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医学新技术

腹主动脉远端预置球囊阻断治疗凶险型前置胎盘的有效性与安全性

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【摘 要】**目的：**分析凶险型前置胎盘产妇术前运用腹主动脉远端预置球囊的安全性和有效性。**方法：**连续选择2012年5月至2017年5月诊断凶险型前置胎盘产妇共68例，随机分为对照组和观察组各34例，对照组仅采用剖宫产术，观察组术前采用腹主动脉远端预置球囊。对比妊娠结局。**结果：**观察组出血量、输入红细胞悬液均显著少于对照组，泌尿系统和肠道损伤、子宫切除、感染、急性肾衰发生率分别为5.9%(2/34)、2.9%(1/34)、5.9%(2/34)、2.9%(1/34)，均显著低于对照组的23.5%(8/34)、17.6%(6/34)、26.5%(9/34)、20.6%(7/34)，差异有统计学意义(P<0.05)，但两组患者的死亡率、腹腔积血发生率无显著差异(P>0.05)。观察组新生儿1 min和5 min Apgar评分显著高于对照组(P<0.05)。随访6个月观察组产后出血1例，经保守治疗后好转；感染1例，经积极、有效抗生素治愈；下肢动静脉血栓3例，未出现严重下肢缺血坏死、静脉血栓脱落等并发症。术前介入操作1~5 min，平均(2.3±0.9) min，总计放射量45~95 mGy，平均(78.4±16.3) mGy。**结论：**凶险型前置胎盘产妇术前运用腹主动脉远端预置球囊有较好的安全性和有效性。

【关键词】凶险型前置胎盘；腹主动脉远端；球囊；围产期并发症；新生儿Apgar评分
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Effectiveness and safety of balloon occlusion in distal abdominal aorta for parturient women with pernicious placenta previa

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Abstract: Objective To study the effectiveness and safety of balloon occlusion in distal abdominal aorta before the caesarean section for parturient woman with pernicious placenta previa. **Methods** A total of 68 consecutive parturient women diagnosed with pernicious placenta previa between May 2012 and May 2017 were enrolled and then randomly divided into control group and observation group, with 34 cases in each group. The patients in control group received only caesarean section, while those in observation group were treated with balloon occlusion in distal abdominal aorta before caesarean section. The differences in pregnancy outcomes were compared. **Results** The amount of bleeding and red blood cell suspension infusion in observation group were significantly lower than those in control group. The incidences of urinary tract and intestinal injury, hysterectomy, infection, acute renal failure in observation group were 5.9% (2/34), 2.9% (1/34), 5.9% (2/34) and 2.9% (1/34), respectively, significantly lower than 23.5% (8/34), 17.6% (6/34), 26.5% (9/34) and 20.6% (7/34) in control group, with statistically significant differences (P<0.05). The comparison between two groups didn't showed any statistical differences in mortality and the incidence of hemoperitoneum (P>0.05). The 1-min and 5-min Apgar scores of the newborns in observation group was significantly higher than those in control group (P<0.05). Followed-up for 6 months after caesarean section, in operation group, 1 case of postpartum hemorrhage were improved after conservative treatment, and 1 case was infected and then cured by active and effective antibiotics, and 3 cases had lower extremity arteriovenous thrombosis, without developing any severe ischemic necrosis of the lower extremities or venous thrombosis. The duration of preoperative intervention was 1-5 min, with an average of (2.3±0.9) min, and the total amount of radiotherapy dose was 45-95 mGy, with an average of (78.4±16.3) mGy. **Conclusion** Applying balloon occlusion in distal abdominal aorta before the caesarean section for parturient woman with pernicious placenta previa is proved to be effective and safe.

