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球囊引产+破膜+缩宫素引产在足月妊娠生产中作用观察*

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摘要 目的:探究球囊引产联合人工破膜及缩宫素在足月妊娠中的引产效果。**方法:**选择2019年1月至2019年12月于我院接受治疗的82例足月产妇,按照随机数字表法将其均分为研究组与对照组(每组各41例),对照组产妇实施人工破膜,2 h后如未见有效宫缩则静脉滴注缩宫素,研究组首先于宫颈处放置COOK球囊,取出球囊后进行人工破膜,30 min后静脉滴注缩宫素,对比两组产妇静滴缩宫素至分娩时间、第1产程、第2产程、总产程时间,对比两组产妇不同时间段分娩率,对比两组产妇自然分娩率、胎儿Apgar评分、产后24 h出血量及副作用情况。**结果:**(1)研究组产妇缩宫素静滴至分娩时间、第1产程、第2产程、总产程均明显短于对照组(*P*<0.05);(2)12 h内研究组分娩率明显高于对照组(*P*<0.05);(3)研究组产妇自然分娩率高于对照组(*P*<0.05),胎儿Apgar评分差异不明显(*P*>0.05),产后24 h出血量研究组低于对照组产妇(*P*<0.05);(4)两组产妇羊水浑浊、宫缩过强等副作用发生率对比差异不具有统计学意义(*P*>0.05)。**结论:**应用球囊引产联合人工破膜及静滴缩宫素的方式,能够显著缩短产妇产程,提高自然分娩率,同时还能够降低分娩后产妇阴道出血量,且安全性较高。

关键词:球囊引产;人工破膜;缩宫素;足月妊娠;生产;作用

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The Observation on the Effect of Balloon Induction of Labor + Rupture of Membrane + Oxytocin in Term Pregnancy*

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ABSTRACT Objective: To explore the induction effect of balloon induction combined with artificial rupture of membrane and oxytocin in term pregnancy. **Methods:** 82 full-term pregnant women who were treated in our hospital from January 2019 to December 2019 were selected as the study objects, and were divided into study group and control group (41 patients in each group) according to the random number table method. The control group were treated with artificial rupture of membrane. If there was no effective uterus 2 hours later Oxytocin was infused intravenously in the experimental group. The study group first prevented the cook balloon at the cervix. After the balloon was taken out, the artificial membrane was broken, and oxytocin was infused intravenously 30 mins later. The delivery time from oxytocin infusion to delivery, the first, the second and the total delivery time of the two groups were compared. The delivery rate of the two groups in different periods of time was compared. The natural delivery rate, fetal Apgar score, postpartum delivery rate of the two groups were compared. **Results:** (1) The delivery time, the first, the second and the total delivery time of oxytocin in the study group were significantly shorter than those in the control group (*P*<0.05). (2) The delivery rate in the study group was significantly higher than that in the control group within 12 hours (*P*<0.05). (3) The natural delivery rate in the study group was higher than that in the control group (*P*<0.05), and the fetal AP was significantly higher than that in the control group (*P*<0.05). There was no significant difference in Gar score (*P*>0.05), 24-hour postpartum hemorrhage in the experimental group was lower than that in the control group (*P*<0.05). There was no significant difference in the incidence of side effects such as amniotic fluid turbidity and uterine contraction between the two groups (*P*>0.05). **Conclusion:** The application of balloon induction combined with artificial rupture of membrane and intravenous drip of oxytocin can significantly shorten the delivery process and improve the natural delivery rate. At the same time, it can reduce the amount of vaginal bleeding after delivery, and has high safety.

