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老年高血压患者的动态脉压与冠心病并发症及颈动脉粥样硬化的关系研究

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摘要 目的:探讨老年高血压患者的动态脉压(PP)与冠心病并发症及颈动脉粥样硬化的关系。**方法:**选取 2010 年 5 月至 2013 年 6 月在我院就诊的老年性高血压病患者 328 例,168 例单纯性老年高血压患者设为高血压组,160 例合并有冠心病的老年性高血压患者设为高血压合并冠心病组。根据厚度(IMT)是否增大将高血压组分为 IMT 增厚组 94 例和 IMT 正常组 74 例。对动态血压及颈动脉 IMT 进行测定。**结果:**与高血压组相比,高血压合并冠心病组的 24 hAPP、dPP、nPP 等指标以及 24 hASBP、nSBP 等指标均显著提高;而 24 hADBP、dDBP、nDBP 等指标则明显下降;高血压合并冠心病组 24 hA PP $\geq$ 60 mm Hg 的发生率为 57.50%,明显高于高血压组的 39.29%;IMT 增厚组患者的 24 hA PP、dPP 及 nPP 水平均明显高于 IMT 正常组; $\geq$ 60 mmHg 组共 89 例,IMT 为 1.14 ± 0.23 mm,明显高于 <60 mmHg 组 79 例的平均厚度 0.93 ± 0.12 mm ($P < 0.05$)。**结论:**老年高血压患者的动态脉压在冠心病并发症及颈动脉粥样硬化预测方面具有显著的优越性。

关键词: 动态脉压(PP);老年高血压;冠心病;颈动脉粥样硬化

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Research on Relationship of Elderly Hypertensive Patients with Ambulatory Pulse Pressure (PP) and Coronary Heart Disease Complications and Carotid Atherosclerosis

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ABSTRACT Objective: To investigate the relationship of elderly hypertensive patients with ambulatory pulse pressure (PP) and coronary heart disease complications and carotid atherosclerosis. **Methods:** 328 cases of elderly hypertensive patients in our hospital from May 2010 to June 2013 were chosen as the research objects, the mere 168 cases of elderly patients with hypertension were set as the hypertension group, and 160 cases of CHD were set as hypertension combining coronary heart disease group. The hypertension group were divided into IMT thickening group of 94 cases and 74 cases of IMT normal group. Ambulatory blood pressure and carotid artery IMT were measured. **Results:** Compared with the hypertension group, the 24 hAPP, dPP, nPP and 24 hASBP, nSBP of Hypertension combining coronary heart disease group were significantly improved, while the 24 hADBP, dDBP, nDBP were obviously decreased; The incidence of 24 hA PP $\geq$ 60 mm Hg in hypertension combining coronary heart disease group was 57.50%, significantly higher than that 39.29% in hypertension group; the 24 hAPP, dPP and nPP levels of IMT thickening group were significantly higher than the IMT normal group; there were 89 cases of patients in ≥ 60 mmHg group, the IMT was 1.14 ± 0.23 mm, significantly higher than that 79 cases of patients and 0.93 ± 0.12 mm in <60 mmHg group ($P < 0.05$). **Conclusion:** Dynamic pulse pressure in elderly hypertensive patients has obvious superiority in the prediction of coronary heart disease complications and carotid atherosclerosis.

Key words: Ambulatory pulse pressure(pp); Elderly hypertension; Coronary heart disease; Carotid atherosclerosis

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前言

高血压作为心脑血管病的一个主要危险因素已经被广泛认可。动态脉压(PP)作为除收缩压(SBP)与舒张压(DBP)之外又一个导致心脑血管病的独立的危险因素已经备受关注^[1-3]。PP 增大在一定程度上可作为动脉硬化重要标志^[4-6]。不少研究认为颈动脉内膜中层厚度 (IMT) 增加已经成为心血管病的另一独

立的危险因素,可作为判断早期动脉粥样硬化的重要指标^[7,8]。我院通过大量研究,通过探讨 PP 与 IMT 之间的关系,旨在研究老年高血压患者的动态脉压与冠心病并发症及颈动脉粥样硬化的关系,为临床提供一定的参考,现将研究的具体情况报告如下:

1 资料与方法

1.1 临床资料

选取 2010 年 5 月至 2013 年 6 月在我院就诊的老年性高血压病患者 328 例,所有患者的高血压病的诊断均符合 2004

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年中国高血压防治指南(试用本)中的相关诊断标准。除外继发性高血压、贫血及其他严重性血管疾病者。其中,单纯性老年高血压患者 168 例,设为高血压组,男性 102 例,女性 66 例,年龄最小为 57 岁,最大为 84 例,平均年龄 66.84 ± 5.97 岁。根据 IMT 是否增大将其分为 IMT 增厚组 94 例和 IMT 正常组 74 例。合并有冠心病的老年性高血压患者有 160 例,设为高血压合并冠心病组,男性 98 例,女性 62 例,年龄最小为 59 岁,最大为 80 岁,平均为 67.52 ± 6.01 岁。所有患者的冠心病诊断均严格遵照 1979 年世界卫生组织制定的冠心病诊断的相关标准进行。

