The appropriateness of CT imaging requests in patients with GIST
Audit and re-audit

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Background
Gastrointestinal stromal tumours (GIST) are relatively rare tumours which are
part of the sarcoma spectrum. Incidence of 900 cases annually in the UK, of which 35% are malignant. The majority occur in the GI tract and are diagnosed on endoscopy or cross-sectional imaging. Metastases most commonly occur intra-abdominally (1, 2). Follow-up imaging should be targeted to the most likely sites of disease and avoid unnecessary radiation exposure. Thoracic metastases are extremely rare.

Typical CT appearances of a gastric GIST
Well-defined, exophytic, enhancing soft tissue mass projecting into the gastric lumen.

Standard
0% of patients with confirmed GIST should have thoracic imaging without a clear clinical indication (3, 4).

Target
100% of GIST patients undergoing CT thorax should meet IRMER 2000 guidelines.

Indicator
Clinical information on CT request forms should be sufficient to justify thoracic imaging when it is performed.

Is this request appropriate? Our IR(ME)R responsibilities
The referrer
• must provide sufficient clinical information to enable the justification of a medical exposure
The practitioner (radiologist or radiographer)
• will justify the procedure and take responsibility for exposure.

Method
Retrospective data collection
Cases were identified from our local sarcoma unit database of patients started on Imatinib treatment between 01/01/13 - 31/12/13. All CTs performed for this cohort of patients were reviewed. Electronic records were reviewed for: requesting clinician, if thorax was imaged, if thoracic imaging was justified and scan findings.

Exclusion criteria
• External imaging studies
• Initial diagnostic study
• Paediatric patients

The audit

Results 1st audit cycle
50 patients, 123 CTs. 54% (67) studies included thoracic imaging. 67% of thoracic CTs were requested by non-consultant grade referrers. 97% of CT thorax studies were not justified and did not meet IRMER.

1st action plan
Education for referrers
• Presented at sarcoma unit meeting February 2014
• Information about online resources given to middle and junior grade referrers, including London & SE Sarcoma Network follow-up guidelines

Education for practitioners
• Presented at local radiology audit meeting February 2014
• Emphasis on IRMER responsibilities including vetting and protocoling of CT requests

The re-audit – have we improved?

Results 2nd audit cycle
Electronic RIS search for all CTs performed for patients with GIST between 01/01/15 – 31/12/15. 354 CT studies. 14% (48) included thoracic imaging. 67% of thoracic studies were requested by non-consultant grade referrers. 25% of CT thorax studies were not justified.

Have we improved? Yes
Percentage of thoracic CT studies not justified
• 2013: 97% 
• 2015: 25%

2nd action plan
Ongoing education
• Re-presented at radiology and sarcoma unit meetings.

Resources
• Updated Trustwide imaging protocols – accessible for all staff that request and vet/protocol imaging (electronic and hardcopy).
• Local sarcoma unit guidelines updated

References