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不同血压控制水平下妊娠期高血压孕妇母儿结局的比较

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[摘要] 目的: 探讨比较不同血压控制水平下妊娠期高血压(gestational hypertension, GHp)孕妇母儿结局。方法: 回顾性收集2015年1月至2017年12月我院收治的296例轻中度GHp孕妇临床资料, 根据孕期血压控制水平(以收缩压、舒张压中较高者进行分组)将孕妇分为四组, A组(<130/80 mmHg)107例, B组[(130~139)/(80~89) mmHg]121例, C组[(140~149)/(90~99) mmHg]36例, D组[(150~159)/(100~109) mmHg]32例, 比较四组重度GHp、子痫前期(PE)、PE伴蛋白尿、重度子痫前期(sPE)、小于胎龄儿发生情况及妊娠结局。结果: 4组重度GHp和sPE发生率比较差异有统计学意义($P<0.05$), 且随着孕期血压水平增高, 重度GHp和sPE发生率呈增高趋势($P<0.05$); 而四组PE和PE伴蛋白尿、小于胎龄儿等发生率比较差异无统计学意义($P>0.05$)。Logistic回归分析显示, 孕期血压水平是轻中度GHp孕妇发生重度GHp的影响因素($P<0.05$); 且孕期血压水平是轻中度GHp孕妇发生sPE的影响因素($P<0.05$); 4组孕妇早产、产后出血、新生儿Apgar评分、新生儿窒息发生率比较差异有统计学意义($P<0.05$), 并随孕妇血压水平上升其早产、产后出血、新生儿Apgar评分、新生儿窒息有增加或降低。结论: 孕妇血压水平可影响母婴结局, 积极控制轻中度GHp孕妇血压水平, 有助于减少重度GHp和sPE发生。

[关键词] 妊娠期高血压; 血压水平; 母儿结局

Comparison of maternal and neonatal outcomes of pregnant women with gestational hypertension among different blood pressure control levels

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Abstract **Objective:** To compare the maternal and neonatal outcomes of pregnant women with gestational hypertension (GHp) under different blood pressure control levels. **Methods:** This retrospective study was collected from a total of 296 mild to moderate GHp patients in the hospital during January 2015 to December 2017. According to the blood pressure control level during pregnancy, pregnant women with relatively higher systolic pressure and diastolic pressure were divided into group A (<130/80 mmHg, 107 cases), group B [(130–139)/(80–89) mmHg, 121 cases], group C [(140–149)/(90–99) mmHg, 36 cases] and group D [(150–159)/(100–109)

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mmHg, 32 cases]. The occurrence of severe GHp, preeclampsia (PE), PE with proteinuria, severe preeclampsia (sPE) and small for gestational age infants and pregnancy outcomes were compared among the four groups. **Results:** Differences in incidences of severe GHp and sPE among the four groups showed statistical significance ($P<0.05$). With the increase of blood pressure during pregnancy, incidences of severe GHp and sPE increased ($P<0.05$). Differences among the four groups in incidences of PE, PE with proteinuria or small for gestational age infants showed no statistical significance ($P>0.05$). Logistic regression analysis showed that blood pressure level during pregnancy was an independent influencing factor of severe GHp and sPE in pregnant women with mild to moderate GHp ($P<0.05$). Differences among the four groups in incidences of premature delivery and postpartum hemorrhage, neonatal Apgar score and incidence of neonatal asphyxia showed statistical significance ($P<0.05$), which changed with the blood pressure level. **Conclusion:** Maternal and neonatal outcomes are affected by maternal blood pressure level. Active control of the blood pressure level in pregnant women with mild to moderate GHp can help to decrease the occurrence of severe GHp and sPE.