1.2 方法

1.2.1 对动态血压的测定 自清晨 8:00 ~ 9:00 开始采用美国 Spacelabs 90217 型动态血压监测仪对所有患者的 24 h 的动态血压进行无创性携带式监测。将袖带在非优势臂的上臂固定。24 h 动态血压监测白昼的记录时间为 6:00 ~ 21:59, 间隔 20min, 夜间的记录时间为 22:00 ~ 5:59, 间隔 30 min。测定期间,患者的日常活动不受限制。有效血压的测定次数超过 80%, 视为有效病例。监测结束后对患者 24 h 平均收缩压(24hASBP)、24h 平均舒张压 (24hADBP)、24 h 平均脉压 (24hAPP) 进行记录, 并详细记录白昼平均收缩压 (dSBP)、白昼平均舒张压 (dDBP)、白昼平均脉压(dPP), 夜间平均收缩压(nSBP)、夜间平均舒张压(nDBP)、夜间平均脉压(nPP)等的测定结果。根据平均

脉压 = 平均收缩压 - 平均舒张压的计算方法对平均脉压进行计算。对于入组前接受降压治疗但血压仍未达标的患者, 无需停止服药。

1.2.2 对颈动脉 IMT 的测量 采用 Philips 公司提供的 HDI 5000 SonoCT 型彩色高频实时超声诊断仪, 在二维切面上采取 5~12MHz 的频率对颈总动脉后壁进行探查, 对分叉处, 相距此处远心 1 cm、近心 1 cm 处及左右两侧共 6 点的内膜中层厚度取其平均值记录为颈动脉 IMT。参照 2004 年中国高血压防治指南(试用本)的相关标准, 颈动脉 IMT ≥ 0.9 mm 即为颈动脉内膜中层增厚。

1.3 统计学处理

统计资料以平均值 $\pm$ 标准差 ($\bar{x} \pm s$) 表示。将所得数据导入 SPSS15.0 软件进行分析, 计量资料采用 t 检验, 计数资料采用 χ^2 检验, 以 $P < 0.05$ 作为有统计学差异的标准。

2 结果

2.1 高血压组与高血压合并冠心病组的动态 PP 比较

通过分析可知, 与高血压组相比, 高血压合并冠心病组的 24hAPP、dPP、nPP 等指标以及 24hASBP、nSBP 等指标均显著提高; 而 24hADBP、dDBP、nDBP 等指标则明显下降, 差异有统计学意义 ($P < 0.05$), 详见表 1。

表 1 两组的动态 PP 比较 ($\bar{x} \pm S$, mmHg)

Table 1 Comparison of dynamic PP between two groups ($\bar{x} \pm S$, mmHg)

项目 Projects	高血压组 (n=168) Hypertension group (n=168)	高血压合并冠心病组 (n=160) Hypertension combining coronary heart disease group (n=160)	t	P
24hA SBP	134.83 $\pm$ 11.96	138.12 $\pm$ 13.28	1.978	0.047
24hA DBP	74.45 $\pm$ 8.39	70.82 $\pm$ 8.62	1.995	0.045
24hA PP	60.31 $\pm$ 11.53	67.34 $\pm$ 12.99	3.512	0.007
dSBP	138.55 $\pm$ 12.17	139.96 $\pm$ 13.91	0.683	0.348
dDBP	77.12 $\pm$ 8.94	72.13 $\pm$ 8.75	2.242	0.035
dPP	62.33 $\pm$ 13.01	67.95 $\pm$ 13.32	2.964	0.009
nSBP	127.87 $\pm$ 13.99	134.35 $\pm$ 14.94	7.392	0.003
nDBP	70.65 $\pm$ 9.28	68.28 $\pm$ 9.49	4.715	0.005
nPP	57.22 $\pm$ 12.13	66.15 $\pm$ 12.84	8.542	0.001

2.2 不同 PP 水平冠心病并发症的比较

将所有患者的 24 hA PP 值的不同分为 < 60 mm Hg 与 ≥ 60 mmHg 两组, 据分析可知, 高血压组 24 hA PP ≥ 60 mm Hg

的发生率为 39.29%, 高血压合并冠心病组的发生率为 57.50%, 高血压合并冠心病组明显高于高血压组。差异有统计学意义 ($P < 0.05$)。详见表 2。

表 2 不同 PP 水平冠心病并发症的比较 [n(%)]

Table 2 Comparison of complications of coronary artery disease in different levels of PP [n(%)]

项目 Projects	高血压组 (n=168) Hypertension group (n=168)	高血压合并冠心病组 (n=160) Hypertension combining coronary heart disease group (n=160)	t	P
24hA PP ≥ 60 mm Hg	66 (39.29)	92 (57.50)	3.826	0.007
24hA PP < 60 mm Hg	102 (60.71)	68 (42.50)	2.398	0.025

