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血浆游离脂肪酸代谢轮廓柱前衍生定量方法在糖尿病患者中医虚证分型中的

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Classification of diabetes deficiency syndromes based on plasm profilings using pre-column derivatization quantitative metho

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摘要 以α-溴代苯乙酮为衍生化试剂,十七酸为内标物,建立了糖尿病患者血浆中游离脂肪酸(FFA)代谢谱分析法,实现了6种主要FFA及 的定量分析。用此方法分析了75位临床糖尿病患者的血浆FFA代谢谱,并通过线性判别分析(LDA)对气虚和气阴两虚两种中医虚证进 析,正判率为94.3%。逐步判别分析结果表明,花生四烯酸(C20:4)和油酸(C18:1)承载了这两种虚证的重要信息,可作为潜在的标志 组学技术研究血浆FFA代谢谱与中医虚证的相关关系对规范证候临床诊断,提高中医药诊疗体系的可信度与可重复性具有重要意义。

关键词: 代谢组学 脂肪酸 糖尿病 中医证候

Abstract: A simple metabolic profiling approach for quantitative analysis of free fatty acids (FFAs) in human p high performance liquid chromatography was described and validated, using α-bromoacetophenone as the de reagent and heptadecanoic acid (C17:0) as the internal standard. The quantitations of 6 predominant FFAs ar FFAs were achieved. Plasma fatty acid metabolic profiling of 75 diabetic patients was investigated, and then a multivariate statistical analysis. The linear discriminant analysis (LDA) model was established and validated fo pattern discrimination between Qi-deficiency and Qi and Yin-deficiency, with the hit ratio 94.3%. Stepwise disc analysis (SDA) model indicated that arachidonic acid (C20:4) and oleic acid (C18:1) contained the important in on the two syndromes above, and can be used as potential biomarkers of traditional Chinese medicine (TCM) It is of great significance to systematically study the relationship between fatty acid metabolic profiling and TC syndrome using metabolomics methods, and to improve the credibility and repeatability of clinical diagnosis a treatment system.

Keywords: metabonomics free fatty acids (FFAs) diabetes traditional Chinese medicine (TCM) syndromes

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