Keywords: pernicious placenta previa; distal abdominal aorta; balloon; perinatal complications; newborn Apgar score

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前 言

据统计，瘢痕子宫孕妇再次妊娠并发凶险型前置胎盘的发生率逐渐上升，1次剖宫产后凶险型前置胎盘的发生率为10%~25%，3次以上高达70%，1次剖宫产后凶险型前置胎盘的发生率是无剖宫产史的5~6倍[1]。凶险型前置胎盘极易引起产科严重出血、子宫切除困难并发症，还明显增加感染、输尿管和肠道损伤、腹腔积血甚至死亡等并发症[2-3]。因此，孕前筛查高危人群，孕期早期发现凶险型前置胎盘患者，采用正确保胎、适时终止妊娠及围产期正确、规范的处理流程，是提高母婴存活、降低产后并发症的关键环节[4]。本研究重点分析凶险型前置胎盘产妇术前运用腹主动脉远端预置球囊的安全性和有效性，为临床合理、有效地治疗凶险型前置胎盘提供参考依据。

1 资料与方法

1.1 对象资料

连续选择2012年5月至2017年5月入广西科技大学第一附属医院产科诊断凶险性前置胎盘产妇共68例，患者有不明原因、反复阴道出血，彩色超声或磁共振成像检查，术中明确诊断为凶险性前置胎盘。采用随机数字法将其分为对照组和观察组，各34例，该研究取得患者的知情同意权。其中对照组产妇有剖宫产史20例，剖宫产次1~3次，平均(1.5±0.3)次，子宫肌瘤切除术6例，年龄26~38岁，平均(29.5±4.7)岁，中央型前置胎盘12例，边缘型22例。观察组有剖宫产史21例，剖宫产次1~3次，平均(1.3±0.5)次，子宫肌瘤切除术5例，年龄24~36岁，平均(28.7±4.6)岁，中央型前置胎盘13例，边缘型21例。两组患者的基线资料具有可比性(P>0.05)。

1.2 研究方法

术前完成麻醉、出血、分娩时机、手术方式、体位等各项评估。对照组仅采用剖宫产术，术前未做干预措施，术中出血可采用楔形切除、局部8字缝扎、宫腔纱条填塞或球囊压迫等。

观察组行腹主动脉远端预置球囊阻断，具体步骤如下：Seldinger法经右侧股动脉入路，埋入5 F动脉鞘，并使用硬交换导丝置于12 F血管鞘，撤出管芯，置入球囊导管CODA。交换V18导丝配合球囊导管CODA在X线透视引导下置入至最下肾动脉水平下缘，B超确定位置后再次详细探查显示如图1所示。将球囊导管固定于体表，转至手术室行剖宫产术。待胎儿娩出后，立即充盈球囊阻断腹主动脉及双侧髂内动脉，根据胎盘植入和术中出血决定是否切除子宫，剥离胎盘后局部缝扎、宫腔球囊填塞等止血，缝合子宫，收起球囊，检查手术创面有无出血。介入操作过程的放射量由数字减影血管造影机记录。

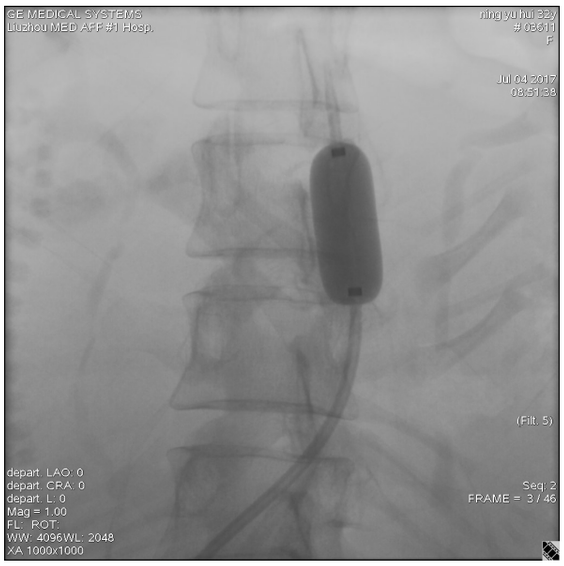

图1 球囊置于腹主动脉处

Fig.1 Balloon placed at the abdominal aorta

术后监测生命体征，子宫收缩及阴道流血情况；保留宫腔引流管通畅，宫腔球囊于术后48 h取出，双下肢制动24 h，右大腿根部加压包扎6 h，观察双侧足背动脉搏动情况。

