**TITLE PAGE**

**Protecting Inflammatory Bowel Disease patients with specialist nursing services during the novel coronavirus pandemic**

**Special Commentary**

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**Key Points**

* During the novel coronavirus pandemic, specialist Inflammatory Bowel Disease nurse services are essential to reduce the risk of acute disease flares that may lead to hospital admission.
* It is important not to lose sight of chronic disease management as this could lead to a subsequent “fall out” phenomena due to the inadequate provision of disease specific healthcare.
* Inflammatory Bowel Disease services must think and work innovatively and new technologies to overcome the challenges of the current healthcare environment.

The 2019 novel coronavirus is a newly introduced zoonotic viral pathogen first identified in Wuhan City, Hubei Province, China in December 2019. Also referred to as Covid-19, nCoV-2019 and SARS-CoV-2, this enveloped non-segmented RNA virus shares clinical features with two other serious coronaviruses including severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV) (Wang et al. 2020). Due to the lack of existing community immunity and the ability for viral shedding to begin prior to clinical symptoms, Covid-19 has rapidly spread, causing a global pandemic and rapidly escalating number of deaths that at the time of writing had sadly surpassed 60,000. Governments across the globe have taken unprecedented action to tackle the ensuing public health crisis including restrictions on work, travel and social interactions. On the 23rd of March 2020, the UK Prime Minister stated “*the Coronavirus is the biggest threat this country has faced for decades*” and “*if too many people become seriously unwell at one time… more people are likely to die, not just from Coronavirus but other illnesses as well*”.

The most commonly reported symptoms of Covid-19 are fever and a dry cough. As with SARS-CoV, ACE2 has been identified as the entry receptor, which is important to understand in the context of inflammatory bowel disease as ACE2 is highly expressed in the small intestine (Liang et al. 2020). In SARS-CoV diarrhoea was reported in 20-25% (Wang et al. 2020). Reports of diarrhoea in Covid-19 patients have been fewer, but these have predominantly been based on small cohort studies and early conclusions on the potential for diarrhoea to be a symptom of the virus must remain tentative at this stage. Furthermore, as well as being transmitted via respiratory secretions and saliva, the virus is also active in diarrhoeal stools (BSG, 2020). An extraordinary challenge is therefore presented in the context of Inflammatory Bowel Disease (IBD), where diarrhoea is a primary symptom and must be carefully considered in regards to assessments of disease flares, handling of faecal samples and inpatient care of patients with active symptoms of IBD.

Covid-19 is known to cause a more severe disease with higher mortality rates in people who have significant comorbidities or who are on immunosuppressant drugs. This includes those with IBD who are on steroidal therapy, thiopurines or biological medications to control their disease. On the 22nd March 2020 guidance was released by the UK Government in order to shield and protect extremely vulnerable patients. This has had an immediate impact on many people with IBD who have now found themselves self-isolating at home. Worryingly, in an attempt to tackle the influx of seriously unwell people infected Covid-19, many specialist IBD services have been either suspended or cut down to a skeletal service with nurses in particular being redeployed to front line Covid-19 care. Furthermore, routine outpatient appointments and endoscopic procedures have been suspended, blood taking services have been minimised, IBD advice lines are overwhelmed delaying call back times, and GP surgeries are operating behind closed doors.

It is understandable why such measures have been taken, but the reduction in chronic disease management during this pandemic may lead to a significant increase in acute hospital admissions from disease flares and also long term poor health consequences. Although it is of utmost importance for this group to avoid unnecessary contact with healthcare setting, it is remains critical that those with IBD remain able to receive ongoing care and have access to an acute service for disease flare management. Here, we outline six practical considerations and service adaptations that can bridge the gap during this extraordinary time:

1. ***Tele-services***

Tele-services provide a supplementary level of care while reducing direct healthcare environment exposure. Many IBD services already offer advice line services. We recommend these are maintained as best as is possible. Professionals who themselves may need to self-isolate might usefully be deployed into this service if there is adequate IT provision and when individual social circumstances allow.

Severe flares of IBD can pose a threat to life and may require corticosteroid therapy, hospital admission and/or emergency surgery; all of which may increase the risk of poor outcomes during the Covid-19 pandemic. Where possible, an IBD flare hotline should be established to ensure the effective triaging of unwell patients. In General Practice, urgent care tele-services are frequently manned by administrative staff overseen by a clinical practitioner. A similar model could be considered as a short term measure.

If possible, multi-disciplinary team meetings should continue to ensure open communication channels using e-conferencing technologies to ensure social distancing amongst health professionals is also maintained.

1. ***Cross-disciplinary working and staffing arrangements***

A Consultant Gastroenterologist or similarly experienced health professional should be nominated as a clinical lead to tackle IBD specific queries during the pandemic. Based on our experience, providing this clinician with additional support from administrative staff and healthcare workers can help maximise efficiency. Ideally this would be those with experience in the speciality, but could also be dynamic staff members who cannot have patient contact during the pandemic or have been redeployed from other areas.

A dynamic and uniformed approach between primary and secondary care is required more than ever during this time. To this end, a direct access line or email inbox for primary healthcare professionals can be useful, as well as ensuring General Practitioners are aware of, and have access to the Crohns and Colitis flare pathways (www.rcgp.org.uk/ibd).

Specialist nurses are needed to thoroughly assess patients and use their experience to distinguish true disease flares from functional symptoms, in the absence of available faecal calprotectin testing and at a time where there is widespread patient anxiety. Where possible, we recommend that IBD Specialist Nurses should remain in post. However, we recognise that some nurses may have vital critical care skills that are urgently required during the Covid-19 crisis. In such cases, we urge careful consideration of alternative measures that will safe-guard the continuation of specialist nurse IBD care, such as dual roles that do not causing undue stress and pressure on individual staff members.

