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Delay in loop ileostomy reversal surgery does not impact upon post-operative clinical outcomes. Complications are associated with an increased loss of microflora in the defunctioned intestine

Abstract: Research question: Why do so many patients experience complications following ileostomy reversal surgery?

Background. Surgical formation of a loop ileostomy to temporarily divert the faecal stream and allow tissue healing, with the aim of re-joining the bowel around 1 year later, is carried out in around 10,000 patients per year in the UK. One in 4 patients experience severe complications, such as lack of function following reversal (ileus) or anastomotic leak, and 5% of patients cannot undergo reversal, leaving them with a permanent stoma. A further 20% of patients experience less severe symptoms, such as bloating, distension or irregular bowel movements

Purpose: To analyse differences between functional and defunctioned limbs of stoma upon reversal and link these to patient data and surgery outcomes.

Methodology: We assessed histology, fibrosis and microbiota and associated these measurements with patient data and surgery outcomes.

Results: Our data demonstrates that defunctioned bowel becomes atrophied (47% reduction in villus height) and intestinal microflora numbers drop by an average of 62.4% (Beamish et al., 2017). Surprisingly, complications are not associated with increased fibrosis or atrophy of the bowel although both factors are increased within the defunctioned limb. Our data also reveal that the microbiota is not 'dysbioic' in the defunctioned limb, but patients with a greater reduction in microflora are more likely to experience complications. The time a patient has a stoma does not impact on loss of microbiota, or risk of complications (Beamish et. al, 2023).

Conclusion: We propose that replenishing microflora numbers, and subsequently host tissue growth, prior to surgery will reduce post-surgical complications following ileostomy reversal

Key words: Ileostomy, bowel cancer, microflora, prebiotics, surgery

Biography: Dr Rachael Rigby gained a BSc Pathology and Microbiology from Bristol University in 1998 and obtained a PhD in Intestinal Immunology from Imperial College London in 2004. She investigated the responses of intestinal dendritic cells, in mouse and human, to bacterial products, discovering mechanisms of action of probiotics. Her postdoctorate work at UNC-Chapel Hill (2004-2008), investigated the role of gut microbiota in recovery from intestinal surgery and chemotherapy and tumour suppressor, SOCS3, in intestinal cancer and inflammation. As Senior Lecturer in Biomedicine at Lancaster University (2008-present) she continues to investigate the role of microbes in intestinal pathologies, such as cancer, infection and surgical adaptation.