NHS
Greater Nottingham
Clinical Commissioning Partnership

Faecal Calprotectin in Primary Care

IBS affects 20% of the population and it generates 28% of all gastroenterology referrals to secondary care and represents 12% of primary care consultations (Thompson et al. 2000).

Patients often see their GP because of lower gastrointestinal symptoms (Canavan et al. 2014). Most often these are due to a benign disorder of bowel function in the absence of inflammation, generally referred to as IBS (Ford & Tally, 2012). Whilst IBS can be a challenging condition, the reassurance of a confident diagnosis and simple supportive measures will usually be sufficient to permit effective self- management. When diagnosed with certainty, this can be delivered within primary care. More rarely, with a prevalence of 3-5% in patients with bowel symptoms presenting to primary care, the patient will be suffering from IBD (Crohn's disease or ulcerative colitis) (NICE, 2015a). IBD requires early diagnosis and specialist secondary care management to prevent complications, such as surgery (NICE, 2015a). Unfortunately the challenge for the GP is that the symptoms of IBS and IBD are often similar and existing screening blood tests (such as C-reactive protein) are insensitive and nonspecific. Often there is diagnostic uncertainty. This adds to the anxiety caused by the symptoms (CrohnsandColitis, 2016; Mozdiak et al. 2015).

Diagnostic uncertainty currently leads to patients being referred to secondary care for additional investigations. The use of blood testing diagnostics may be influenced by other conditions resulting in a lack of accuracy. The impact to patients of a referral to secondary care cannot be underestimated. Factors include time taken to be seen, an invasive and unpleasant experience and alongside this additional costs to the healthcare system.

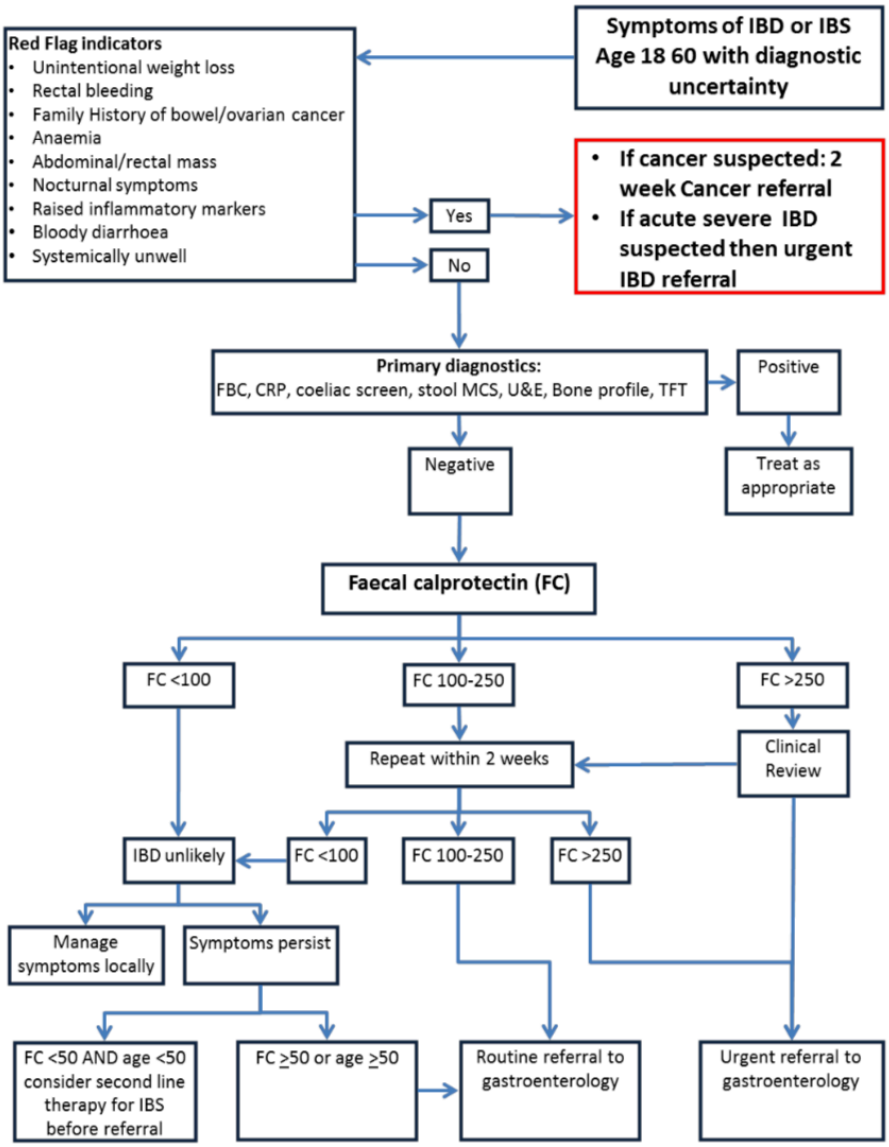
Elevated levels of calprotectin in faeces are an indicator of IBD and not IBS. Measuring calprotectin levels prior to referral would aid diagnosis.

