

论著

肺部3T MRI对肺泡蛋白沉积症的初步评价并与CT比较

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摘要: 目的: 探讨在高场3T MRI上沉积于肺泡内的含有磷脂蛋白样物质的沉积物有无信号特点及其在肺泡蛋白沉积症诊断中的应用价值。方法: 11例肺泡蛋白沉积症患者经纤维支气管镜肺活检病理确诊, 先行肺部64层CT检查影像作为标准, 再行3T MRI检查并与CT对照。结果: 沉积在肺泡的含有蛋白样物质的沉积物呈稍长或等T1、稍长T2信号, 无特殊信号特点, 无强化。T2WI显示病变的分布、形态、数目、大小与CT一致。动态增强病灶内可见与肺动脉、肺静脉强化一致的增粗肺小动脉、肺小静脉, 以肺小静脉增粗明显。结论: 3T MRI T2WI容易发现沉积于肺泡内的含有蛋白样物质的沉积物, 与CT一样能反映肺泡蛋白沉积症的形态学特征, 但不能显示含有蛋白样物质的沉积物的信号特征, 高场3T MRI可作为肺部疾病的补充检查方法。

关键词: 肺泡蛋白沉积症 肺 磁共振成像 CT

Lung MRI at 3T: comparison of CT and MRI in initial evaluation of pulmonary alveolar proteinosis

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Abstract: Objective: To explore whether the phospholipidoproteinaceous material deposit within the alveoli by a high-field 3T MRI has signal characters and its application for diagnosing pulmonary alveolar proteinosis. Methods: A total of 11 patients with pulmonary alveolar proteinosis previously diagnosed by fiberoptic bronchoscope lung biopsy underwent 64-slice helical CT scans and 3T MRI scans, and the CT scans and the MRI scans were compared. Results: The phospholipidoproteinaceous material deposit within the alveoli presented longer or equal T1 relaxation time and longer T2 relaxation time, without characters of fatty or deposits of protein-like substance signals and enhancement. The distribution, form, number and size of the lesions at T2WI were almost the same as those at CT, the lesions were irregular in morphology, and there was a clear boundary between the lesions and the adjacent normal lung tissues. Dynamic contrast-enhanced MRI showed thickened pulmonary arterioles and venules in the lesions with more obviously thickened pulmonary venulae, which were in conformity with the pulmonary artery and venule enhancement. CT scan in 1 out of the 11 cases showed lesions in both lungs mainly consisted of stripe-shaped and reticular structures, and no obvious sign of pulmonary alveolar proteinosis residue was found. MRI scan detected alveolar proteinosis that failed to be shown by CT scan. Conclusion: 3T MRI T2WI can easily detect the lesions of long T2 signals formed by the lipoproteinaceous material deposit within the alveoli. In the lesions, geographic appearance was presented, and the crazy paving pattern was dimly visualized. MRI can reflect the morphological characters of PAP like CT and it is slightly better compared with CT in such aspects as evaluating the therapeutic effect of lung lavage. As supplement to CT, high-field 3T MRI can serve as an important examination for lung diseases.

Keywords: pulmonary alveolar proteinosis lung magnetic resonance imaging computed tomography

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