1. ***Medicines management***

Specialist pharmacists should be utilised to aid the provision of on-going medications and medication advice. It is important for IBD patients on DMARDs and biologics to continue their medication regimes along with appropriate blood monitoring. This will inevitably incur some environmental healthcare exposure for the patient. It may be important to identify patients who are well established on medications with stable and quiescent disease where regular blood monitoring regimes can be safely adapted or de-escalated. Hospital attendance for biological therapy is essential but may increase contact exposure. Safe areas with separate access points should be identified for the delivery of these. Infusion nurses should be dedicated to working on these units to limit cross-contamination from other areas of the hospital. Appropriate cleaning measures between patients should be performed along with social distancing measures within the suite itself. Where possible, blood should be urgently run at the start of infusions to reduce the need for phlebotomy attendance prior to the infusion date. Staff and patients should be asked to perform adequate handwashing and PPE2 barrier nursing performed (surgical face mask, gloves and apron). Pre-infusion checklists should be amended to include any SARS-CoV-2 symptoms.

For those with disease symptoms, optimisation of low risk medications including aminosalicylates (such as mesalazine), rectal therapies (including steroid based suppositories or enemas), topically acting steroids such as budesonide and bile salt sequestrants should be optimised initially. Commencing oral corticosteroids, immunomodulatory therapy or biological medications should be carefully considered by a Consultant Gastroenterologist.

Exploration of patient group directives for the provision of oral and topical amino-salicylates could be useful during this time. However, this does need careful consideration and assurances that nurses are not being asked to work outside of their area of competency. Many experienced IBD nurses are not non-medical prescribers, but can safely advise on first line therapy and reduce unnecessary medical time. It must be remembered that PGDs do not provide a legal framework for registered health professionals to adjust a dose of a medicine already in a patient’s possession. It may therefore be more practical to enlist a specialist pharmacist or junior doctor to support this service.

1. ***Investigations***

High risk IBD patients should be provided with rapid access to testing for Covid-19 if they meet the government criteria or have new onset bowel symptoms.

Gastrointestinal endoscopy is an aerosol generating procedure and therefore should only be used if essential. Endoscopists should use appropriate PPE and perform a suitable pre-assessment to identify whether the patient it exhibiting any signs or symptoms of novel coronavirus (https://www.bsg.org.uk/covid-19-advice/bsg-rationale-around-current-advice-to-all-endoscopy-units/).

Faecal calprotectin testing has been ceased in many areas due to the potential infective nature of faecal samples and the demand on laboratory services. In special circumstances, the IBD team should seek to understand whether a limited number of samples could be run if doing so would prevent hospital admission or more invasive investigations. Point of care testing is also available and teams should work with medical companies to see whether this could be made available to those most in need.

1. ***Inpatient care***

Many hospitals are now cohorting patients according to Covid-19. The resulting mixed-specialty wards pose a risk of inadequate disease management. In such clinical areas, specialist teams should be notified of IBD patient admissions and, if local guidelines allow, visit inpatients to provide reassurance and familiarity in a time where other visitors are not allowed. IBD Specialist Nurses can provide a vital communication channel between inpatients and family members.

Documenting and tracking inpatient attendances is essential. These patients should be prioritised for outpatient review when services are re-established. The need for clinical psychology input should also be considered.

1. ***Patient-led care***

IBD patients are the experts of their disease and they should be empowered to continue to self-manage during a period where many are likely to feel anxious and overwhelmed. Local hospitals should provide easily accessible communication channels in the form of advice lines, a dedicated webpage and carefully managed online and social media presence. Harnessing the support of marketing and communications teams is vital to ensure a coherent and uniformed message is provided to the public. Directing patients to Crohns and Colitis UK and the British Society of Gastroenterology may also be helpful.

**Key patient messages**

* Regular medications should be continued unless otherwise directed as the goal is to reduce the risk of disease flare and hospital admission
* Self-isolate if you have symptoms of coronavirus or have been deemed to be ‘high risk’ or ‘vulnerable’.
* Contact your IBD team only if you are having disease flare or symptoms of infection, or have been in direct contact with someone with confirmed coronavirus.
* 5-ASAs (salofalk, pentasa, asacol, octasa) are not in the same group as non-steroidal anti-inflammatory drugs (NSAIDS) and are deemed a low risk medication in the context of novel coronavirus.
* You have not been forgotten.

***Future planning***

In many secondary care settings, elective surgeries have been postponed. Specialist multi-disciplinary teams should meet to re-prioritise surgeries when services resume. A similar strategy may also be of benefit when planning outpatient review appointments.

We envisage that there will be a high degree of anxiety over biologic and immunosuppression therapy following the Covid-19 pandemic. Planning new consultation strategies to reassure patients of the value and safety of these medications may be required. Reintroducing staff members who have been redeployed during the crisis, and providing appropriate mentoring, coaching and support to nurses affected by the pandemic will be critical to ensuring the resumption of clinical services.

For many healthcare professionals, the novel coronavirus will present the biggest professional challenge of their career. As inherently reflective practitioners, nurses will undoubtedly take time after the pandemic to recount and analyse the experiences and effects of this global health crisis. There has and will continue to be a tragic number of potentially preventable deaths, but we must strive to find ways in which patient care can consequently be strengthened, improved and protected. When the dust settles it is vitally important that we continue to publicize the importance of IBD Specialist Nurse Services, highlight the need for more non-medical IBD nurse prescribers, draw attention to the value of well organised and staffed advice lines and the need for robust clinical infrastructure and services including clinical psychology. Finally, this crisis is an opportunity for nurses and other healthcare professionals to come together and demonstrate to newly qualified or aspiring health workers the positive impact of cohesive and effective clinical teamwork.

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