This algorithm should be considered in ***patients aged 18-60 years*** presenting with lower gastrointestinal symptoms where IBS or IBD is suspected but there is diagnostic uncertainty. It **should not be used if colorectal cancer or acute severe IBD are suspected** (NICE, 2015a; NICE, 2015c). GPs should refer to the NICE NG12 referral criteria for suspected colorectal cancer. Faecal calprotectin should not be used in place of NICE DG30 directed faecal immunochemical testing of haemoglobin (FIT). However faecal calprotectin may be considered in a FIT negative patient where colorectal cancer is not suspected. Since the prevalence of colorectal cancer increases with age there has been debate regarding the age group for which faecal calprotectin can be used. Faecal calprotectin testing would not normally be considered in patients older than 50 years, however if colorectal cancer is not suspected then it is reasonable for GPs to apply the algorithm up to 60 years, after which the specificity and sensitivity fall (van Rheenen et al. 2010; Jellema et al. 2011 and Dhaliwal et al. 2015). **If symptoms of ovarian cancer are suspected, especially in women of 50 years or older with symptoms of IBS then CA125 should be measured** (NICE, 2011). If acute severe IBD is suspected (with symptoms such as bloody diarrhoea, systemically unwell and markedly raised inflammatory markers) then urgent referral to the IBD clinic or hospital admission should be considered.

If no 'red flag' indicators are present and cancer, or acute severe IBD, is considered unlikely, then primary diagnostic tests should be undertaken (such as coeliac screen, stool culture, full blood count, U&E, bone profile, TFT and CRP).

If primary diagnostics are uninformative and there is diagnostic uncertainty, it is suggested that a faecal calprotectin is requested before referral. The turnaround time of this test should be 2-3 days.

Faecal Calprotectin Algorithm



Initial faecal calprotectin <100 microgram/g:

IBD is unlikely in this group of patients and should be treated as IBS with a 6 week review. If at review the patient is still symptomatic then patients over 50 years, or if the initial faecal calprotectin was greater than 50 microgram/g, should be referred routinely to gastroenterology. Patients under the age of 50 years where the faecal calprotectin is less than 50 microgram/L should be monitored and referred routinely to gastroenterology if the second line IBS treatment is unsuccessful. A FC<100 may also prompt the clinician to consider non-gastrointestinal, such as uro-gynaecological, disease in the differential.

Initial faecal calprotectin 100-250 microgram/g:

Experience has shown that initial elevations at this level can be normal on repeat, and it is recommended that in this intermediate group a repeat faecal calprotectin is undertaken within 4 weeks. NSAIDS can cause false elevations of faecal calprotectin and whilst repeating faecal calprotectin after withdrawal of NSAIDs would be ideal it was thought that this would add time to the patient pathway and a pragmatic view would be to repeat whilst patient is on NSAIDs.

Repeat faecal calprotectin:

- FC > 250: Urgent referral to gastroenterology
- FC 100-250: Routine referral to gastroenterology
- <100: IBD unlikely, plan care as if initial FC was less than 100 microgram/g

Initial faecal calprotectin >250 microgram/g:

Experience has shown that elevated faecal calprotectin can be lower on repeat. In undiagnosed patients, with no red flag indicators or increased signs for suspicion of acute severe IBD, with an initial faecal calprotectin >250 microgram/g patients should be clinically reviewed in primary care. If symptoms are significant or worsening then the GP should refer to gastroenterology urgently, otherwise repeat the faecal calprotectin.

Repeat faecal calprotectin:

- FC > 250: Urgent referral to gastroenterology
- FC 100-250: Routine referral to gastroenterology
- FC <100: IBD unlikely, plan care as if initial FC was less than 100 microgram/and treat as likely IBS if <100 on repeat.

Based on NHS England Endorsed paper titled: Faecal Calprotectin in Primary care as a decision diagnostic for inflammatory bowel disease and irritable bowel syndrome.

Summarised in discussion with

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