An Audit of CT Colonography Practice in a District General Hospital Setting.
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Background
CT Colonography (CTC) is widely available but performance is variable with reported detection rates of 67-100% for lesions greater than 1cm. (1) In a study of NHS UK consultant radiologists the accuracy varied from 93% to 93% when tested on validated cases.(2)

The International Collaboration for CT Colonography recommended that regular audit processes should be in place to compare CTC findings with endoscopy and pathology. (3, 4) West Middlesex Hospital is a DGH in West London. CTC studies are reported by 3 consultant radiologists with a gastrointestinal special interest.

Aim and Methods
The aim of the audit was to compare CTC and endoscopic findings in patients to determine any discrepancies and determine if any cancers had been missed on CTC. All patients who had a CTC performed over a period of 3 years and 5 months from August 2010 to Jan 2014 were cross referenced against the electronic record of endoscopic procedures. In patients who had undergone CTC and endoscopy within 12 months of each other, findings were compared.

Results
Of 258 patients who had a CTC, 171 also had a contemporaneous flexible sigmoidoscopy or colonoscopy. In 42 patients, studies were non comparable leaving 129 comparable studies.

92/129 (73%) of CTC and endoscopic findings were in agreement.

3 CTC studies demonstrated extracolonic findings: A right renal cell carcinoma, a lytic lesion in the pubic bone and an enlarged spleen with RIF lymph nodes.

3/129 endoscopic abnormalities not detected on CT (9%) but majority were small polyps (8), only 2 polyps greater than 1cm were missed (1.6%). One patient demonstrated subtle rectal inflammation and one an ischemic stricture.

No cancers were missed on CTC.

There were 19/129 possible overcalls (85% sensitivity) predominantly suspected but unconfirmed polyps of <1cm.

One rectal cancer was detected on CTC that had been missed on endoscopy done 4.5months earlier.

Conclusion:
In our institution, correlation of CTC and endoscopic findings is reassuring with only 2 polyps greater than 1cm missed (1.6%) and no cancers. Both of these patients had other findings detected on CTC that prompted endoscopy. These misses may have been due to ‘satisfaction of search’. Of the 42 patients who had an endoscopic procedure abandoned, only 2 had repeat endoscopy attempted and 5 had subsequent CT scans and no missed pathology detected.

References:
1) Johnson CD, Chen MH, Toledano AY et Al. Accuracy of CT colonography for detection of large adenomas and cancer. NEJM 2008; 359:1207-17
3) D Burling (on behalf of the international collaboration for CT colonography), CT Colonography Standards, Clin Rad 65, 2010 474-480

CTC Imaging Protocol at WMH
- Multidetector CT
- Slice width 1mm
- Dual position scanning; Supine and Prone.
- IV contrast
- Bowel prep; low residue diet, bisocodyl and faecal tagging
- 120KV
- Automated C02 insufflation

*Exclusions
- Endoscopy abandoned (due to poor bowel prep, pain inflamed diverticula or fixed sigmoid) (32)
- More than 12 months between scope and scan ( 3)
- Endoscopy first and polyps removed ( 6)
- Vasovagal on the endoscopy table (1)