Keywords gestational hypertension; blood pressure level; maternal and neonatal outcomes

妊娠期高血压疾病(hypertension disorders complicating pregnancy, HDCP)是产科常见并发症之一, 包括妊娠期高血压(gestational hypertension, GHp)、子痫前期、子痫等一组疾病, 严重威胁母婴健康, 是引起母体及新生儿死亡的常见原因^[1]。研究^[2]证实: 与健康妊娠组比较, GHp组母婴不良结局发生率明显增高。积极有效的血压控制是改善GHp孕妇胎儿结局的关键。研究^[3]表明: 及早对GHp孕妇血压予以干预, 能够减少母婴并发症发生, 改善预后。而关于轻中度GHp孕妇是否应该行降压治疗, 至今尚未形成统一意见。为探讨血压控制水平对轻中度GHp孕妇胎儿结局的影响, 本研究回顾性分析了2015年1月至2017年12月我院收治的296例GHp孕妇临床资料, 现报告如下。

1 对象与方法

1.1 对象

回顾性收集2015年1月至2017年12月我院收治的296例轻中度GHp孕妇临床资料, 所有孕妇均接受规律产检且妊娠20周后首次诊断为轻中度GHp (140~159/90~109 mmHg)(1 mmHg=0.133 kPa), 排除未接受产检或产检不规律者、多胎妊娠者、胎儿畸形等终止妊娠者。根据孕期血压控制水平(以收缩压、舒张压中较高者进行分组)将孕妇分为4组: 其中血压水平<130/80 mmHg者107例为A组, (130~139)/(80~89) mmHg者121例为B组, (140~149)/(90~99) mmHg者36例为C组, (150~159)/(100~109) mmHg者32例为D组。

1.2 孕期血压水平评估

根据孕妇规律产前检查时血压记录情况进行评估。规律产前检查: 首次产前检查时间为孕6~13周, 孕周<28周检查时间间隔为每4周, 孕28~35周检查间隔时间为2周, 孕周 \geq 36周检查间隔时间为1周, 孕周 \geq 40周检查间隔时间为3 d。以全部记录结果的平均值表示孕期血压水平。

1.3 血压控制方法

血压控制方法主要包括药物控制及改变生活方式(注意休息、保证充足睡眠、调整饮食、合理运动、情绪调节及环境因素调理等)。目标血压: 收缩压应控制在130~155 mmHg, 舒张压应控制在80~105 mmHg^[4]。

1.4 资料收集

首次确诊为轻中度GHp时, 收集孕妇一般情况, 主要包括年龄、高龄(年龄 \geq 35岁)产妇比例、孕次、产次、孕前体质量指数(body mass index, BMI); 并统计重度GHp、子痫前期(pre-eclampsia, PE)、PE伴蛋白尿、重度PE(severe PE, sPE)、小于胎龄儿等发生情况。GHp, PE, sPE诊断参照《妊娠期高血压疾病诊治指南(2015年)》^[5]中相关标准, 小于胎龄儿诊断参照《妇产科学(第8版)》^[6]相关诊断标准。

1.5 统计学处理

应用SPSS 20.0软件进行统计分析, 计量资料服从正态性和方差齐性采用均数 \pm 标准差($\bar{x}\pm s$)

进行描述, 多组间比较采用单因素方差分析; 计数资料采用例和百分率进行描述, 比较行卡方检验; 采用logistic回归模型分析孕期血压水平与重度GHP, sPE发生的关系; 以 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 首次确诊为轻中度 GHP 时的一般情况比较

4组年龄、高龄产妇比例、初孕比例、初产比例、孕前BMI等比较差异均无统计学意义($P > 0.05$); 4组初诊收缩压、初诊舒张压比较差异有统计学意义($P < 0.05$, 表1)。

2.2 重度 GHP, PE, PE 伴蛋白尿、sPE、小于胎龄儿发生情况比较

4组重度GHP和sPE发生率比较差异有统计学意义($P < 0.05$), 且随着孕期血压水平增高, 重度GHP, sPE发生率呈增高趋势($P < 0.05$)。而4组PE, PE伴蛋白尿、小于胎龄儿等发生率比较差异无统计学意义($P > 0.05$, 表2)。

