

论著

多发性骨髓瘤患者血清GDF15的检测及其临床意义

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摘要:

目的: 研究多发性骨髓瘤(multiple myeloma, MM)患者血清生长分化因子15(growth differentiation factor 15, GDF15)的表达情况及其与相应临床指标的关系, 初步探讨GDF15在MM发生发展及预后评估方面的潜在作用。方法:

MM患者24例, 同期20例体检正常者作为对照组。采用酶联免疫吸附试验(enzyme-linked immunosorbent assay, ELISA)检测MM组和对照组血清GDF15水平, 收集患者临床资料。结果: MM组血清GDF15水平明显高于对照组[(1.37±0.64) ng/mL

vs (0.14±0.06) ng/mL, P<0.01]。国际分期系统(international staging system, ISS) III期患者血清GDF15水平明显高于ISS(I+II)期 [(1.57±0.48) ng/mL vs (0.77±0.34) ng/mL, P<0.05]。MM患者血清GDF15水平与血清单克隆免疫球蛋白(monoclonal proteins, M蛋白)水平、β2微球蛋白和血肌酐水平均呈正相关(P<0.05), 与外周血血红蛋白含量以及血小板计数均呈负相关(P<0.05), 与患者年龄、血清白蛋白、乳酸脱氢酶(lactic dehydrogenase, LDH)、C反应蛋白(C-reactive protein, CRP)、血

钙水平、外周血白细胞计数无明显相关(P>0.05)。4例MM患者经3个疗程化疗后M蛋白水平明显下降者, 其相应的血清GDF15水平下降程度也明显; 而M蛋白水平下降程度不明显者, 其相应的血清GDF15水平升高。结论: GDF15在初治MM患者血清中明显增高, 与ISS分期有关, 并与血清M蛋白水平、β2微球蛋白水平和血肌酐水平呈正相关, 与外周血血红蛋白含量、血小板计数呈负相关, 提示其在反映MM患者体内的肿瘤负荷方面具有一定意义。GDF15水平变化和M蛋白变化可能具有一定的联系, 提示其可能用于评估治疗反应。

关键词: 多发性骨髓瘤 血清 生长分化因子15 单克隆免疫球蛋白

Expression of serum GDF15 and its clinical significance in multiple myeloma patients

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Abstract:

Objective: To determine the serum level of the growth differentiation factor 15 (GDF15) in multiple myeloma (MM) patients and analyze its level with other clinical parameters, and to investigate its significance in the formation, development and prognosis assessment of MM. Methods: We used enzyme-linked immunosorbent assay (ELISA) to measure the serum level of GDF15 in an MM group (24 pre-treatment patients) and in 20 healthy controls. All patients' clinical data were collected. Results: The serum GDF15 level was significantly higher in the MM group [(1.37±0.64) ng/mL]

than in the normal control group [(0.14±0.06) ng/mL, P<0.01]. The mean serum GDF15 level in the MM patients in ISS stage III was (1.57±0.48) ng/mL, significantly higher than that of ISS stage (I+II) [(0.77±0.34) ng/mL, P<0.05]. There was no significant positive correlation between the serum GDF15 level and serum monoclonal proteins (M protein) level, β2-microglobulin and creatinemia (P<0.05), but significant inverse correlation was found between the GDF15 level with hemoglobin concentration and platelet count respectively (P<0.05). Serum GDF15 level was not associated with patients' age, albumin, lactic dehydrogenase (LDH), C-reactive protein (CRP), calcemia or leukocyte count (P>0.05). After 3 cycles of chemotherapy, patients with a>50% reduction of M protein had a significant reduction of GDF15, while for the patients whose M

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protein did not decrease obviously, their corresponding serum GDF15 level increased.
Conclusion: The serum GDF15 level may reflect the tumor burden in the MM patients, which increases obviously, is related with ISS, positively correlated with serum M protein level, β 2-microglobulin level, serum creatinine and negatively with hemoglobin concentration and platelet count. The change of serum GDF15 level has some relation with the extent of M protein reduction, suggesting it may be used as a marker for therapy response.

Keywords: multiple myeloma serum growth differentiation factor 15 monoclonal protein

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