Introduction of symptomatic patient screening for faecal occult blood

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Background

NICE updated guidance NG12 on Suspected cancer: recognition and referral (June 2015), recommends faecal occult blood (FOB) testing in patients suspected of having colorectal cancer. Although NICE do not specify which method of analysis to use, we chose faecal immunochemical testing (FIT) as it is a more sensitive and specific method of detecting human haemoglobin than guaiac methods.

Lancashire Teaching Hospitals released local guidance in June 2016 to mirror NICE guidance on using FOB to triage low risk patients for colorectal cancer without red flag symptoms. We send our FOB requests for FIT analysis to a referral laboratory and we have carried out a FIT method evaluation with the aim of measuring it locally.

There is debate about which cut-off to use in symptomatic patients and we use a cut-off of 10 µg/g which we anticipate to be recommended by NICE.

Methods

Two faecal collection devices were sent to each patient with an FOB request between Sept-Dec 2016 (n=60). One device was sent to the referral laboratory for analysis using HM-JACK arc and the other was processed in-house using the IO OC sensor. Analyse was used for statistical analysis.

Results

Overall, 17% patient samples were positive using HM-JACK arc compared with 18% with OC sensor. Concordance between both methods was seen for 95% of patients. Three patients (5%) had discrepant results but all of these were close to the cut off, this will need to be explored but may be due to sampling from different parts of the faeces with separate devices.

<table>
<thead>
<tr>
<th>FIT result (µg/g)</th>
<th>Coventry HM-Jack arc</th>
<th>Preston Io OC Sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>12.9</td>
<td>2.8</td>
</tr>
<tr>
<td>B</td>
<td>4.8</td>
<td>18.6</td>
</tr>
<tr>
<td>C</td>
<td>9.4</td>
<td>48.4</td>
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</tbody>
</table>

Table 1: Comparison of quantitative results obtained using each of the FIT assays during patient comparison. Results in blue are below the cut off of 10 µg/g and those in red are above the cut off.

Patient A was a 78 year old female with iron deficiency anaemia. She had a colonoscopy where nothing abnormal was detected.

Patient B was a 90 year old female with mild iron deficiency anaemia, nothing abnormal detected on examination it was decided clinically not to perform a colonoscopy.

Patient C was a 45 year old female with loose stools, weight loss and borderline faecal calprotectin (55 µg/g). A colonoscopy was performed with biopsies, nothing abnormal was detected.

Conclusions

HM-JACK arc and OC sensor methods compared very well, both analytically and clinically, in this patient comparison study. We are happy that the lower level of quantification of the OC Sensor method will be better than the 10 µg/g cut-off being considered by NICE. Whichever method is used, over 80% of low risk patients could avoid invasive colonoscopy by introducing FIT testing. The more capacity released by the colonoscopy service the more capacity will become available to lower the cut-off used in asymptomatic patient screening to detect more colorectal cancers at an earlier stage. The need for repeating negative results will be determined by clinical audit once enough data is available.

References