2.3 孕期血压水平影响轻中度 GHP 孕妇发生重度 GHP, sPE 的 Logistic 回归分析

对所有轻中度GHP孕妇年龄、初诊收缩压、初诊舒张压、初孕、初产、孕前BMI等一般资料行单因素分析, 结果显示: 年龄、初孕、初产以及孕前BMI与重度GHP, PE, PE伴蛋白尿, sPE, 小于胎龄儿发生率比较无统计学意义; 以是否发生重度GHP为因变量, 以孕期血压水平为自变量, 行logistic回归分析显示: 孕期血压水平($OR = 4.792$, $95\%CI: 1.109 \sim 20.548$; $P = 0.034$)是轻中度GHP孕妇发生重度GHP的影响因素。以是否发生sPE为因变量, 以孕期血压水平为自变量, 行Logistic回归分析显示: 孕期血压水平($OR = 2.112$, $95\%CI: 1.278 \sim 3.513$; $P = 0.005$)亦是轻中度GHP孕妇发生sPE的影响因素。

2.4 母婴结局

4组早产、产后出血、新生儿Apgar评分、新生儿窒息情况比较均有统计学意义($P < 0.05$), 随着孕妇血压水平升高早产、产后出血、新生儿窒息有所增加, 新生儿Apgar评分降低(表3)。

表1 4组一般情况比较($\bar{x} \pm s$)

Table 1 Comparison of general conditions among the 4 groups ($\bar{x} \pm s$)

组别	n	年龄/岁	初诊收缩压/ mmHg	初诊舒张压/ mmHg	高龄产妇/[例(%)]	初孕/[例(%)]	初产/[例(%)]	孕前BMI/($\text{kg}\cdot\text{m}^{-2}$)
A组	107	29.39 \pm 3.67	127.75 \pm 1.93	77.19 \pm 2.14	28 (26.17)	57 (53.27)	100 (93.46)	23.47 \pm 3.49
B组	121	29.84 \pm 3.98	136.75 \pm 1.96	86.18 \pm 2.12	31 (25.62)	63 (52.07)	109 (90.08)	23.79 \pm 3.84
C组	36	29.61 \pm 4.15	146.83 \pm 2.17	96.48 \pm 2.37	14 (38.89)	15 (41.67)	33 (91.67)	24.41 \pm 3.77
D组	32	30.52 \pm 4.25	155.12 \pm 3.74	103.27 \pm 2.82	12 (37.50)	11 (34.38)	29 (90.63)	24.76 \pm 1.12
F/χ^2		0.744	1547.616	1445.965	3.932	4.736	0.877	1.353
P		>0.05	<0.05	<0.05	>0.05	>0.05	>0.05	>0.05

表2 4组重度GHP, PE, PE伴蛋白尿, sPE, 小于胎龄儿发生情况比较

Table 2 Comparison of the occurrence of severe GHP, PE, PE with proteinuria, sPE and small for gestational age infants among the 4 groups

组别	n	重度GHP/[例(%)]	PE/[例(%)]	PE伴蛋白尿/[例(%)]	sPE/[例(%)]	小于胎龄儿/[例(%)]
A组	107	0 (0.00)	26 (24.30)	28 (26.17)	4 (3.74)	7 (6.54)
B组	121	9 (7.44)	34 (28.10)	32 (26.45)	17 (14.05)	13 (10.74)
C组	36	8 (22.22)	10 (27.78)	9 (25.00)	13 (36.11)	2 (5.56)
D组	32	14 (43.75)	8 (25.00)	10 (31.25)	19 (59.38)	1 (3.13)
χ^2		56.799	0.491	0.411	61.389	2.928
P		<0.05	>0.05	>0.05	<0.05	>0.05

