Thoracic ultrasound in malignant pleural effusion: a real world perspective

Qureshi and colleagues achieved impressive results using thoracic ultrasound (TUS) to predict malignant pleural effusion in their recent study. TUS in their hands compared reasonably well with pleural CT.

However, we suggest that pleural CT still remains the gold standard and cannot be replaced by TUS except in situations where access to pleural CT is difficult. First, even in their expert hands, six out of the seven false-negative TUS examinations were resolved by pleural CT. The priority in the real world is to reduce the time to pleural CT which is the definitive investigation. In our experience, TUS is complementary to pleural CT but more helpful and informative after the CT to aid pleural intervention due to information from two different imaging modalities.

Secondly, this study was performed in a tertiary pleural centre by an extremely experienced internationally renowned thoracic radiologist and another thoracic radiologist with a special interest in pleural ultrasound in a cohort with a high proportion of mesothelioma. In addition, the proportion of pleural tuberculosis (TB) cases was low, but this remains an important differential in TB-prevalent populations. We suggest the results are not generalisable to TB-prevalent populations. We was low, but this remains an important issue of mesothelioma. In addition, the experience internationally renowned thoracic tertiary pleural centre by an extremely experienced radiologist. TUS is complementary to pleural CT but more helpful and informative after the CT to aid pleural intervention due to information from two different imaging modalities.

We would like to thank the authors of the letter for their interest in our study. We entirely agree that pleural CT is the gold standard not only in terms of malignant pleural disease but also for intraparenchymal, mediastinal and distant disease. We would suggest that the priority in the “real world” is prompt diagnosis and subsequent management of the pleural effusion, with CT as currently the most useful technique. However, the widespread use of thoracic ultrasound may mean that it is readily available (eg, in the outpatient respiratory clinic) and, given the high diagnostic yield of thoracic ultrasound for malignant pleural disease, may allow patients with clear-cut evidence of malignancy (eg, gross pleural nodularity) to be triaged directly to thoracoscopy or image-guided biopsy. The high proportion of mesothelioma and malignant pleural disease seen in our study is indeed a result of the tertiary nature of our practice, and this will influence the sensitivity and specificity of the test. It is for this reason that we recommended that the diagnostic use of ultrasound for malignant pleural effusion should be assessed in a non-tertiary centre for the results to be more widely applied to practice. The prevalence of tuberculosis (TB) in our area of practice is also low, and ultrasound should be evaluated in this context in a higher prevalence area.

In conclusion, we suggest the real world priority is to perform pleural CT promptly. TUS is complementary but not a substitute, and more helpful after pleural CT. A simple “x marks the spot” will normally suffice for most interventions, although knowledge about septation may assist with planning thoracoscopy.

Authors’ reply

We would like to thank Drs Medford and Entwistle for their letter in response to our recent Thorax publication. We entirely agree that pleural CT is the gold standard not only in terms of malignant pleural disease but also for intraparenchymal, mediastinal and distant disease. We would suggest that the priority in the “real world” is prompt diagnosis and subsequent management of the pleural effusion, with CT as currently the most useful technique. However, the widespread use of thoracic ultrasound may mean that it is readily available (eg, in the outpatient respiratory clinic) and, given the high diagnostic yield of thoracic ultrasound for malignant pleural disease, may allow patients with clear-cut evidence of malignancy (eg, gross pleural nodularity) to be triaged directly to thoracoscopy or image-guided biopsy. The high proportion of mesothelioma and malignant pleural disease seen in our study is indeed a result of the tertiary nature of our practice, and this will influence the sensitivity and specificity of the test. It is for this reason that we recommended that the diagnostic use of ultrasound for malignant pleural effusion should be assessed in a non-tertiary centre for the results to be more widely applied to practice. The prevalence of tuberculosis (TB) in our area of practice is also low, and ultrasound should be evaluated in this context in a higher prevalence area.

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A R L Medford, 1 J J Entwistle

1 Department of Respiratory Medicine, Glenfield Hospital, University Hospitals of Leicester NHS Trust, Leicester, UK; 2 Department of Radiology, Glenfield Hospital, University Hospitals of Leicester NHS Trust, Leicester, UK

Correspondence to: Dr J J Entwistle, Department of Radiology, Glenfield Hospital, University Hospitals of Leicester NHS Trust, Leicester LE3 9QP, Leicestershire, UK; James.Entwistle@uhl-tr.nhs.uk

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REFERENCES


Longitudinal changes in gastro-oesophageal reflux from 3 months to 6 months after lung transplantation

Gastro-oesophageal reflux (GOR) and micro-aspiration are implicated in the pathophysiology of asthma, chronic obstructive pulmonary disease, interstitial lung disease and chronic lung allograft dysfunction. Aspiration, which is often asymptomatic, has been identified as a treatable allograft injury that may affect mortality. The potential for thoracic mechanical changes caused by advanced lung disease to predispose to reflux has been highlighted. Although aspiration could cause lung damage, alternatively reflux might represent a secondary event. Longitudinal data are lacking, so we have undertaken a prospective study of reflux in lung transplantation.