2.3 IMT 增厚组与 IMT 正常组动态 PP 的比较

IMT 正常组。差异有统计学意义($P<0.05$)。详见表 3。

IMT 增厚组患者的 24hA PP、dPP 及 nPP 水平均明显高于

表 3 IMT 增厚组与 IMT 正常组动态 PP 的比较($\bar{x}\pm S$)Table 3 Comparison of dynamic PP in IMT thickening group and IMT normal group($\bar{x}\pm S$)

组别	IMT(mm)	24hA PP(mmHg)	dPP(mmHg)	nPP(mmHg)
IMT 增厚组 IMT thickening group	1.17 $\pm$ 0.24	65.62 $\pm$ 10.39	64.98 $\pm$ 10.73	64.47 $\pm$ 9.68
IMT 正常组 IMT normal group	0.81 $\pm$ 0.19	57.29 $\pm$ 9.53	58.28 $\pm$ 11.89	55.52 $\pm$ 9.03
t	1.998	4.871	8.936	2.425
P	0.044	0.004	0.002	0.027

2.4 高血压组患者不同动态 PP 水平时 IMT 的比较

将高血压组 168 例按照 24hA PP 的不同水平分为 <60 mmHg 和 ≥ 60 mmHg 两组,由分析可知, ≥ 60 mmHg 组共 89 例,平均 IMT 为 1.14 ± 0.23 mm, <60 mmHg 组共 79 例,平均 IMT 为 0.93 ± 0.12 mm。两组比较差异有统计学意义($P=0.032$)。

3 讨论

心脑血管疾病目前已经成为我国老年人死亡的重要原因之一,高血压被认为是参与心脑血管疾病发生与发展的重要危险因素^[9-11]。近年来,不少学者认为 PP 在预测老年性高血压患者并发心血管疾病中的价值不亚于 SBP 和 DBP^[12-14]。PP 与年龄有着十分密切的关系^[15],SBP 伴随着年龄的不断增长有升高的趋势,但是,DBP 在 50 岁之前尚且可能存在一定的提高,但是,在 50~60 岁维持一定的相对平台期后,开始有所下降。故不少老年高血压患者的 SBP 显著升高但 DBP 不但没有升高,反而不少患者还存在一定的下降,根据平均脉压=平均收缩压-平均舒张压的计算方法可知,老年高血压患者相对于中青年高血压患者的血压存在 pp 值明显增大的重要特征。PP 作为反映大动脉弹性的重要指标,与每搏输出量、心室射血速率以及血管状态即动脉壁的弹性和动脉压力波的反射速度等关系十分密切^[16,17]。我院经过大量的研究,旨在探讨老年高血压患者的动态脉压与冠心病并发症及颈动脉粥样硬化的关系,为临床应用提供一定的借鉴。

与高血压组相比,高血压合并冠心病组的 24hAPP、dPP、nPP 等指标以及 24hASBP、nSBP 等指标均显著提高;而 24hADBP、dDBP、nDBP 等指标则明显下降。差异有统计学意义($P<0.05$)。由此说明,高血压合并冠心病患者的动态 PP 值相对于单纯的高血压患者明显增高。高血压组 24hA PP ≥ 60 mmHg 的发生率为 39.29%,高血压合并冠心病组的发生率为 57.50%,高血压合并冠心病组明显高于高血压组。由此亦可说明,动态 PP 值的明显增大在一定程度上与老年高血压患者并发冠心病的发生有关,是老年高血压患者并发冠心病的重要的危险因素。主要可能与 PP 值增大导致血管的脆性提高,冠状动脉的弹性降低,血液循环减慢,心肌细胞出现供血供氧障碍^[18]有关。在 IMT 增厚组与 IMT 正常组动态 PP 的比较中可以发现,IMT 增厚组患者的 24hA PP、dPP 及 nPP 水平均明显高于 IMT 正常组。差异有统计学意义($P<0.05$)。提示动态 PP 值增大可能是 IMT 增厚的重要的危险因素,而通过将高血压组 168 例按照 24hA PP 的不同水平分为 <60 mmHg 和 ≥ 60 mmHg 两

组进行分析可知, ≥ 60 mmHg 组共 89 例,IMT 为 1.14 ± 0.23 mm,明显高于 <60 mmHg 组 79 例的平均厚度 0.93 ± 0.12 mm。差异有统计学意义($P=0.032$)。证明动态 PP 值增大的患者 IMT 增厚的发生率明显升高。而 IMT 增厚则是颈动脉粥样硬化的重要指标,由此可以进一步证明,动态 PP 值增大是颈动脉粥样硬化的重要的危险因素。主要可能与 PP 值增大,颈动脉的弹性减低,僵硬明显增强^[19,20]有关。

综上所述,老年高血压患者的动态脉压在冠心病并发症及颈动脉粥样硬化预测方面具有显著的优越性。

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