

多层螺旋 CT 三维重建对肺癌诊断及淋巴转移的预测价值

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摘要: **目的** 探讨多层螺旋 CT 三维(3D)重建技术在肺癌诊断及淋巴转移预测中的应用及其价值。**方法** 以 2013 年 3 月至 2015 年 12 月间进行手术的肺癌患者 86 例作为研究对象,所有患者均于术前接受多层螺旋 CT 扫描并经图像后处理工作站进行 3D 重建。回顾性分析影像学与术后病理学检测结果的符合程度,判断其对肺癌辅助诊断及淋巴结转移的预测价值。**结果** 多层螺旋 CT 三维重建对 86 例肺癌的成像结果显示,除细支气管征及空泡征外,3D 成像肺癌典型征象显示率高于轴位成像(P 均 < 0.01)。3D 成像对淋巴结转移诊断的敏感度、特异度及准确度分别为 93.44%、80.00% 及 89.53%,轴位成像的敏感度、特异度及准确度分别为 73.77%、60.00% 及 69.77%,差异均有统计学意义(P 均 < 0.05)。3D 成像对淋巴结转移诊断效能明显优于轴位成像。3D 图像转化为 2D 图像显示,有淋巴结转移的患者肿瘤血管密度明显高于无淋巴结转移患者[(0.07 ± 0.04) vs (0.04 ± 0.01)], $P < 0.05$ 。**结论** 多层螺旋 CT 三维重建对肺癌辅助诊断及淋巴转移预测具有良好的应用价值。

关键词: 肺癌; 淋巴结转移; 多层螺旋 CT; 三维重建; 轴位成像; 肿瘤血管密度; 病理学检查

中图分类号: R 814.42 R 734.2 **文献标识码:** B **文章编号:** 1674-8182(2017)06-0835-03

Value of MSCT three-dimensional reconstruction in diagnosis of lung cancer and prediction of lymph node metastasis

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Abstract: **Objective** To explore the value of multi-slice spiral computed tomography (MSCT) three-dimensional (3D) reconstruction technique in diagnosis of lung cancer and prediction of lymph node metastasis. **Methods** Eighty-six patients with lung cancer who underwent operation between March 2013 and December 2015 were selected as research objects. All patients received MSCT scanning, and its result was processed for 3D reconstructions by image post-processing workstation. The conformity degree between imaging and postoperative pathological examination was analyzed retrospectively to evaluate the value of the 3D imaging for lung cancer diagnosis and prediction of lymph node metastasis. **Results** MSCT 3D imaging in 86 patients with lung cancer showed that compared with axial imaging, the display rates of lung cancer typical signs significantly increased (all $P < 0.01$) except for the bronchial sign and vacuolar sign, and the sensitivity (73.77% vs 93.44%), specificity (60.00% vs 80.00%) and accuracy (69.77% vs 89.53%) for lymph node metastasis increased in 3D imaging (all $P < 0.05$), so 3D imaging was superior to axial imaging for the diagnostic efficacy of lymph node metastasis. The 2D image transformed from 3D image displayed that the tumor vascular density in patients with lymph node metastasis was significantly higher than that in patients without lymph node metastasis (0.07 ± 0.04 vs 0.04 ± 0.01 , $P < 0.05$). **Conclusion** The 3D reconstruction of MSCT has good application value in the auxiliary diagnosis of lung cancer and the prediction of lymph node metastasis.

Key words: Lung cancer; Lymph node metastasis; Multi-slice spiral computed tomography; Three-dimension reconstruction; Axial imaging; Tumor vascular density; Pathological examination

肺癌是最为常见的恶性肿瘤之一,高居恶性肿瘤死亡原因之首^[1]。外科手术是治疗肺癌最为有效的方法,术前准确诊断肺癌淋巴结转移情况,对于准确

分期及治疗方案的选择具有十分重要的意义^[2]。近年来,多层螺旋 CT 已在肺癌诊断及肿瘤血供观察方面得到了较为广泛的应用^[3]。本研究以近年来于成都医学院第一附属医院进行手术的肺癌患者作为研究对象,对其术前多层螺旋 CT 扫描结果及三维重建