BSG POLYP SURVEILLANCE GUIDELINES 2020: A SCOPE FOR CHANGE

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Introduction

In 2020, the British Society of Gastroenterology (BSG), the Association of Coloproctology of Great Britain and Ireland, and Public Health England revised post-polypectomy surveillance guidelines. Here, we compare colonoscopy findings and planned surveillance dates at our institution, a tertiary referral centre, with novel recommendations in all patients awaiting surveillance colonoscopy following polypectomy.

Methods

All patients awaiting surveillance colonoscopy were collated by endoscopy management. Electronic patient records were accessed to obtain latest colonoscopy findings, histology results and follow-up recommendations. Results and recommendations were compared with the 2020 guidelines and an up-to-date recommendation generated.

Results

330 cases were analysed from 2016–2020. According to new guidance, 74 procedures should continue as planned (22.4%), 221 colonoscopies are not required (66.9%), 7 should be brought forward (2.1%) and 17 pushed back (5.2%). There were 11 cases (3.3%) in which the recommendation was not clear. Reasons included missing data and declined procedures.

Of the colonoscopies to continue as planned, 31 had high risk findings, 12 had low risk findings, 26 were normal and 4 had other findings (e.g. inflammatory bowel disease). Of the surveillance colonoscopies no longer required, 14 were high risk patients over 75 years, 178 were low risk and 29 were normal. The majority of planned surveillance colonoscopies not needed were previously scheduled for either 3 or 5 year follow up.

Conclusions

We present data from a single tertiary referral centre over a four year period. Application of the novel guidance has led to approximately 70% of patients avoiding unnecessary colonoscopies and the associated procedural risks. The cost of a colonoscopy at our centre is £622. We anticipate a potential cost saving of £137,462 in this cohort. Our data suggest that application of the 2020 polyp surveillance guidelines can provide tangible benefits both financially and for patients.

A COLORECTAL REFERRAL PATHWAY INCORPORATING PRIMARY CARE FECAL HAEMOGLOBIN TESTING SAFELY AND EFFECTIVELY PRIORITISES INVENSATION

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Introduction

There is increasing interest in using Quantitative Faecal Immunochemical Testing (QFIT) for haemoglobin as a ‘rule out’ test for significant colorectal disease in symptomatic patients. It has been demonstrated elsewhere in Scotland that incorporating faecal haemoglobin testing into a primary care clinical assessment tool can safely and effectively prioritise referral for colorectal investigation. Here we present results of our own experience in the largest Scottish health board (population 1.14 million) following adoption of a primary care colorectal referral pathway incorporating QFIT.

Methods

A new referral pathway incorporating primary care testing of faecal haemoglobin was incorporated into clinical practice in September 2018, regardless of patient age. Faecal haemoglobin was measured using the HMJack analyser (Kyowo-Medex), with a cut off for a positive test being 10 μg/g stool. The need for, and priority of, investigation, was determined according to the faecal haemoglobin concentration along with assessment for other pre-determined ‘red flag’ symptoms (iron deficiency anaemia, persistent rectal bleeding or daily diarrhoea > 4 weeks, rectal or abdominal mass). Ascertainment of significant colonic disease was determined after 1 year of follow up by linkage of faecal haemoglobin results to local endoscopy, radiology and pathology databases, and finally verified by linkage to the Scottish Cancer Registry.

Results

A minimum of 12 month follow up information is available for 3818 patients who submitted a QFIT sample between September and December 2018. A faecal haemoglobin result was available for 3547 patients, and positivity was 25.3%, with 4.4% of results being above the maximum quantifiable value (>400 μg/g stool). 1312 patients had undergone colonoscopy. 54 patients were diagnosed with colorectal cancer within 1 year of having faecal haemoglobin analysed. 51/54 (94.4%) patients had a positive QFIT test, and 53/54 patients (98.1%) had their investigation prioritised based on QFIT result or pre-determined ‘red flag’ symptoms. Only 1/3793 patients developed cancer within one year of an undetectable faecal haemoglobin and in the absence of ‘red flag’ symptoms. Advanced adenomas were found in 9.2% vs 2.1% investigated patients with detectable faecal haemoglobin, and inflammatory bowel disease was diagnosed in 6.2% vs 1.6%.

In one sector of the board, introduction of this pathway has reduced demand for ‘direct to test’ colonoscopy by 20%, and demand for all luminal gastroenterology and colorectal surgery outpatient activity by 12.4%.

Conclusion

Adopting a pathway incorporating faecal immunochemical testing for haemoglobin in primary care as an adjunct to a formalised clinical assessment can safely determine a patient’s risk of significant colorectal pathology, particularly colorectal cancer, and help prioritise investigation.

