中国医学影像技术
CHINESE JOURNAL OF MEDICAL IMAGING TECHNOLOGY

李雪丹,朱玉森,刘屹,任克,徐克.MSCT测量胃癌体积的层厚选取及可重复性[J].中国医学影像技术,2013,29(5):757~760

MSCT测量胃癌体积的层厚选取及可重复性

Reproducibility and thickness selection in measurement of gastric cancer volume using MSCT

投稿时间： 2012-10-14 最后修改时间： 2012-11-30

DOI:

中文关键词: 体层摄影术,X线计算机 胃肿瘤 体积 重复性

英文关键词:Tomography, X-ray computed Gastric neoplasms Volumetry Reproducibility

基金项目:辽宁省自然科学基金(20092121)。

作者	单位	E-mail
李雪丹	中国医科大学附属第一医院放射科, 辽宁 沈阳 110001	xuedan1225@sina.com
朱玉森	中国医科大学附属第一医院放射科, 辽宁 沈阳 110001	
刘屹	中国医科大学附属第一医院放射科, 辽宁 沈阳 110001	
任克	中国医科大学附属第一医院放射科, 辽宁 沈阳 110001	
徐克	中国医科大学附属第一医院放射科, 辽宁 沈阳 110001	

中文摘要:

目的 探讨MSCT测量胃癌体积的层厚选取,评价MSCT测量胃癌体积的可重复性。方法 将33例胃癌的MSCT图像传输至工作站,分别用3 mm、5 mm和7 mm层厚进行胃癌体积测量,并由另1名医师以5 mm层厚对所有胃癌体积进行重复测量。计算观察者内或观察者间的差异。结果 3 mm、5 mm、7 mm层厚测得胃癌体积分别为 (65.06±46.87)cm^3、(64.74±47.13)cm^{3}和(63.56±45.82)cm^3(F=5.409,P<0.05)。3 mm和5 mm层厚测量胃癌体积差异无统计学意义(P=0.298);3 mm和7 mm层厚、5 mm和7 mm层厚测量结果差异有统计学意义(P均<0.05)。3 mm和5 mm、3 mm和7 mm、5 mm和7 mm层厚测量胃癌体积的组内相关系数分别为0.992、0.990、0.988。用3 mm、5 mm、7 mm层厚测量胃癌体积所需时间分别为(30.6±15.5) min、(20.0±11.8) min和(12.3±6.4) min。两名观察者用5 mm层厚测量的胃癌体积平均值分别是(64.74±47.13)cm^{3}和 (65.32±45.82)cm^3,差异无统计学意义(F=1.386,P=0.248),组内相关系数为0.998。结论 MSCT测量胃癌体积时选用3 mm和5 mm层厚较佳;选用5 mm层厚测量胃癌体积节省工作时间;MSCT胃癌体积测量具有较高的一致性和可重复性。

英文摘要:

Objective To investigate the slice thickness selection of measuring gastric cancer volume using MSCT, and to evaluate the reproducibility of the measurement of gastric cancer volume with MSCT. **Methods** MSCT image data of 33 patients with gastric cancer were transferred to the workstation. Gastric cancer volume was measured with the slice thickness of 3 mm, 5 mm and 7 mm, respectively, and was repeatedly measured with 5 mm slice thickness by another experienced radiologist. Intra-observer and inter-observer variability was calculated. **Results** Gastric cancer volume measured with slice thickness of 3 mm, 5 mm and 7 mm were (65.06±46.87)cm^3, (64.74±47.13)cm^3 and (63.56±45.82)cm^3(F=5.409, P<0.05), respectively. Analysis of variance of the repeatedly measured results showed that the differences between 3 mm and 7 mm, 5 mm and 7 mm had statistical significance (all P<0.05), while the difference between 3 mm and 5 mm had no statistical significance (P=0.298). Interclass correlation coefficient of the slice thickness of 3 mm and 5 mm, 3 mm and 7 mm, 5 mm and 7 mm in measuring gastric cancer volume were 0.992, 0.990, 0.988, respectively. Time costed was (30.6±15.5) min, (20.0±11.8)min and (12.3±6.4)min when measured with slice thickness of 3 mm, 5 mm and 7 mm, respectively. The gastric cancer volumes measured by two observers with 5 mm slice thickness were (64.74±47.13)cm^3 and (65.32±45.82)cm^3 (F=1.386, P=0.248), respectively. And the interclass correlation coefficient was 0.998. **Conclusion** It is better to select slice thickness of 3 mm and 5 mm to measure gastric cancer volume using MSCT. Selection of 5 mm slice thickness measuring gastric cancer volume can spare time. Measurement of gastric cancer volume with MSCT is of high consistency and reproducibility and has clinical value.

查看全文 查看/发表评论 下载PDF阅读器