

In May 2012 a centrally funded National Lung Cancer Awareness Campaign was initiated. This campaign was influenced by encouraging results from local pilot studies, and featured news items and public health awareness adverts in national and local media, including nationwide television and radio exposure, accompanied by celebrity involvement and endorsements. The cost of this initiative has not been disclosed.

Liverpool has the highest lung cancer incidence and mortality in England, and our Lung Cancer Unit, providing a service for patients in South Liverpool, is the largest in the Cancer Network and amongst the largest in the country.

To assess the impact of the national campaign we have reviewed referrals to our Rapid Access Lung Cancer Service from General Practise via the 14 day suspected cancer pathway, during the months of April, May and June 2012; we have also reviewed referrals during the same months in 2011 and 2010.

The total number of referrals from General Practise was 20 in April 2012, 30 in May 2012 and 27 in June 2012. The proportion of patients who had lung cancer was 8/20, 15/30 and 11/27 respectively. The percentage of patients with a diagnosis of lung cancer who underwent potentially curative surgical resection was 25% in April, 30% in May and 27% in June. Comparison with corresponding figures from 2011 and 2010 shows no significant difference in lung cancer referral or diagnosis rates, with a small but not statistically significant increase in surgical resection rates year on year.

Our conclusion is that the national awareness campaign initiated in May 2012 has had no significant early effect on lung cancer referral, diagnostic and treatment patterns in our area.

P63 VARIABILITY IN GP REFERRAL RATES FOR CHEST X-RAY DOES NOT APPEAR TO AFFECT STAGE OR PERFORMANCE STATUS OF PATIENTS DIAGNOSED WITH LUNG CANCER

doi:10.1136/thoraxjnl-2012-202678.204

¹L Cheyne, ¹R Milton, ²J Fear, ¹MEJ Callister. ¹The Leeds Teaching Hospitals NHS Trust, Leeds, UK; ²NHS Leeds, Leeds, UK

Background Delays in referral of symptomatic patients for chest X-ray (CXR) has been proposed as one explanation for poorer survival from lung cancer in UK compared to other developed nations. Such delays may reflect patients not seeking medical advice for persistent respiratory symptoms, or not being referred for CXR following presentation to primary care. We sought to determine the relationship between GP CXR referral rates and patient characteristics at the time of lung cancer diagnosis.

Methods Data was collected for the number of CXRs ordered by GP practises in Leeds between 2008 and 2010 (corrected for list size). Patient characteristics at presentation with lung cancer (stage and performance status), treatment and outcome (one year survival) were compared over the same three year period. GP practises were grouped into quintiles by CXR referral rate (according to population served), and lung cancer outcomes compared between quintiles.

Results CXR referral rates varied from 6.7 to 62.3 CXRs per 1,000 population per year. Data was collected for 1,394 patients diagnosed with lung cancer. The number of lung cancer diagnoses per CXR quintile were 230, 276, 258, 322, 308 from lowest to highest CXR quintile respectively. The proportion of patients with early stage disease at presentation (stage I and II) did not vary by CXR quintile (29.6%, 26.1%, 28.7%, 26.7%, 25.6% from lowest to highest CXR rates). Similarly there were no differences in the distribution of performance status, the proportion of patients undergoing any anti-cancer treatment and one year survival between the quintile groups. When the cohort was split into 2 groups by CXR rates, no differences in lung cancer outcomes were seen between GP practises

(number of lung cancers 660 for low CXR group vs. 734 for high CXR group).

Conclusion Despite demonstrating large variability in CXR rates, our small single-centre study does not show a link between referral rates and lung cancer outcomes. This study is underpowered to detect small changes in survival or stage shift, but suggests large differences in outcome are unlikely to result from this variability in practise at primary care level.

P64 REVIEW OF CXRS REQUESTED IN THE COMMUNITY: CAN WE IMPROVE CANCER DETECTION?

doi:10.1136/thoraxjnl-2012-202678.205

V Wells, A Stanton, P Osborne, W Hicks, A Beale, N Ridley. Great Western Hospital, Swindon, UK

Introduction In our trust all patients with a CXR suggestive of cancer have their CXR reviewed in the lung MDT. Following a serious incident investigation in our trust the question was raised as to whether this practise should be extended to all patients with "red flag symptoms" but not necessarily an abnormal CXR, in an attempt to improve early detection of lung cancer.

Aims

1. To determine frequency of red flag symptoms (i.e. hoarseness/haemoptysis) in patients undergoing community chest radiography
2. To determine frequency of subsequent lung cancer diagnosis in such patients
3. To determine if routine MDT review of such patients would improve time to lung cancer diagnosis.

Method Review of community CXR request forms and images over a 1 month period (January 2010) was performed. Any CXR requested for a red flag symptom and reported as "normal", was re-reviewed by a radiologist. Review of medical records over the succeeding 27 months to determine if there was any subsequent detection of lung cancer.

Results 549 community CXR's were requested in the review period. A random sample of 229 requests were reviewed. 8 requests included haemoptysis in clinical details and none included hoarseness. 5/8 CXR's were reported as normal. 3/8 were reported as abnormal, with one suggestive of cancer (subsequently diagnosed) and discussed at MDT anyway. The remaining 2 patients with abnormal CXR's had subsequent unremarkable imaging. None of the remaining 5 patients with haemoptysis and a normal CXR had any subsequent presentation with lung cancer.

