LETTER

MRI in assessment of lung cancer

We congratulate Fischer et al for their significant and well-written article, published in the 2010 issue of Thorax.

The report covers important topics in the imaging of lung cancer staging. The authors report that positron emission tomography (PET)-CT improves discrimination in metastatic disease. They also demonstrated that patients with enlarged lymph nodes on CT require confirmation independent of PET findings, and that a positive PET-CT finding requires confirmation before making a decision about surgery. We would, however, like to discuss and highlight an alternative technique with benefits for lung cancer staging.

Recent advancements in MRI systems (such as improved pulse sequences, utilisation of contrast media and new techniques such as diffusion) have made MRI an increasingly important tool for lung cancer staging. Reports have indicated the ability of MRI to reveal mediastinal tumour invasion and to help identify hilar and mediastinal nodal metastases.

A series of 115 consecutive non-small cell lung carcinoma patients prospectively underwent CT, MRI and 18F-fluorodeoxyglucose (FDG)-PET, as well as surgical and pathological examinations. The study reported that the quantitative sensitivity (90.1%) and accuracy (92.2%) of MRI were significantly higher than the quantitative and qualitative sensitivities (76.7% and 74.4%) and accuracies (83.5% and 82.6%) of co-registered FDG-PET/CT on a per patient basis (p<0.05).

The cost of imaging studies is an important consideration. The nature and complexity of the imaging system and the requirement for continuous production of radiopharmaceutical products makes PET/CT intrinsically more expensive than other imaging methods. The characteristics of MRI make it a safer modality than PET/CT. Unlike the ionising radiation used in CT, the powerful magnetic field and radiofrequency energy of MRI have not been shown to cause cancer or fetal abnormalities. It is important to note that although x-rays are known to cause cancer, the exact risk of developing cancer from CT scans or repeated CT examinations is unknown.

We hope that this short comment may encourage investigators to use and study MRI as a new method that offers considerable benefits for lung cancer staging.

Bruno Hochhegger,1 Edson Marchiori,2 Klaus Irion,3 Jose Moreira,1 Glaucia Zanetti2

1Department of Radiology, Santa Casa de Misericórdia de Porto Alegre, Porto Alegre, Brazil; 2Department of Radiology, Federal University of Rio de Janeiro, Petrópolis, Brazil; 3Department of Radiology, Liverpool Heart and Chest Hospitals, Liverpool, UK

Correspondence to Bruno Hochhegger, Santa Casa de Misericórdia de Porto Alegre, Rua João Alfredo 558/301, Porto Alegre, Brazil; brunohochhegger@gmail.com

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