increased with the increased of the first stage time of labor.

Key words: Labor time; Singleton; Term primipara; Uterine atony postpartum hemorrhage

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前言

本世纪初国外学者提出产程进展新模式,提出通过放宽产程时限可降低剖宫产风险^[1];但这一理论指导下分娩时间延长,

子宫平滑肌细胞持续疲劳,收缩力减弱,可能导致产后出血发生风险升高^[2]。近年来针对产程时间与产后出血间关系医学界开展诸多研究,但关注重点多集中于第二产程,忽视第一产程时间延长对于子宫平滑肌及产后出血风险的影响^[3,4]。基于以上证据,本次研究纳入 2017 年 1 月-2020 年 12 月于我院分娩单胎足月初产妇患者,根据第一产程时间并通过 PSM 法匹配分组,旨在探讨产程时间及产程干预对单胎足月初产妇宫缩乏力性产后出血的影响,现报道如下。

作者简介:史文华(1962-),本科,研究方向:高危妊娠,异常分娩的处理,产后出血的预防及处理

[△] 通讯作者:蔡雁,主任医师,教授,博士生导师

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1 资料与方法

1.1 研究对象

本次研究纳入 2017 年 1 月 -2020 年 12 月于我院分娩单胎足月初产妇患者, 根据第一产程时间并通过 PSM 法匹配分组, 第一产程时间 <8 h 和 ≥ 8 h 产妇各 771 例, 同时根据有无接受产程干预再分亚组。纳入标准: ① 单胎; ② 孕周 37~41 周 +6; ③ 头先露; ④ 初产妇; ⑤ 阴道分娩。排除标准: ① 早产; ② 过期妊娠; ③ 胎位异常; ④ 产妇年龄 ≥ 35 岁; ⑤ 妊娠期高血压疾病; ⑥ 妊娠期糖尿病或糖尿病合并妊娠; ⑦ 前置胎盘; ⑧ 胎盘早剥; ⑨ 胎盘胎膜残留; ⑩ 重要脏器功能不全。研究设计符合《赫尔辛基宣言》要求。

1.2 方法

产程管理参考国内专家共识要求^[9], 采用相同产后出血预

防措施, 即胎儿前肩娩出快速静脉滴注缩宫素 10U。查阅病例记录年龄、孕次、孕周、产程时间及产后出血发生情况; 产后出血判定标准: 娩出后 24 h 内出血量 ≥ 500 mL^[6]; 产后出血量评估采用积血器法、称重法及血红蛋白法。

1.3 统计学处理

选择 SPSS18.0 软件处理数据; 正态性评估采用 Kolmogorov-Smirnov 检验, 符合正态分布计量资料比较采用 t 检验, 以 ($\bar{x} \pm s$) 表示; 计数资料比较采用 χ^2 检验或 Fisher 确切概率法, 以 % 表示; $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 一般资料分析

两组年龄、孕次及孕周比较差异无统计学意义 ($P > 0.05$); 见表 1。

表 1 一般资料分析

Table 1 Analysis of general data

Index	≥ 8 h group (n=771)	< 8 h group (n=771)	P
Age (years)	26.43 ± 5.87	25.85 ± 5.40	0.21
Number of pregnancies (times)	1.79 ± 0.47	1.83 ± 0.52	0.95
Gestational age (weeks)	39.14 ± 1.80	39.39 ± 1.42	0.82

2.2 产程时间与宫缩乏力性产后出血发生情况间关系分析

≥ 8 h 组及各亚组第二产程时间和第一产程 + 第二产程时

间均显著长于 <8 h 组 ($P < 0.05$); ≥ 8 h 组、16~20 h 组及 ≥ 20 h 组产后出血率均显著高于 <8 h 组 ($P < 0.05$); 见表 2。

表 2 产程时间与宫缩乏力性产后出血发生情况间关系分析

Table 2 Analysis of the relationship between the time of labor process and the occurrence of postpartum hemorrhage due to uterine inertia

Index	≥ 8 h group (n=771)	8~12 h group (n=349)	12~16 h group (n=241)	16~20 h group (n=144)	≥ 20 h group (n=42)	< 8 h group (n=771)	P
The first stage of labor (h)	13.42 ± 2.47	10.63 ± 2.21	14.78 ± 2.16	18.03 ± 2.29	22.89 ± 4.05	5.70 ± 0.90	-
The second stage of labor (h)	0.90 ± 0.34	0.91 ± 0.26	0.90 ± 0.30	1.04 ± 0.37	1.30 ± 0.49	0.71 ± 0.15	0.00
The first stage + second stage of labor (h)	14.49 ± 2.80	11.65 ± 1.50	15.46 ± 3.27	19.29 ± 3.70	23.43 ± 5.87	6.85 ± 1.20	0.00
Postpartum hemorrhage	62	19	16	21	6	36	0.00

