Initial Evaluation of Calcium Levels of Patients with Suspected Lung Cancer

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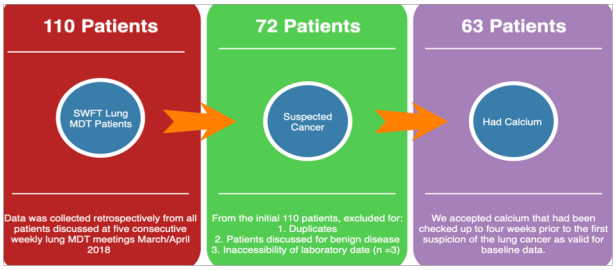
Aim: To ascertain if serum calcium was checked in a timely way in patients referred with suspected lung cancer to a DGH Lung Cancer MDT

Background:

Hypercalcaemia is a serious complication of cancer, with potential to cause significant morbidity and even premature death. The ATS, ACCP and ERS recommend measuring serum calcium as part of the initial work-up of patients suspected of having lung cancer [1,2]. This advice is not currently explicit in the UK national guidelines, nor is it required by referrers in our unit's local guidelines [3,4]. We carried out an audit to ascertain if patients referred to the lung cancer service at South Warwickshire NHS Foundation Trust had calcium measured.

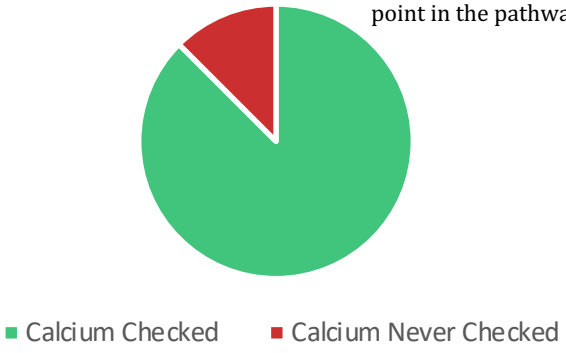
Methods:



Data was collected retrospectively from all patients discussed at five consecutive weekly lung MDT meetings March/April 2018 . From the initial 110 patients, after excluding (1) duplicates, (2) patients discussed for benign disease needing surgical input and (3) inaccessibility of laboratory data (n=3), we were left with 72 patients. We accepted calcium that had been checked up to four weeks prior to the first suspicion of the lung cancer as valid for baseline data. We used liver function timing as a comparator

Results:

9 out of 72 patients (12.5%) had no serum calcium check at any point in the pathway

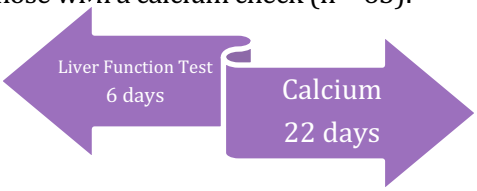


Of those without a calcium check (n = 9):

1. 3 had lung cancer (1 metastatic M1b)
2. 2 remain under surveillance for suspicious nodules
3. 4 had no malignancy and were discharged

In addition 3 further patients (excluded from the final analysis because of difficulty accessing data as above) were suspected not to have had a calcium measurement

Of those with a calcium check (n = 63):



In the 63 who had a serum calcium measured there was on average **22 days delay** between first suspicion of cancer and obtaining a serum calcium (median = 11). 12 had delays > 30 days (range 35 – 128 days).
Liver function was measured in 71 of 72 patients (average delay from suspicion of lung cancer 6 days)

Conclusions:

Our findings suggest that in a significant number of cases there is a lack of awareness of the need to measure serum calcium early in the work-up of suspected lung cancer. This is not the case for liver function tests. There may therefore be a need to be more explicit in local and national lung cancer guidelines, coupled with re-emphasis of the importance of calcium checks to health professionals involved in the diagnostic work-up of lung cancer.

Future:

- Findings to be presented at South Warwickshire Foundation Trust Grand round
- Take steps to increase awareness in primary and secondary health care
- Re-audit post changes

References:

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2. Detterbeck, F., Lewis, S., Diekemper, R., Addrizzo-Harris, D. and Alberts, W. (2013). Author Conflict of Interest Error in: Diagnosis and Management of Lung Cancer, 3rd ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. Chest, 144(5), pp.320-332.
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