IMPROVING USE OF CALPROTECTIN IN PAEDIATRIC PRIMARY CARE – AN EVIDENCED-BASED ALGORITHMIC APPROACH TO DECISION-MAKING

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Introduction

Faecal calprotectin (FCP) is recommended in UK NICE guidance as a tool in distinguishing inflammatory bowel disease (IBD) from Irritable Bowel Syndrome in adults. Its utility for the same purpose in children is poorly understood and there has been concern in our hospital that a high rate of testing and uncertainty in test interpretation may be driving an increase in avoidable referrals from primary care. We sought to determine whether this assessment was supported by local data and to ascertain whether a paediatric FCP algorithm
could rationalise testing and reduce unnecessary referrals, without delaying IBD diagnoses.

**Methods** All primary care FCP tests processed for 0–16 year olds in Bristol were obtained for between Oct. 2016 - Mar. 2017 and Oct. 2018 - Mar. 2019. Hospital records were reviewed to identify associated referrals to specialist services and any subsequent diagnoses. Patients with a pre-existing IBD diagnosis were excluded.

A clinical algorithm was subsequently constructed and tested against results available at referral from 50 IBD cases diagnosed at the Bristol Children’s Hospital (May 2018 – Jul. 2019) to assess its sensitivity for IBD cases.

**Results** The number of patients receiving FCP tests had increased by 92% between the 2016/17 and 2018/19 samples to 254. Referrals in response to these presentations increased by 58% in the same period to 63.

Of the 2018/19 referrals, 63% made explicit reference to a FCP result perceived to be elevated and 11 referrals (17%) resulted in a IBD diagnosis. 14% of referred patients were ≤ 4 years, 21% 5–8 years and 65% 9–16 years. The most common presenting symptoms were abdominal pain (67%), loose stools (57%), weight/growth concern (14%) and rectal blood (19%).

Of all FCP tests ordered, 25% were moderately elevated (50–199 μg/g) and case examples highlighted a lack of consistency in the management of such equivocal results and presentations. The above analysis also illustrates a proportion of FCP testing in situations where it was unlikely to be instructive (e.g. those ≤ 4 years; active rectal bleeding). Such examples represented opportunities to rationalise testing and interpretation. Constructing an algorithm accordingly, we trialled this approach on 50 IBD diagnoses in a validation sample, which indicated all would have been successfully referred.

**Conclusion** There has been an increase in faecal calprotectin testing in primary care since 2016/17, generating an associated increase in referrals. Our proposed clinical algorithm did not lead to missed or delayed IBD diagnoses in our validation sample, suggesting that faecal calprotectin testing and referrals to hospital care could be streamlined if the algorithm was used in primary care.

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**THE MANAGEMENT OF CROHN’S DISEASE PATIENTS POST ILEO-Caecal RESECTION: A MULTICENTRE, REGIONAL AUDIT**

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**Introduction** Crohn’s disease (CD) is a chronic inflammatory condition of the gastrointestinal tract, characterised by an aberrant immune response towards commensal microbiota. Despite the availability of target-specific front-line therapeutics, 30–40% of CD patients still require surgery to manage disease. This project aims to identify different systemic and mucosal CD immunopathotypes and map their associations to distinct treatment responses and behaviours.

**Methods** To study local immune response in CD, colonic mucosal biopsies of inflamed patients (CD, n=4) and non-IBD controls (NC, n=6) were analysed by bulk RNA sequencing. Raw counts were normalised using DESeq and further analysed in R studio with a specific pipeline to select differentially expressed genes associated with the immune system. All findings were validated in a selection of three cohorts comparing gene expression of colonic inflamed CD tissue with non-IBD controls (n_{CD}=36, n_{NC}=24).

Differences in the systemic immune response were studied in two separate cohorts by isolating plasma and peripheral mononuclear cells (PBMCs) from fresh whole blood of CD patients with different levels of disease activity (n=30) and NCs (n=42). Subsequently, cytokine levels and leukocyte frequencies were measured using multiplex assays and flow cytometry analysis.

**Results** Gene expression analysis of colonic mucosal tissue biopsies highlighted an immunophenotype driven by macrophage and neutrophil activation and infiltration. After validating this gene cluster in a selection of cohorts, we find that CD patients with colonic active disease can be stratified into three different groups based on their macrophage activation phenotype. In the peripheral blood, we observed that patients have different levels of systemic disease activation, characterised by their leukocyte and cytokine concentrations, independent of their disease activity.

**Conclusions** Our analyses of mucosal tissue and peripheral blood have provided evidence of different immunopathotypes, both mucosal and systemic. Ongoing work will involve the correlation of these phenotypes with clinical information, such as treatment response and disease progression, to better understand whether pathotypes predict disease behaviour in CD.