表3 四组母婴结局

Table 3 Maternal and neonatal outcomes of the 4 groups

组别	n	早产/[例(%)]	产后出血/[例(%)]	新生儿Apgar评分/分	新生儿窒息/[例(%)]
A组	107	1 (0.93)	0 (0.00)	8.15 ± 1.43	2 (1.87)
B组	121	3 (2.48)	2 (1.65)	7.04 ± 1.32	2 (1.65)
C组	36	2 (5.56)	2 (5.56)	6.69 ± 1.28	3 (8.33)
D组	32	4 (12.50)	3 (9.38)	6.22 ± 1.25	5 (15.63)
F/ χ^2		10.937	11.255	24.932	15.816
P		<0.05	<0.05	<0.05	<0.05

3 讨论

GHP是指于孕20周首次出现,并于产后12周恢复正常的高血压^[7]。随着其病情不断发展,可累及心、肝、肾及胎盘等重要器官、组织,并可导致PE、子痫等发生^[8]。PE、子痫是引起HDCP孕妇不良母婴结局的重要原因,故对孕期血压水平予以积极控制,尽可能避免器官受累,有助于减少妊娠不良事件发生、改善母婴结局^[9-10]。除高血压外,蛋白尿曾经亦是PE诊断的重要指标,随着近年研究深入,临床发现蛋白尿与母婴结局无明显相关性,故而蛋白尿不再作为PE诊断的必需指标。然而蛋白尿毕竟与早发型PE密切相关,因此,PE伴蛋白尿仍有较高研究价值,本研究亦对此进行了相关分析。

研究^[11]证实:有效控制重度GHP,尽量减轻孕期血压波动,对预防孕妇脑血管事件发生有重要意义。研究^[12]表明:对于轻中度GHP孕妇予以积极降压治疗,可预防其向重度GHP进展,然而控制血压水平并不能降低PE、子痫等发生。有学者^[13]指出:孕期血压水平下降会对胎盘血供造成不良影响,引起小于胎龄儿发生,导致不良婴儿结局。但亦有研究^[14]认为:通过有效降压治疗,能够减少轻中度GHP孕妇重度GHP、小于胎龄儿等发生。关于降压治疗是否会影响轻中度GHP孕妇胎儿结局国内外报道观点不一,国内外有关指南亦存在差异。美国妇产科医师协会制定的《妊娠期高血压疾病指南(2013版)》^[15]指出:当孕期血压水平超过160/110 mmHg时建议予以降压治疗,而对于不到上述水平的轻中度GHP则不推荐进行降压治疗。而我国及英国等不少国家的指南^[5,16]均指出:对于轻中度GHP孕妇,亦可考虑进行适当降压治疗。

关于怎样对轻中度GHP孕妇孕期血压水平进

行管理及积极降压治疗是否会对小于胎龄儿造成影响有探讨意义。研究^[17]表明:随着孕周变化,孕期血压水平会随之发生变化,正常妊娠孕妇孕早中期普遍存在生理性血压降低,而孕晚期血压则会出现增高。本研究显示:四组重度GHP, sPE发生率比较:A组<B组<C组<D组,差异均有统计学意义,即孕期血压水平越低,轻中度GHP孕妇发生重度GHP, sPE的风险越小。本研究还进行了logistic回归分析,结果显示,孕期血压水平是轻中度GHP孕妇发生重度GHP, sPE的影响因素。而本研究中,4组PE, PE伴蛋白尿、小于胎龄儿等发生率比较差异无统计学意义。由此认为,控制孕期血压至较低水平,能够预防重度GHP, sPE发生,而小于胎龄儿发生可能与此无关。另外本研究还显示四组孕妇早产、产后出血、新生儿Apgar评分、新生儿窒息发生率比较具有统计学意义且血压水平越高其母婴结局具有明显变化,提示孕妇不同血压水平对母婴结局具有影响作用。

综上所述,孕妇血压水平可影响母婴结局,对于轻中度GHP孕妇,控制其孕期血压至较低水平,对减少重度GHP, sPE发生有积极作用。本研究部分分组病例较少,其结论有待进一步扩大样本量研究加以验证。

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