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## MRI in assessment of lung cancer

We congratulate Fischer *et al* for their significant and well-written article, published in this issue of *Thorax*.<sup>1</sup> 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.<sup>2–4</sup> A series of 115 consecutive non-small cell lung carcinoma patients prospectively underwent CT, MRI and <sup>18</sup>F-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 ( $p < 0.05$ ).<sup>4</sup>

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.<sup>5</sup> 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 Hochegger,<sup>1</sup> Edson Marchiori,<sup>2</sup> Klaus Irion,<sup>3</sup> Jose Moreira,<sup>1</sup> Glauca Zanetti<sup>2</sup>**

<sup>1</sup>Department of Radiology, Santa Casa de Misericórdia de Porto Alegre, Porto Alegre, Brazil; <sup>2</sup>Department of

Radiology, Federal University of Rio de Janeiro, Petrópolis, Brazil; <sup>3</sup>Department of Radiology, Liverpool Heart and Chest Hospitals, Liverpool, UK

**Correspondence to** Bruno Hochegger, Santa Casa de Misericórdia de Porto Alegre, Rua João Alfredo 558/301, Porto Alegre, Brazil; [brunohochegger@gmail.com](mailto:brunohochegger@gmail.com)

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## Risk disclosure prior to bronchoscopy

We read with interest the article by Uzbek *et al*<sup>1</sup> demonstrating increased patient anxiety upon receiving detailed information regarding complications of bronchoscopy, in addition to the letter by Echavarría *et al*<sup>2</sup> documenting the consenting practices of 33 respiratory physicians in the north east of England. A wide variation in practice is identified. The General Medical Council guidance for doctors relating to consent<sup>3</sup> indicates that a physician ‘must tell patients if an investigation... might result in a serious adverse outcome, even if the likelihood is very small’. An adverse outcome is defined as one ‘resulting in death, permanent or long term physical disability or disfigurement, medium or long term pain, or admission to hospital’. The guidance also indicates that less serious side-effects or complications should be communicated if they occur frequently.

In reviewing the Uzbek paper and their local practice, Echavarría *et al*<sup>2</sup> feel that the appropriate balance between the disclosure of relevant risks and patient anxiety is one in which a high risk disclosure is advisable. However, it can be argued that this balance can only be struck in the knowledge of local and even personal bronchoscopic practice and performance, and that it is unethical to advise patients of risks that are neither serious nor common.

Many hospitals now utilise computer software to record and analyse bronchoscopic findings and outcomes. These software packages frequently allow the recording of relevant complications or side-effects with free text areas for the documentation of less frequently encountered, but clinically relevant, events. In a review of 1261 fibre-optic bronchoscopies, recorded on InfoFlex5 software (CIMS, Hertfordshire, UK) at Sheffield Teaching Hospitals NHS Foundation Trust over a 24-month period (1 December 2007 to 1 December 2009) 86.5% of patients did not encounter complications of sufficient severity for a record to be created. Data were unavailable for 4.2% of patients; 9.4% had documented bleeding and 2% were noted to have undergone desaturation requiring premature termination of the procedure or considered to be clinically relevant or unexpected. This latter group included those developing pneumothorax following trans-bronchial biopsy. No deaths were encountered in the patient cohort despite approximately 10% of the patient group undergoing interventional bronchoscopic procedures including laser therapy or stenting.

The quality of statistical output from any database is dependent on the quality of data entry and the consistency between clinicians in identifying and recording relevant complications. For instance, two clinicians may differ in their assessment of a ‘clinically relevant’ desaturation or bleeding event, and may therefore enter different datasets for a similar clinical experience, thus confounding analysis. However, for major complications, such as intraprocedural death or large volume haemorrhage, this is less likely to occur.

Our data would suggest that, in an appropriately selected patient group, administered to by experienced medical staff with appropriate training and expertise, major risks for bronchoscopy are infrequent and rarely life-threatening. On this basis the more limited information disclosure outlined by Uzbek *et al*,<sup>1</sup> with resultant lower levels of anxiety for patients may be more appropriate.

**Stephen M Bianchi, Shironjit Saha, Paul Anderson**

Northern General Hospital, Sheffield, UK

**Correspondence to** Dr Stephen M Bianchi, Chest Clinic, Northern General Hospital, Sheffield S5 7AU, UK; [stephen.bianchi@sth.nhs.uk](mailto:stephen.bianchi@sth.nhs.uk)

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