

· 论著 ·

MAVS在神经内分泌肿瘤诊断和预后临床价值的探讨

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【摘要】目的 神经内分泌肿瘤是威胁患者生命的神经系统疾病。神经内分泌肿瘤患者免疫力下降是造成肿瘤恶化的原因之一。神经内分泌肿瘤与免疫分子MAVS的关系尚需研究。方法 以我院肿瘤科收治的468名神经内分泌肿瘤患者为研究对象(包括神经内分泌肿瘤患者207例和重症神经内分泌肿瘤患者161例),同时以207例健康志愿者作为对照。使用western blot检测治疗前后神经内分泌肿瘤患者和健康志愿者血细胞中MAVS的水平。分析MAVS的水平与神经内分泌肿瘤之间的相关性。结果 神经内分泌肿瘤患者血细胞中MAVS的蛋白水平显著高于健康志愿者血细胞中MAVS的蛋白水平($P < 0.05$)。治疗后神经内分泌肿瘤患者血细胞中MAVS的蛋白表达水平下降。重度神经内分泌肿瘤患者血细胞中MAVS的蛋白水平显著高于一般神经内分泌肿瘤患者血细胞中MAVS的蛋白水平($P < 0.05$)。神经内分泌肿瘤患者血细胞中MAVS的蛋白水平与神经内分泌肿瘤的恶化程度具有正相关性。结论 神经内分泌肿瘤患者血细胞中MAVS可能是神经内分泌肿瘤患者的特异生物标志物。MAVS水平与神经内分泌肿瘤的恶化程度具有密切正相关性。

【关键词】神经内分泌肿瘤; MAVS; 诊断

【中图分类号】R446; R736

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The Clinical Value of MAVS in Diagnosis and Prognosis of Neuroendocrine Tumors

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【Abstract】Objective Neuroendocrine tumor is a nervous system disease that threatens the life of patients. The decline of immunity in patients with neuroendocrine tumors is one of the causes of the deterioration of the tumor. The relationship between neuroendocrine tumor and immune molecule MAVS remains to be studied. Methods 468 patients with neuroendocrine tumors were admitted to hospital as the research object (including 161 cases of neuroendocrine tumors and 207 patients with severe neuroendocrine cancer patients), and 207 healthy volunteers were considered as control. Protein levels of MAVS in blood cells of neuroendocrine cancer patients and healthy volunteers were measured by western blot assay before and after treatment. The correlation between the levels of MAVS and the neuroendocrine tumor was analyzed. Results The protein levels of MAVS in the blood cells of neuroendocrine cancer patients were significantly higher than that in the healthy volunteers ($P < 0.05$). The expression of MAVS in the blood cells of neuroendocrine cancer patients was decreased after treatment. Protein levels of MAVS in the blood cells of severe neuroendocrine cancer patients were significantly higher than that of patients with general neuroendocrine tumor ($P < 0.05$). The MAVS in the blood cells is positively correlated with the degree of deterioration of neuroendocrine tumors. Conclusion The MAVS in the blood cells could be a specific biomarker for neuroendocrine tumor diagnosis. The levels of MAVS were positively correlated with the degree of deterioration of neuroendocrine tumors.

【Key words】Neuroendocrine Tumor; MAVS; Diagnosis

神经内分泌肿瘤是威胁患者生命的神经系统疾病^[1]。神经内分泌肿瘤患者免疫力下降是造成肿瘤恶化的原因之一^[2]。然而,神经内分泌肿瘤与免疫分子MAVS的关系尚需研究^[3]。

MAVS与神经内分泌肿瘤有无关系尚无明确证据^[4]。我们以我院肿瘤科收治的神经内分泌肿瘤患者为研究对象,同时以健康志愿者为对照,使用western blot检测治疗前后神经内分泌肿瘤患者和健康志愿者血液中MAVS的表达水平。分析MAVS蛋白的表

达水平与神经内分泌肿瘤之间的相关性,这将为神经内分泌肿瘤患者血细胞MAVS能否作为神经内分泌肿瘤发生发展的分子标志物以及神经内分泌肿瘤的诊断和预后提供有用的信息。

1 资料与方法

1.1 研究对象 按照入选标准和排除标准^[5-6],以我院肿瘤科2011年3月至2016年3月收治的468名神

内分泌肿瘤患者为研究对象(包括神经内分泌肿瘤患者207例和重症神经内分泌肿瘤患者161例),同时以207例健康志愿者作为对照。使用western blot检测治疗前后神经内分泌肿瘤患者和健康志愿者血细胞中MAVS的水平。分析MAVS的水平与神经内分泌肿瘤之间的相关性。本研究符合伦理道德^[7]。

本研究中468名神经内分泌肿瘤患者平均年龄为(54.4±17.5)岁,对照组健康志愿者平均年龄为(57.4±16.5)岁,年龄范围是15-83岁,年龄无显著差异。

