



## P3 GASTROINTESTINAL BACTERIAL INFECTIONS PRECEDE DISEASE ACTIVATION AND SIGNIFICANTLY INCREASE THE NEED FOR MEDICAL TREATMENT INTENSIFICATION IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE

Merit Kase, M.D. 1, Krista Vitikainen, M.D. 1, Clas-Göran af Björkesten, M.D., Ph.D. 1, Veli-Jukka Anttila, M.D., Ph.D. 1, Leo Meriranta M.D. 1, Perttu Arkkila, M.D., Ph.D. 1, Pauliina Molander, M.D., Ph.D. 1

1 Helsinki University Hospital and University of Helsinki, Helsinki, Finland.

### Introduction:

Enteric pathogens are a leading cause of diarrhea worldwide [1], even in high-income countries [2]. Moreover, patients with inflammatory bowel disease (IBD) are at an increased risk of infection [3] and gastrointestinal (GI) bacterial infections are commonly implicated as precipitants of IBD flares [4]. The diagnostic work-up therefore requires consideration of a wide variety of inflammatory or infectious diseases that mimic IBD.

### Aims:

1. to evaluate factors that predispose to GI bacterial infection in IBD patients.
2. to evaluate factors that affect the severity of the GI infections and lead to hospitalization.
3. to evaluate how GI infections alter the activity of IBD further on.

### Methods:

This retrospective, observational, single-center, cohort study comprises 123 patients with ulcerative colitis (UC) or Crohn's disease (CD) with confirmed *Campylobacter* spp., *Yersinia* spp., *Salmonella* spp. or enterohemorrhagic *E. coli* (EHEC) infection, and their age and sex matched controls with IBD but without bacterial GI infection.

We identified IBD patients with positive stool samples by performing a search combining the positive stool sample registry of the Hospital district of Helsinki and Uusimaa and the IBD registry of Helsinki University Hospital. Patient data from 1 January 2008 to 30 June 2023 was collected retrospectively from patient electronic charts.

Table 1. Patient characteristics

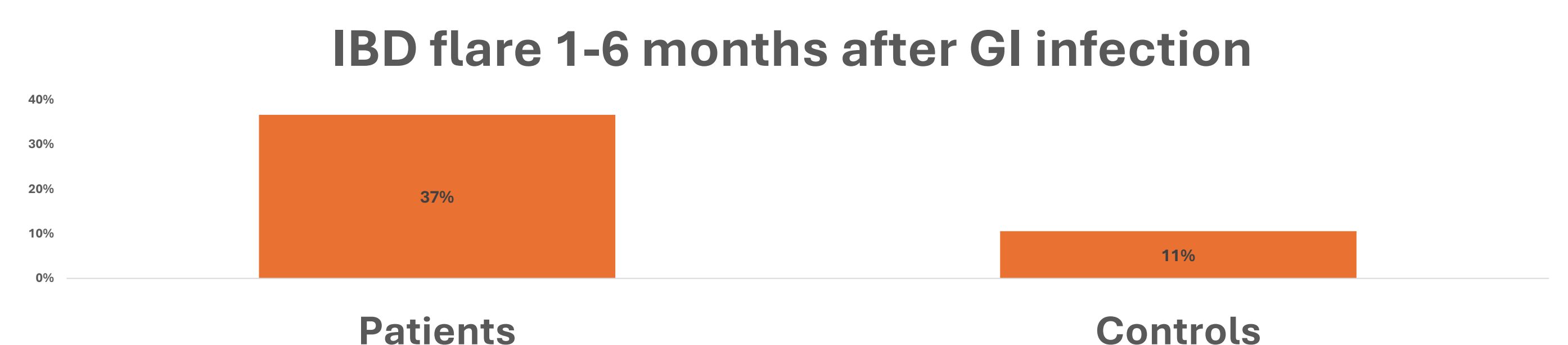
	Crohn's disease	Ulcerative colitis
Patients, n (%)	44 (36%)	79 (64%)
Age, average, years	42.1 (18-64)	40.5 (19-76)
Sex F/M, n (%)	19 (43%) / 25 (57%)	38 (48%) / 41 (52%)
<b>Montreal classification, n (%)</b>		
Inflammatory B1	7 (16%)	
Stricturing B2	20 (45%)	
Penetrating B3	6 (14%)	
Ileum L1 ± upper GI L4	10 (23%)	
Colon L2 ± upper GI L4	9 (20%)	
Ileocolon L3 ± upper GI L4	25 (57%)	
Proctitis E1		3 (4%)
Left colon E2		17 (22%)
Extensive colitis E3		58 (73%)

### Results:

Out of 5194 IBD patients in the IBD registry, 123 patients were confirmed with *Campylobacter* spp., *Yersinia* spp., *Salmonella* spp. or EHEC infection.

Of those with a GI bacterial infection, 64% (n=79) had UC and 36% (n=44) had CD. Patients with a GI bacterial infection diagnosis were more likely to have a flare and medication intensification in one to six months after the infection compared to the control group (37% vs 11%, p<0.001, and 37% vs 20%, p=0.006, respectively).

Neither age, IBD phenotype, disease activity, CCI, IBD medication nor previous long-distance travelling to a lower hygiene country increased the risk of severe bacterial infection or the need hospital care.



### Conclusions:

IBD patients having GI bacterial infections are at a higher risk of experiencing an IBD flare and requiring an intensification in their IBD medication within one to six months after the infection. However, there is no significant association between different IBD medications or previous symptomatic IBD and the risk for hospitalization.

### References

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2. Rahier JF, et al: Second European evidence-based consensus on the prevention, diagnosis and management of opportunistic infections in inflammatory bowel disease. J Crohns Colitis 2014, 8(6):443-468.
3. Kirchgessner J, et al: Risk of Serious and Opportunistic Infections Associated With Treatment of Inflammatory Bowel Diseases. Gastroenterology 2018, 155(2):337-346 e310.
4. Gece KB, Vermeire S: Differential diagnosis of inflammatory bowel disease: imitations and complications. Lancet Gastroenterol Hepatol 2018, 3(9):644-653.