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血清单胺类神经递质及其代谢产物在重度抑郁症及抑郁共病焦虑障碍诊断中的应用(PDF)

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Title: Value of serum monoamine neurotransmitters and their metabolites in diagnosis of comorbid anxiety and depression and major depressive disorder

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关键词：抑郁共病焦虑障碍；抑郁症；单胺类神经递质；代谢产物

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摘要：目的　观察血清单胺类神经递质及其代谢产物在抑郁症及抑郁共病焦虑障碍中水平的变化，并探讨其相关性。　方法　采用高效液相色谱法测定26例抑郁共病焦虑障碍、19例重度抑郁症评定：24项汉密尔顿抑郁量表总分＞24和23例正常人血清的单胺类神经递质代谢产物血清肾上腺素（E）、去甲肾上腺素（NE）、五羟色胺（5-HT）以及二羟基苯乙酸(DOPAC)、高香草酸（HVA）、5-羟基吲哚乙酸（5-HIAA）的浓度，并比较两组上述单胺类神经递质及其代谢产物浓度的变化、比值和相关系数的差异。　结果　抑郁症组患者血清NE和E的浓度分别为（1.95±1.08）、（2.55±0.96）ng/L，共病组为（4.51±3.4）、（4.06±2.26）ng/L，对照组为（4.71±1.93）、（3.89±2.44）ng/L，3组两两之间相比均具有显著差异（$P<0.05$）。共病组血清5-HIAA、HAV的浓度为（0.9±1.5）、（1.58±1.48）ng/L，其浓度与对照组[分别为（0.17±0.08）、（0.76±0.39）ng/L]相比具有显著差异（$P<0.05$）。抑郁症组DOPAC与NE、5-HT与5-HIAA、HVA与5-HIAA的有明显的相关性（$P<0.05$）；同时，抑郁症组与对照组相比，HVA/NE、DOPAC/NE、5-HIAA / NE、5-HT/5-HIAA、DOPAC/ HVA比值存在显著差

异（*P*<0.05），共病组在HVA/NE、5-HT/5-HIAA及DOPAC/ HVA比值有显著差异（*P*<0.05）。抑郁症组与共病组各比值间均无显著差异（*P*>0.05）。　结论　血清单胺类神经递质及其代谢产物可反映大脑单胺类神经递质的平衡状态，其水平变化可作为抑郁症诊断生物标志的一个重要参考指标。

Abstract: Objective To investigate the correlation between comorbid anxiety and depression (CAD) and major depressive disorder (MDD) and the changes of monoamine neurotransmitters and their metabolites in serum. Methods HPLC-ECD was used to determine the levels of epinephrine (E), norepinephrine (NE), 5-hydroxytryptamine (5-HT), 3,4-dihydroxyphenylacetic acid (DOPAC), homovanillic acid (HVA) and 5-hydroxyindole-3-acetic acid (5-HIAA) in sera from 26 cases of CAD patients (CG group), 19 cases of MDD patients (DG group) and 23 cases of healthy adults (HG group). The concentrations, ratios and correlation coefficients of monoamine neurotransmitters and their metabolites were analyzed. Results The concentrations of NE and E were 1.95±1.08 and 2.55±0.96 ng/L, respectively, in the sera from the DG group, 4.51±3.4 and 4.06±2.26 ng/L, respectively, in the sera from the CG group, and 4.71±1.93 and 3.89±2.44 ng/L, respectively, in the sera from the HG group, with significant differences between each two groups (*P*<0.05). The concentration of 5-HIAA and HVA was 0.9±1.5 and 1.58±1.48 ng/L, respectively, in the sera from the CG group, with significant difference from those from the HG group 0.17±0.08 and 0.76±0.39 (*P*<0.05). There was obvious correlation between the changes of DOPAC and NE, 5-HT and 5-HIAA, HVA and 5-HIAA in the DG group. The ratios of 5-HT/5-HIAA, 5-HIAA/NE, HVA/NE and DOPAC/HVA were significantly lower in the DG group than in the HG group (*P*<0.05). The ratios of HVA/NE, 5-HT/5-HIAA and DOPAC/ HVA in the CG group was significantly different from those in the HG group (*P*<0.05). However, there was no significant difference in the ratios between the DG and CG groups (*P*>0.05). Conclusion The serum levels of monoamine neurotransmitters and their metabolites reflect their states of equilibrium in the brain, suggesting that the changes of monoamine neurotransmitters and their metabolites can be used as important biomarkers for diagnosis of depression.

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