1.2 血液标本的收集 取神经内分泌肿瘤患者静脉血,离心分离血细胞,用于蛋白检测^[8]。

1.3 Western blot 按照报道的方法进行聚丙烯酰胺凝胶电泳和western blot。首先制备样品,进行聚丙烯酰胺不连续凝胶电泳,转膜,封闭,孵育抗体,最后进行显影,定影^[9]。

1.4 统计分析 结果经SPSS 16.0统计。以($\bar{x} \pm s$)表示, $P < 0.05$ 代表差异具有显著性^[10]。

2 结 果

2.1 神经内分泌肿瘤患者血细胞中MAVS的蛋白水平的western blot结果 如图1所示,神经内分泌肿瘤患者血细胞中MAVS的蛋白水平显著高于健康志愿者MAVS的蛋白水平($P = 0.0005$)。

2.2 治疗后神经内分泌肿瘤患者血细胞中MAVS蛋白水平下降 如图2中结果,经治疗后,神经内分泌肿瘤患者血细胞中MAVS蛋白的水平显著下降。

2.3 神经内分泌肿瘤患者血细胞中MAVS的水平与神经内分泌肿瘤的恶化程度成显著正相关 如图3中相关性分析结果表明,神经内分泌肿瘤患者血细胞中MAVS的水平与神经内分泌肿瘤的恶化程度成显著正相关。

3 讨 论

神经内分泌肿瘤的诊断,治疗和预后非常关键^[11-12]。但是,临床实践中还缺少有效的神经内分泌肿瘤检测的生物标记物^[13]。因此,本文研究了MAVS作为神经内分泌肿瘤诊断,治疗和预后的生物标记分子的可能性。

神经内分泌肿瘤常出现免疫功能紊乱,在神经内分泌肿瘤的发生和发展中,多个炎症因子协同作用,引起机体免疫力下降,这是造成神经内分泌肿瘤患者死亡的多种原因之一^[14-15]。按照目前神经内分泌肿瘤的诊断标准^[10-11],使用特异的分子标记物对神经内分泌肿瘤进行检测和预后尤其关键。

本文以我院肿瘤科收治的468名神经内分泌肿瘤患者为研究对象(包括神经内分泌肿瘤患者207例和重症神经内分泌肿瘤患者161例),同时以207例健康志愿者作为对照。使用western blot检测治疗前后神经内分泌肿瘤患者和健康志愿者血细胞中MAVS的水平,分析MAVS的水平与神经内分泌肿瘤之间的相关性。

本文的3个主要发现如下,第一,神经内分泌肿瘤患者血细胞中MAVS的蛋白水平显著高于健康志愿者血细胞中MAVS的蛋白水平($P < 0.05$)。这与以往的结果是一致的^[16],即肿瘤患者免疫力下降。第二,治疗后神经内分泌肿瘤患者血细胞中MAVS的蛋白表达水平下降。重度神经内分泌肿瘤患者血细胞中MAVS的蛋白水平显著高于一般神经内分泌肿瘤患者血细胞中MAVS的蛋白水平($P < 0.05$)。第三,神经内分泌肿瘤患者血细胞中MAVS的蛋白水平与神经内分泌肿瘤的恶化程度具有正相关性。

本研究具有不足,缺点,具体表现如下所述:第一,本研究的神经内分泌肿瘤患者样本数目少。第二,无法排除神经内分泌肿瘤患者MAVS水平受放化疗

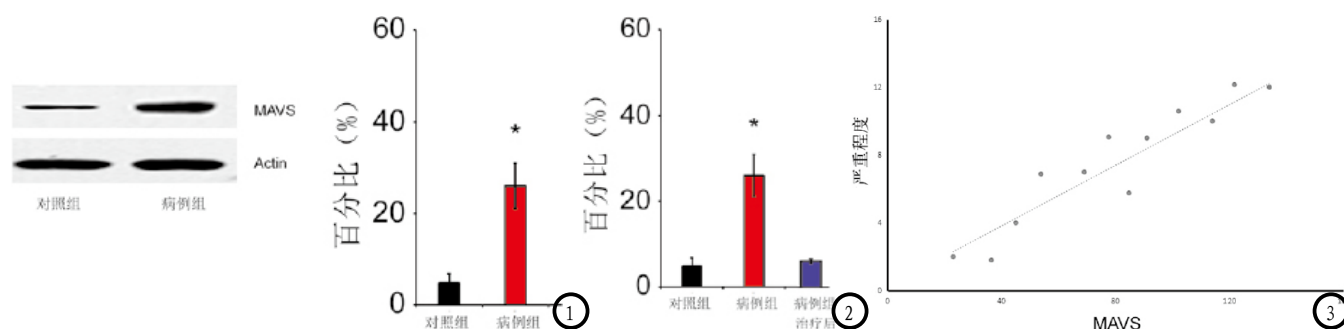


图1 神经内分泌肿瘤患者血细胞中MAVS的蛋白水平的western blot结果,*代表差异具有显著性($P < 0.05$)。图2 治疗后神经内分泌肿瘤患者血细胞中MAVS蛋白的水平下降,*代表差异具有显著性($P < 0.05$)。图3 神经内分泌肿瘤患者血细胞中MAVS的水平与神经内分泌肿瘤的恶化程度成显著正相关,*代表差异具有显著性($P < 0.05$)。

的影响。第三,本研究缺少以MAVS作为靶点的神经内分泌肿瘤大鼠模型的结果。

总之,本研究表明,神经内分泌肿瘤患者血细胞中MAVS可能是神经内分泌肿瘤患者的特异生物标志物。MAVS水平与神经内分泌肿瘤的恶化程度具有密切正相关性。

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