Key words: Induction of labor by balloon; Artificial rupture of membrane; Oxytocin; Term pregnancy; Production; Effect

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前言

随着近些年我国二胎政策的全面开放,新生儿的出生率出现逐年递增趋势,产妇分娩时各类并发症的发生率也有了明显提升，对产妇围产期的干预成为医务工作者研究的重点方向。过期妊娠是指妊娠达到或超声 42 w 的现象，其发生率约占妊娠总数的 5 %~12 %,研究指出,过期妊娠的胎儿围产病率和死亡率都会出现明显的增高，且随着妊娠期的延长而正向递增，妊娠 43 w 时围产儿死亡率是正常妊娠期胎儿的 3 倍左右，44 w 时增致正常的 5 倍[1-3]。尤其是过期妊娠的初产妇,其危险性较经产妇更高,胎儿死亡率更高,胎儿窘迫、羊水量减少、分娩困难等事件频发,因而加强对过期妊娠产妇的干预是贯彻我国优生优育政策的重要途径[4-6]。注射缩宫素是临床常引产较为传统的方式,能够显著降低剖宫产率,但研究指出药物促进宫颈成熟存在一定的弊端，如促进宫颈成熟的同时还会导致宫缩、易增加胎儿窘迫发生率等[7,8]。球囊是近些年新兴的促宫颈成熟方式,该方式具有较好的软化宫颈、扩张子宫颈的效果,在临床上应用较多[9,10]。本文作者通过研究发现,应用球囊引产联合人工破膜及静滴缩宫素的方式，能够显著缩短产妇产程,提高自然分娩率,同时还能够降低分娩后产妇阴道出血量,且安全性较高,现详述如下。

1 资料与方法

1.1 一般资料

选择 2019 年 1 月至 2019 年 12 月于我院接受治疗的 82 例足月产妇，按照随机数字表法将其均分为研究组与对照组(每组各 41 例),对照组产妇年龄 21-37 岁,平均年龄(26.59±1.66)岁,孕周 37-42 周,平均孕周(40.26±1.36)周,研究组产妇年龄 22-38 岁,平均年龄(26.44±1.76)岁,孕周 38-42 周,平均孕周(40.13±1.44)周,两组产妇一般资料对比无差异(P>0.05),具有可比性。

纳入标准:(1)意识清晰能够配合进行调研;(2)病历资料齐全;(3)胎膜完整;(4)单胎足月妊娠产妇;(5)宫颈 Bishop 评分 <6 分;(6)宫颈质地柔软,可实施人工破膜;(7)阴道分泌物检查正常;(8)调研经医院伦理学会批准实施;(9)产妇家属签署知情同意书。

排除标准:(1)合并精神疾患者;(2)存在阴道分娩绝对或相对禁忌症者;(3)合并恶性肿瘤者;(4)调研依从性差者。

1.2 方法

两组产妇入院后实施相同护理措施,研究组产妇首先放置 COOK 球囊,取截石位,对其外阴和阴道进行常规消毒,使用窥阴器暴露产妇宫颈,将 COOK 球囊导管插入患者宫颈内口,而后向其中注入 40 mL 的生理盐水,并向外牵拉导管将阴道球囊拉至宫颈口外,此时子宫球囊应紧贴宫颈内口,向阴道球囊内注入 20 mL 生理盐水后取出窥阴器,而后交替向阴道球囊和子宫球囊内注入生理盐水(每次 20 mL),注意球囊最大容积为 80 mL,具体应参考产妇情况,而后将导管外端贴于产妇大腿内侧,孕妇可以自由活动,放置 12 h 取出球囊,立即进行 Bishop 评分。待产妇宫颈 Bishop 评分≥ 6 分后,医务人员使用产科钳夹破胎膜,实施人工破膜,30 min 后如产妇仍未出现自然临产,则静脉滴注缩宫素(生产厂家:上海禾丰制药有限公司,规格 10 U/ 支,批准文号:国药准字 H31020850),直至产妇出现有效宫缩;对照组患者则不适用球囊直接进行人工破膜,而后根据产妇情况选择是否静滴缩宫素;两组产妇静滴缩宫素中应持续进行胎心监测,缩宫素应用 12-16 h 后宫颈扩张≤ 1 cm 视为引产失败。

