

王晓华,段江晖,杜毅鹏,沈宁,贺蓓,袁慧书.MSCT测量不同CT阈值下慢性阻塞性肺疾病患者肺潴留体积[J].中国医学影像技术,2013,29(10):1649~1652

MSCT测量不同CT阈值下慢性阻塞性肺疾病患者肺潴留体积

MSCT in measurement of pulmonary trapping volume below different CT threshold in patients with chronic obstructive pulmonary disease

投稿时间: 2013-04-18 最后修改时间: 2013-07-06

DOI:

中文关键词: [体层摄影术](#), [X线计算机](#) 体积测量 肺疾病,慢性阻塞性

英文关键词: [Tomography, X-ray computed](#) [Volume measurement](#) [Pulmonary disease, chronic obstructive](#)

基金项目: 北京大学985课题(BMU20110176)

作者	单位	E-mail
王晓华	北京大学第三医院放射科, 北京 100191	
段江晖	北京大学第三医院放射科, 北京 100191	
杜毅鹏	北京大学第三医院呼吸内科, 北京 100191	
沈宁	北京大学第三医院呼吸内科, 北京 100191	
贺蓓	北京大学第三医院呼吸内科, 北京 100191	
袁慧书	北京大学第三医院放射科, 北京 100191	huishuy@sina.com

摘要点击次数: 231

全文下载次数: 74

中文摘要:

目的 采用MSCT测量慢性阻塞性肺疾病(COPD)患者不同CT阈值下肺潴留体积.方法 对28例COPD患者行64排CT吸气及呼气双相扫描,应用Emphysema软件测量不同CT阈值下(吸气0 HU、呼气相-950、-930、-910、-890、-870、-850 HU)的肺潴留体积,同时测量吸气末全肺容积(Vin)及呼气末全肺容积(Vex).比较吸气相-950 HU与呼气相不同CT阈值下肺体积占肺总百分比(Vtrap%),分析Vtrap%、Vin和Vex与肺功能参数的相关性.结果 不同时相及不同CT阈值下Vtrap%测值不同,呼气相-930 HU下与吸气相-950 HU下Vtrap%最接近,差异均无统计学意义($P>0.05$).吸气相-950 HU以下和呼气相不同CT阈值下Vtrap%与第1秒用力肺活量与用力肺活量的比值呈负相关;Vin与肺总量、Vex与残气量之间呈正相关.结论 MSCT测量不同CT阈值下肺潴留体积不同,本研究条件下-930HU为呼气相测量COPD患者肺潴留体积的最佳阈值.

英文摘要:

Objective To measure the pulmonary trapping volume below different CT threshold with MSCT in patients with chronic obstructive pulmonary disease (COPD). **Methods** Twenty-eight COPD patients underwent 64-slice MSCT scanning in both inspiratory and expiratory phase. CT thresholds was set as -950 HU in inspiration phase and -950, -930, -910, -890, -870, -850 HU in expiration to measure the trapping volume using Emphysema software. In addition, volume at the end of the inspiratory phases (Vin) and volume at the end of the expiratory phases (Vex) were also measured. Trapping volume percentage (Vtrap%) below different CT thresholds in the expiratory phase and inspiratory phase were compared, and the correlation of Vtrap%, Vin and Vex with lung function we analyzed. **Results** There were differences of Vtrap% between different phases and different CT thresholds. Vtrap% below -930 HU in the expiratory phase and -950 HU in the inspiratory phase wer similar without statistic difference (all $P>0.05$). Vtrap% below -950 HU in the inspiratory phase and below different CT threshold in the expiratory phase negatively correlated with the ratio of forced expiratory volume in one second to forced vital capacity. In addition, there were positive correlation between Vin and total lung capacity as well as Vex and residual volume. **Conclusion** The value of trapping volume below different CT threshold measured with MSCT is different in patients with COPD, and -930 HU in the expiratory phase is the optimum threshold under the giving conditions.

[查看全文](#) [查看/发表评论](#) [下载PDF阅读器](#)