2.3 产程干预与宫缩乏力性产后出血发生情况间关系分析

接受或未接受产程干预情况下 ≥ 8 h 组第二产程时间和第一产程 + 第二产程时间均显著长于 <8 h 组 ($P < 0.05$); ≥ 8 h 和 <8 h 组接受产程干预后第一产程时间、第二产程时间及第一产程 + 第二产程时间均显著长于未接受产程干预 ($P < 0.05$); ≥ 8 h 组接受产程干预后产后出血率显著高于未接受产程干预 ($P < 0.05$); 见表 3。

3 讨论

目前认为产后出血发生与子宫收缩乏力、凝血功能障碍、胎盘因素及软产道裂伤等因素有关; 而子宫收缩乏力被认为是导致产后出血最为最主要诱因^[7,8]。已有研究显示^[9,10], 产程时间

与产后出血存在密切联系, 但以往关注点多在第二产程时间与产后出血间。第一产程时间理论上亦与第二产程时长有关, 第一产程延长亦可造成子宫平滑肌细胞疲劳, 对第二产程进展产生不利影响; 同时其还可能导产程干预率提高, 最终导致产后出血发生^[11,12]。相关实验研究认为^[13,14], 产程时间延长可影响子宫平滑肌兴奋收缩偶联效应, 而持续宫缩能够造成子宫平滑肌细胞膜上缩宫素受体数量下降, 钙内流减少, 导致细胞内钙离子浓度随之降低; 此外胎头长时间压迫子宫下段导致局部缺氧, 细胞内 pH 值降低, 亦可造成缝隙连接数量减少, 影响子宫整体收缩效率^[15,16]。

本次研究结果显示, 随第一产程时间增加第二产程时间亦显著增加, 与既往报道结果相符^[17,18], 进一步证实第一产程与第

表 3 产程干预与宫缩乏力性产后出血发生情况间关系分析

Table 3 Analysis of the relationship between labor intervention and postpartum hemorrhage caused by uterine inertia

Index	≥ 8 h group(n=771)	8~12 h group(n=349)	12~16 h group(n=241)	16~20 h group(n=144)	P
The first stage of labor (h)	11.46± 2.64	5.02± 1.10	14.05± 3.39	6.20± 1.83	0.00
The second stage of labor(h)	0.71± 0.22	0.65± 0.15	1.06± 0.41	0.83± 0.19	0.00
The first stage + second stage of labor (h)	11.52± 2.60	5.27± 1.15	15.84± 2.21	7.47± 1.69	0.00
Postpartum hemorrhage	7	24	55	12	0.04

二产程间所存在紧密联系。第一产程时间过长可能导致胎头对子宫下段长时间压迫,继发组织水肿^[19,20];同时产妇体能大量消耗及宫缩痛影响摄食,使得产妇在进入第二产程处于极度疲劳状态^[21,22];此外缩宫素使用增加可导致宫缩乏力性产后出血风险进一步增加。上述些因素均可能导致产妇第二产程时间增加^[23,24]。但本次研究结果中,第一产程≥ 20 h 组和 16~20 h 组第二产程时间比较差异无统计学意义,笔者认为这可能与临床医生在实践中为避免产程时间过长而终止妊娠有关。此外≥ 8 h 组、16~20 h 组及≥ 20 h 组产后出血率均显著高于<8 h 组 ($P<0.05$),证实随第一产程时间增加,产妇出现宫缩乏力性产后出血风险升高,与以往报道结果相符^[25,26]。同时笔者还观察到产妇在宫缩乏力性产后出血率达到一定水平后进入平台期,这可能因人为结束分娩造成。

研究结果显示,产妇随第一产程时间增加,第二产程时间增加,而产程干预比例亦随之在增加。产程干预一般在发生产程停滞及先露下降停滞情况下实施,往往表明产程进展出现障碍,产程时间过长^[27]。本次研究结果中,≥ 8 h 组接受产程干预后产后出血率显著高于未接受产程干预 ($P<0.05$),进一步表明产程时间过长则宫缩乏力性产后出血发生风险更高。另有研究提示^[20],产程过程中缩宫素使用时间增加可导致产后出血率升高,这主要与缩宫素受体脱敏有关;同时产妇接受缩宫素催产及引产子宫缩宫素受体水平较基线水平显著降低。近年来分娩镇痛已被广泛应用于临床,有报道提示分娩镇痛可能导致第二产程时间增加;亦有学者认为分娩镇痛可同时影响第一产程和第二产程时间,造成两者显著延长^[28,29]。分娩镇痛导致产程时间延长具体机制仍不明确,可能与分娩镇痛导致前列腺素 F2α (PGF2α) 所诱导子宫收缩受抑制有关^[30]。

综上所述,单胎足月初产妇宫缩乏力性产后出血发生随第一产程时间增加而升高,同时第二产程时间往往随第一产程时间增加而增加。

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