1.3 观察指标及评测标准

1.3.1 **临产时间** 分别统计两组产妇静滴缩宫素至分娩时间、第 1 产程、第 2 产程、总产程时间,并实施组间对比。

1.3.2 **各时间段临产率** 分别统计静滴缩宫素后 12 h 以内、12-24 h 以及 24 h 以上两组产妇的临产率,并实施组间对比。

1.3.3 **妊娠结局情况** 分别统计两组产妇自然分娩率、胎儿 Apgar 评分以及产后产妇 24 h 出血量,并进行组间对比。

1.3.4 **副作用发生率** 分别统计两组产妇羊水浑浊、宫缩过度、新生儿窒息等副作用的发生率,并进行组间对比。

1.4 统计学方法

应用 SPSS 19.0,计数资料以率(%)表示,采用卡方检验,计量资料以($\bar{x}\pm s$)表示,采用 t 检验,P<0.05 有统计学意义。

2 结果

2.1 临产时间对比

研究组产妇缩宫素静滴至分娩时间、第 1 产程、第 2 产程、总产程均明显短于对照组，两组对比有统计学意义(P<0.05),如表 1。

表 1 临产时间对比($\bar{x}\pm s$)

Table 1 Comparison of labor time ($\bar{x}\pm s$)

Groups	n	Oxytocin intravenous drop to delivery time(h)	The first stage of labor (h)	The second stage of labor(h)	Total labor(h)
Study group	41	14.26±1.22*	5.36±1.65*	0.51±0.16*	6.16±1.36*
Control group	41	17.26±1.31	11.29±1.55	0.62±0.13	11.98±2.15

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

2.2 各时间段临产率对比

研究组产妇静滴缩宫素 12 h 内临产率明显高于对照组产妇(χ^2=4.201,P=0.04),两组对比有统计学意义(P<0.05),而两组产妇静滴缩宫素 12 -24 和 >24 h 对比无统计学意义(χ^2=2.82,P=0.093;χ^2=1.488,P=0.392),如表 2。

2.3 妊娠结局情况对比

研究组产妇自然分娩率高于对照组（χ^2=4.1,P=0.043),组间对比有统计学意义(P<0.05);两组的胎儿 Apgar 评分对比差异无统计学意义(t=0.818,P=0.416);研究组产后 24 h 出血量低于对照组产妇（t=4.168,P=0.000），两组对比有统计学意义

（P<0.05），如表 3。

2.4 产妇副作用发生率对比

两组产妇各类副作用产妇羊水浑浊、宫缩过度、新生儿窒息等发生率对比差异不具有统计学意义（χ^2=0.156，P=0.693，P>0.05），如表 4。

表 2 各时间段临产率对比[例（%）]

Table 2 Comparison of clinical birth rates [n(%)]

Groups	n	<12 h	12-24 h	>24 h
Study group	41	30(73.17)*	9(21.95)	2(4.88)
Control group	41	21(51.22)	16(39.02)	4(9.76)

表 3 妊娠结局情况对比

Table 3 Comparison of pregnancy outcomes

Groups	n	Natural birth rate(%)	Fetal Apgar Score	24 h postpartum hemorrhage(mL)
Study group	41	39 (95.12)*	9.23±0.21	180.14±20.62*
Control group	41	33 (80.49)	9.18±0.33	198.68±19.65

表 4 产妇副作用发生率对比

Table 4 Comparison of the incidence of maternal side effects

Groups	n	Turbid amniotic fluid	Excessive contractions	Fetal asphyxia	Incidence
Study group	41	2(4.88)	1(2.44)	0(0.00)	3(7.32)
Control group	41	3(7.32)	0(0.00)	1(2.44)	4(9.76)

