IS EARLIER CT SCANNING FOR LUNG CANCER EXPOSING PATIENTS TO AN INCREASED RISK OF HARM FROM CONTRAST NEPHROPATHY?

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Introduction Contrast induced nephropathy (CIN) is the third most common cause of hospital-acquired acute kidney injury and is associated with increased incidence of requiring dialysis, and with increased mortality. This is particularly the case in those with pre-existing renal impairment or other co-morbidities, such as diabetes or heart failure. Computed tomography of the chest with IV contrast is now an integral part in the diagnosis and staging of patients with lung cancer. In an effort to reduce time to diagnosis, contrast studies are routinely performed early, often prior to first review in secondary care. As a result, this population may have inadequate assessment of CIN risk. To investigate this further we carried out a retrospective analysis of the monitoring of the renal function of patients with lung cancer who underwent a CT chest with contrast at a London teaching hospital.

Methods A consecutive series of 100 patients diagnosed between November 2011 and January 2012 was identified using the local lung cancer registry. We examined how frequently renal function was monitored in relation to the patients’ CT chest scans. Whether this was clinically adequate was decided with reference to recommendations from the Royal College of Radiologists.

Results Of 30 CKD patients, 14 (47%) had appropriate pre-contrast bloods. Of patients identified as having diabetes (n=10), 50% had appropriate pre-contrast bloods.

Of 29 patients admitted acutely, 28 (97%) had appropriate pre-contrast bloods.

Of the 37 remaining patients, outpatients with normal renal function, 26 (70%) had appropriate pre-contrast bloods.

Conclusions This study demonstrated that almost all inpatients undergoing CT chest with IV contrast had appropriate monitoring of their renal function. However, this was true of a significantly lower proportion of outpatients. Perhaps of most concern was that approximately half of those patients at the highest risk of developing contrast-induced nephropathy were monitored appropriately. We suggest that earlier CT scanning, in the interests of expediting diagnosis and treatment, could be exposing more patients to increased risk of harm associated with administration of IV contrast.

References

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CT scans. The majority of departments scanned the entire lung (62%), 20% used limited slices and 20% used a combination as part of follow up. Only 18% of departments used lung nodule volume measurements routinely, with a further 20% having access on request.

Conclusions There is significant variation both in the way patient's are followed-up as well as the methods of scanning deployed. Some trusts have developed streamlined pathways to monitor patients, without using valuable clinic slots. The chest physician is very much reliant on the organisation and expertise of their radiology department, with a significant majority not having access to low dose CT or lung nodule volumes. It is a crucially important area that requires continued improvement, both in achieving earlier cancer detection, balanced against the need for limiting the radiation dose.

Introduction and objectives The appropriate way to follow-up indeterminate pulmonary nodules found incidentally on CT scanning has caused clinicians and radiologists in the UK some concern. Guidelines developed by the Fleischner Society in 2005 were based on studies outside of the UK. Our hospital developed local guidance for lung nodule surveillance prior to the publication of Fleischner guidelines which were designed to be pragmatic and easy to follow. We present the results of our experience.

Methods Outcomes of patients undergoing the local lung nodule surveillance programme in our hospital from 2004 to 2011 were analysed. Eligibility criteria included initial lung nodules 5–10mm diameter, previous or current smokers; aged 45–75 years old with good performance status. Those with 5 or more nodules more than 5mm diameter, benign calcification, or patients already under follow up, e.g. oncology patients, were excluded. A stamp was placed in the notes and on CT request forms to record and remind clinicians of the criteria. In accordance to our protocol CT scans were performed at 6, 18 and 30 months from the index scan.

Results 107 patients were followed up but only 63 patients fulfilled the initial inclusion criteria. This shows that despite a pragmatic protocol, clinicians will often interpret it differently when faced with an individual. The commonest reason was nodule size over 10mm. Of those eligible, the outcomes were recorded as to whether nodule confirmed as cancer (positive), nodule size reduced or unchanged over 30 months (negative), surveillance cut short as a clinical decision and those still under surveillance.

Of the 63 patients, 2 were found to have lung cancer (see Figure 1). Of those patients who were not eligible, but still underwent the surveillance programme, 6 were found to have cancer. These were not eligible because nodule size was over 10mm.

Conclusions Our study shows that a simple protocol is helpful to clinicians, but will be adapted according to the clinicians' belief. In our study 3% of nodules 5–10mm were early cancers. Nodules over 10mm, which were bigger than our criteria but followed up within this protocol, were more likely to be cancerous (14%).

Background In the last 10 years, the survival rate in lung cancer in the UK has improved, but remains lower than some counterpart
P67 Lung Nodule Follow-Up Survey of London and East of England Hospitals: What Are We Actually Doing?
Z Mangera, S Isse, DYL Tang, R Gupta, P James, DK Mukherjee, JT Samuel, KV Wadsworth and B Yung

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