Conclusion The prevalence of red flag symptoms in patients being referred for community CXR's is low. In those with red flag symptoms and a CXR that does not suggest cancer, subsequent presentation with cancer is at worst highly unlikely. The practise of routinely reviewing images of such patients in a lung cancer MDT is unlikely to improve detection rate or time to diagnosis of lung cancer.

P65 INCREASE IN LUNG CANCER SURGICAL RESECTION RATES FOLLOWING A REGIONAL MEDIA BASED PUBLIC AWARENESS CAMPAIGN

doi:10.1136/thoraxjnl-2012-202678.206

SA Hobbins, IS Woolhouse. Queen Elizabeth Hospital, Birmingham, United Kingdom

Introduction Lung cancer prognosis depends on staging at time of diagnosis and delayed presentation contributes significantly to poor survival rates. The Doncaster public awareness cough campaign resulted in a significant increase in lung cancer diagnoses but not stage at presentation. The effect of early awareness campaigns on

treatment rates has not previously been reported. Therefore we evaluated the impact on lung cancer diagnoses at our institution following a similar media based campaign piloted in the Midlands, with particular reference to lung cancer stage, patient fitness and treatment.

Method We conducted a case control cohort study comparing patients diagnosed at our institution in the 3 months following the campaign in 2011 to the same time period in 2010. Data on chest X-ray referrals were obtained from local imaging systems. Patient and lung cancer information were obtained from data submitted to the National Lung Cancer Audit. Statistical analyses were performed using SPSS.

Result are shown in Table 1. Following the campaign, GP chest X-ray referrals increased by 27%, whereas outpatient chest X-ray referrals remained unchanged. The number of lung cancers diagnosed increased by 24%. The proportion of patients with good performance status significantly improved, as did measured lung function. There was a 9% increase in early stage cancer although this did not reach statistical significance. However, the proportion of patients undergoing surgical resection significantly increased from 14% to 31%, $p < 0.05$.

Conclusions The results suggest that the regional lung cancer public awareness campaign was successful in increasing GP and public awareness with a consequent increase in lung cancer diagnoses at our institution. Furthermore, patients appeared to present with better performance status and preserved lung function which may, together with the trend to earlier stage at diagnosis, explain the significant improvement in surgical resection rates. These results are very promising and wider evaluation of the regional campaign is awaited with interest.

References

Atthey V, Suckling RJ, Tod AM, Walters J & Rogers TK. Early diagnosis of lung cancer: evaluation of a community-based social marketing intervention. *Thorax* May 2012; 67(5): 412–417.

Abstract P65 Table 1 Results before and after public awareness campaign

	2010	2011	p value		
GP Chest x-ray	2458	3126			
Lung cancers diagnosed	49	61			
Good performance status (0–1)	19	39%	35	57%	0.05
Stage I-II	14	29%	23	38%	0.31
FEV1 (L)	1.46	1.89			0.03
FEV1%	65	80			0.02
Surgical resection	7	14%	19	31%	0.04

P66 IS EARLIER CT SCANNING FOR LUNG CANCER EXPOSING PATIENTS TO AN INCREASED RISK OF HARM FROM CONTRAST NEPHROPATHY?

doi:10.1136/thoraxjnl-2012-202678.207

B O'Leary, E Ghorani, AK Reinhardt. *Whipps Cross University Hospital, London, UK*

Introduction Contrast induced nephropathy (CIN) is the third most common cause of hospital-acquired acute kidney injury¹ 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

- Hou SH et al. Hospital-acquired renal insufficiency: a prospective study. *Am J Med.* 1983; 74:243–8.

P67 LUNG NODULE FOLLOW-UP SURVEY OF LONDON AND EAST OF ENGLAND HOSPITALS: WHAT ARE WE ACTUALLY DOING?

doi:10.1136/thoraxjnl-2012-202678.208

Z Magera, S Isse, DYL Tang, R Gupta, P James, DK Mukherjee, JT Samuel, KV Wadsworth, B Yung. *BasildonThurrock University Hospital, Basildon, Essex*

Background The widespread use of computed tomography (CT), to investigate both lung and non-lung pathology has led to the finding of increasing numbers of incidental pulmonary nodules. The BTS is currently in the process of developing guidelines on the investigation and management of pulmonary nodules, due 2013. We aim to establish current practise with pulmonary nodule follow up, including the use of low dose thin-section techniques and lung nodule volumes, both of which have been recommended to enhance patient safety and diagnostic accuracy respectively.

Methods We developed a structured questionnaire in order to survey 60 hospital trusts in the London and East of England region between May-July 2012. The named lung cancer lead was emailed/faxed with a 40% response rate.

Results All hospitals followed a local trust guideline, based partly on Fleischner Society recommendations. On discovery of an incidental lung nodule 80% of radiology departments alerted a respiratory physician and 20% the referring doctor only. 67% of hospitals reviewed patients in specialist lung cancer clinic initially, the remainder being seen in general respiratory. Follow up methods varied between hospitals, with 29% being followed up in clinic, 29% by telephone and 42% by letter. For follow up scans 52% of departments used conventional "staging" CT chest, 29% used dedicated low dose CT protocols and 19% used unenhanced