3 讨论

引产是指妊娠 12 w 以后，因母体或胎儿原因，须采用人工方法诱导子宫收缩而结束妊娠的治疗方式，根据引产时产妇孕周的不同，可将引产区分为中期引产和晚期妊娠引产两大类[11,12]。引产在临床上具有较广泛的使用症，包括子痫、妊娠糖尿病、胎儿生长受限、过期妊娠、胎死宫中等，对过期妊娠产妇应用引产是降低胎儿死亡率、加快产妇预后恢复的重要手段，也是临床上常用途径之一[13,14]。临床研究指出，决定引产是否成功的关键在于宫颈成熟度，当前临床上常用 Bishop 评分法对宫颈成熟度进行评估，如产妇 Bishop 评分低于 3 分，则人工破膜的成功率较低，一般不建议实施人工破膜，如 Bishop 评分位于 4-6 分，一般人工破膜成功率为 50 %左右，评分越高则破膜成功率越高，人工引产成功率也就越高[15-17]。但近些年的临床实践发现，一些临近预产期的足月产妇，会出现假临产征象，如不规则宫缩、见红等[17,18]，但实际上此时产妇宫颈成熟度仍无法满足自然临产条件，对部分合并妊娠并发症的产妇这种情况会增加母体及胎儿的危险系数，迫使产妇选择剖宫产分娩，因而通过干预增加产妇宫颈成熟度并实施人工破膜是产妇自然分娩的重要前提[20,21]。

子宫颈扩张球囊是于 1996 年由美国妇产科医生 Atad 发明的，而后被美国 COOK 公司改良并推广应用于临床，近些年多项研究均指出，应用 COOK 球囊能够加快宫颈成熟、缩短产妇产程，效果明显[22,23]。本文作者通过将 82 例产妇进行分组干预的方式，就 COOK 球囊、人工破膜与缩宫素在足月妊娠产妇引产中的应用效果进行了探究，结果显示，相比于单纯实施人工破膜及静滴缩宫素的对照组产妇，提前应用 COOK 球囊的研究组产妇第 1 产程、第 2 产程、总产程时间均出现了明显的缩短，同时自治疗开始 12 h 内产妇自然分娩的几率大大提升。有研究指出，COOK 球囊的应用能够显著缩短产妇总产程时间，降低足月产妇的剖宫产率、产钳助产率及产后产妇出血量，具有较好的临床价值[24,25]。另有研究指出，COOK 宫颈扩张球囊的应用可以有效扩张宫颈，加快子宫颈成熟，如果能够配合静脉滴注缩宫素则能够有效缩短产程，提高阴道分娩率，且术后并发症较少，效果显著[26,27]。

本研究的结果还显示，COOK 球囊联合静滴缩宫素及人工破膜的研究组产妇自然分娩率更高、产后 24 h 出血量更少，且副作用发生率较低。本文作者分析认为，COOK 球囊是近些年新兴的引产技术，相比于传统的机械式干预措施，COOK 球囊能够在宫颈内口和外口同时提供温和的、持久的扩张力，可以自然渐进的扩展宫颈，同时由于子宫球囊紧贴宫颈内口，还具有促进蜕膜分离的效果。此外还有研究指出，COOK 球囊能够刺激产妇分泌前列腺素，促进宫颈口软化，诱发规律性宫缩的出现，加快产程[28]。有研究通过对 160 例足月产妇实施 COOK 球囊引产发现，球囊促进宫颈成熟的有效率达 100 %，产妇阴道分娩成功率达 81.3 %，提示 COOK 球囊治疗效果显著[29,30]。我们总结认为，COOK 球囊在足月妊娠产妇引产中具有以下优势：（1）球囊放置后不会对产妇活动产生影响，能够无痛的打开产妇宫口，减少产妇疼痛和不适感；（2）球囊能够显著缩短产妇产生，减轻产妇妊娠痛苦；（3）球囊联合缩宫素能够加快宫颈软化；（4）对部分妊娠高血压、羊水偏少等产妇，球囊能够缩短产妇宫缩时间，降低术后并发症可能。

总而言之，应用球囊引产联合人工破膜及静滴缩宫素的方式，能够显著缩短产妇产程，提高自然分娩率，同时还能够降低分娩后产妇阴道出血量，且安全性较高，值得进行临床推广应用。

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