1.3 观察指标

对比两组患者围产期并发症发生率、新生儿1 min和5 min Apgar评分，随访6个月，记录观察组母婴有无严重并发症发生。

1.4 统计学方法

应用SPSS 19.0软件，计量资料比较采用t检验，计数资料比较采用χ^2检验，P<0.05为差异有统计学意义。

2 结 果

2.1 围产期并发症发生率比较

观察组出血量、输入红细胞悬液均显著少于对照组，泌尿系统和肠道损伤、子宫切除、感染、急性肾衰发生率均显著低于对照组，差异有统计学意义(P<0.05)，但两组患者的死亡率、腹腔积血发生率差异均不具有统计学意义(P>0.05)。见表1。

2.2 新生儿1 min和5 min Apgar评分比较

观察组新生儿1 min和5 min Apgar评分分别为8.2±0.4和9.3±0.2，对照组分别为7.3±0.6和8.1±0.5，观察组显著高于对照组(P<0.05)。

表1 组间患者围产期并发症发生率比较(n=34)

Tab.1 Comparison of perinatal complications in two groups (n=34)

Complications	Control group	Observation group	t/χ^2 value	P value
Bleeding/mL	2 764.9±145.2	664.3±78.9	6.524	<0.001
Red cell suspension/U	4.6±1.3	2.1±1.1	6.112	<0.001
Urinary tract and intestinal injury [cases(%)]	8(23.5)	2(5.9)	4.221	0.040
Hysterectomy [cases(%)]	6(17.6)	1(2.9)	3.981	0.046
Infection [cases(%)]	9(26.5)	2(5.9)	5.314	0.021
Death [cases(%)]	0	0	-	-
Acute renal failure [cases(%)]	7(20.6)	1(2.9)	5.100	0.024
Hemoperitoneum [cases(%)]	7(20.6)	2(5.9)	3.202	0.074

2.3 随访观察

随访6个月，观察组产后出血1例，经保守治疗后好转；感染1例，经积极、有效抗生素治愈；下肢动静脉血栓3例，未出现严重下肢缺血坏死、静脉血栓脱落等并发症。新生儿发育同正常同龄儿。术前介入操作1~5 min，平均（2.3±0.9）min；总计放射量45~95 mGy，平均（78.4±16.3）mGy。

3 讨 论

据报道因凶险型前置胎盘行子宫切除术占所有子宫切除术的40%~60%[5]。孕前筛查高危人群，孕期早诊断和适时分娩，减少出血量和严重并发症的发生。英国产科指南明确指出，对有剖宫产史的患者，再次妊娠必须在孕期明确胎盘位置，排除胎盘植入[6]。超声发现子宫前壁瘢痕处有向前突的小窝，或经阴道超声发现裂隙处聚集微量液体（憩室，或龛影），提示胎盘植入[7]。孕期灰阶超声和多普勒超声是诊断胎盘植入的主要方法[8]，MRI是超声检查显示模糊或不可靠时的辅助检查方法[9]。相关生化检查如HCG和AFP异常增高[10]，孕母血清中胎儿血红蛋白γ链mRNA水平、细胞DNA [11]可作为参考评估胎盘植入。

临床主张建立凶险型前置胎盘的处置流程，术前预防性使用介入治疗阻断子宫血流[12]，术中个体化联合运用剖宫产、子宫动脉栓塞及子宫切除或子宫肌楔形切除[13]，残留胎盘者术后甲氨蝶呤化疗[14]等。据统计，凶险型前置胎盘患者产前和产后出血量大于2 000 mL者占70%，5 000 mL以上占26%，10 000 mL以上者占4%[15]。有效的止血方法有促宫缩药物、B-Lynch缝合、宫腔球囊、分级盆腔血管结扎、填塞等[16]。目前研究发现术前盆腔血管堵塞方法对减少出血、感染、子宫切除等有重要价值[17]。术前18 mm气囊介入堵塞肾下腹主动脉，或髂总动脉及髂内动脉[18]。目前国际指南推荐腹主动脉远端预置球囊阻断术用于胎盘形成异常孕妇的剖宫产术[19]，但也需注意下肢血栓性疾病的发生风险[20]。

本研究得出观察组围产期并发症发生率显著低于对照组，新生儿1 min和5 min Apgar评分显著高于对照组，随访6个月母婴无严重并发症，术前介入射线暴露在安全范围。综上所述，凶险型前置胎盘产妇术前运用腹主动脉远端预置球囊阻断有较好的安全性和有效性。

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