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The Use of a Faecal Calprotectin Service in Routine Practice Can Help in Clinical Dilema and Significantly Reduce Unnecessary Colonoscopy.

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Introduction

The new faecal calprotectin (FC) assessment kits are capable of differentiating between organic and functional bowel disease with a 93% sensitivity and 96% specificity (Rheenen. BMJ.2010). Where the diagnosis is unclear, FC can be used to spare unnecessary invasive colonoscopy. Functional (Irritable bowel syndrome - IBS) symptoms are said to occur in 60% of ulcerative colitis (UC) and 40% of Crohn's disease patients (Keohane. AJG. 2010). This can create a notoriously difficult management dilemma, which in turn can lead to both over, and under, treatment of presumed flares in the patients underlying inflammatory bowel disease (IBD).

Aims

1) To assess the ability of FC in differentiating between functional and organic disease where the diagnosis was uncertain, and to review the number of potentially unnecessary colonoscopies that could be spared.

2) To assess the management outcome in symptomatic IBD patients when using FC to determine functional (IBS) from inflammatory bowel disease symptoms.

Method

Over a 6 month period FC data was collected from both new gastroenterology referral patients and known IBD patients, where a colonoscopy was being considered because of diagnostic uncertainty about whether they were suffering from organic or functional (IBS) symptoms. A normal, borderline and high result was recorded when levels were <50, 50-100 and >100 µg/g, respectively. A retrospective review was performed to assess the diagnostic and management outcome.

Results 1

In total 100 FC assessments were performed in new referral patients and 44 in known IBD patients where there had been a diagnostic dilemma. In the new patients colonoscopy was spared in 70% (70/100), including 55/63 with normal FC (<60), 6/7 with borderline FC (60-100), and 9/30 with high FC (>100), see chart 1.

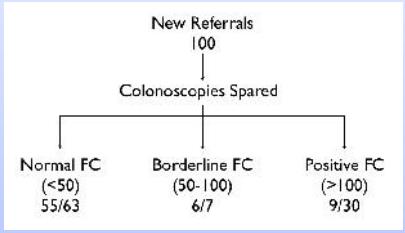

Chart 1. Colonoscopies spared depending on FC levels

Some of these patients did however opt for a CT cologram where positive findings were seen in 0/6 of those with normal FC, 1/2 (1 diverticular disease) with borderline FC, and 7 (2 normal, 4 diverticular disease, 1 cancer) with high FC. Despite normal FC results 6 new patients went on to have a colonoscopy, 5 of which were normal and 1 demonstrated a low grade dysplastic tubular adenoma.

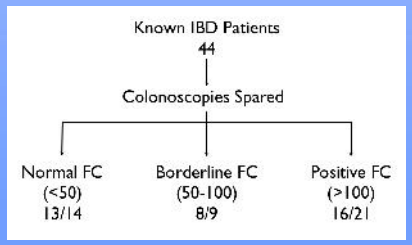

Chart 2. Colonoscopies spared in known IBD patients

Results 2

In the IBD patients colonoscopy was spared in 84% (37/44), including 13/14 with normal FC, 8/9 with borderline FC and 16/21 with high FC. In the IBD cohort the FC changed management in 10/14 with normal results, 4/9 with borderline results and 16/21 with high results.

Conclusions

Faecal Calprotectin assessments spared 70% of the colonoscopies being considered in new referral patients presenting in clinic where the diagnosis was uncertain. With the increasing demand being made on colonoscopy units throughout UK, a greater utilization of faecal calprotectin into general clinical practice could help safely relieve some of this burden. This can be used to help maintain adequate endoscopy waiting times, whilst also lightening the financial burden for the Clinical Commisioning Groups. Many hospitals are now adopting FC testing into their IBS investigation and referral pathways for general practitioners, prior to them considering referrals to the hospital based gastroenterology specialists.

In known IBD patients Faecal Calprotectin assessments spared 84% of colonoscopy, as botha negative and positive result directly influenced subsequent management. We believe this is an incredibly useful test test in helping to provide clinicians the confidence to focus on treating functional bowel symptoms and tailor down escalating management regimes in those with normal result.

References

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Luton and Dunstable Hospital NHS Foundation Trust