Table 1. Prevalence of anaemia at diagnosis and at 1-year follow-up

	Ulcerative colitis				Crohn's disease			
	Eastern Europe diagnosis	Eastern Europe follow-up	Western Europe diagnosis	Eastern Europe follow-up	Eastern Europe diagnosis	Eastern Europe follow-up	Western Europe diagnosis	Eastern Europe follow-up
Anaemia overall	43%	26%	29%	13%	58%	25%	45%	45%
Iron deficiency	6%	3%	3%	2%	7%	4%	1%	0%
Anaemia of chronic disease	9%	3%	3%	1%	13%	0%	12%	1%
Mixed anaemia	6%	1%	1%	1%	24%	7%	17%	1%
Other anaemia	6%	4%	4%	2%	2%	0%	6%	2%
CU unclassified	14%	16%	16%	6%	13%	15%	10%	9%

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Background: The EpiCom-cohort is a European prospective population-based cohort of unselected, uniformly diagnosed patients with inflammatory bowel disease (IBD) in 2010 from 31 Western and Eastern European centres.[1] Previous data have shown that significantly more patients in Western Europe receive biological therapy, but surgery and hospitalisation rates did not differ between regions.[2] The aim of the current study was to investigate the occurrence of anaemia, as well as differences between Eastern and Western Europe, during the first year of disease.

Methods: Patients were followed prospectively from the time of diagnosis. Clinical data on surgery, medical treatment, hospitalisation, and blood samples were captured throughout the follow-up period. Anaemia and its subtypes were defined according to the World Health Organisation and ECCO guideline.

Results: In total, 827 patients aged 15 years or older from 29 centres (20 Western; 9 Eastern European) were eligible for analysis, of whom 433 (52%) had ulcerative colitis (UC), 300 (37%) had Crohn's disease (CD), and 94 (11%) had IBD unclassified (IBDU). The proportion of patients with anaemia and its subtypes at diagnosis and at follow-up is shown in Table 1. Overall, anaemia was more frequent in Eastern than in Western European patients for both CD and UC. After 1 year of follow-up, the proportion of patients with anaemia decreased but significantly more patients in Eastern Europe remained anaemic, Figure 1.

Conclusions: In this unselected, population-based inception cohort the frequency of anaemia was high at the time of diagnosis, especially for CD, but decreased during the first year of follow-up. More Eastern than Western European patients remained anaemic after 1 year of follow-up. These geographic differences could be caused by differences in awareness of anaemia or they might reflect differences in global care and inflammation control of IBD patients in Europe.

References

[1] Burisch J, Pedersen N, Čuković-Čavka S, et al. East-West gradient in the incidence of inflammatory bowel disease in Europe: the ECCO-EpiCom inception cohort. Gut 2014;63(4):588–97.

[2] Burisch J, Pedersen N, Čuković-Čavka S, et al. Initial disease course and treatment in an inflammatory bowel disease inception cohort in Europe: the ECCO-EpiCom cohort. Inflamm Bowel Dis 2014;20(1):36–46.

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Co-exposure of microscopic colitis-associated drugs does not affect paracellular permeability in vitro

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Background: Increasing evidence has associated microscopic colitis (MC) with exposure to frequently prescribed drugs (eg, NSAIDs and PPIs). The associations may be affected by duration and recency of use or by concomitant exposure. One of the proposed underlying mechanisms is a direct effect of the associated drugs on the colonic barrier. However, supportive data are lacking. The aims of this study were to assess the association between MC and single or concomitant use of NSAIDs and PPIs and to study their effects on colonic barrier function in a cell culture model.

Methods: First, a case-control study was conducted. Cases of MC were identified in the national pathology registry and linked to the Outpatient Pharmacy Database of the Dutch PHARMO Institute. Each case was matched to 5 non-MC controls by age, gender, postal code, and follow-up period. The case's index date determined that of the control. Dispensings within the first 60 days before index date were excluded. Exposure was classified as current (61–90 days), recent (91–150 days), or past use (> 150 days) according to the time since last prescription. In current users, duration of continuous use and average daily dose were assessed. Conditional logistic regression was applied to quantify the strength of the associations. Second, CaCo-2 monolayers were basolaterally exposed to 0, 10, 25, or 100 µM of a frequently used PPI (omeprazole), NSAID (diclofenac), or both, for 2 hours. The transepithelial electrical resistance (TEER) and paracellular permeability (using FITC-D4) were assessed.

Results: In total, 1 118 cases and 5 590 controls were identified. Current (OR 2.1, 95% CI 1.5–2.9) and recent (OR 2.2, 95% CI 1.6–2.9) use of NSAIDs and current (OR 2.3, 95% CI 1.8–3.0) and recent (OR 3.1, 95% CI 2.4–4.0) use of PPIs was associated with an increased risk of MC. Long-term use (> 24 months) of these drugs attenuated this risk. The highest risks were observed with current (OR 2.6, 95% CI 1.7–4.1) and recent (OR 3.4, 95% CI 2.2–5.2) concomitant use of NSAIDs and PPIs. In the in vitro study, a dose-dependent drop in TEER was observed for NSAID, but not for PPI treated cells. Co-exposure to NSAID and PPI did not result in an additive effect. None of the conditions resulted in significant changes in FITC-D4 permeation.

Conclusions: Observational data confirm an association between MC and current and recent PPI or NSAID exposure, especially in case of concomitant use. Although these drugs influenced TEER in a cell culture model, we did not observe an effect on paracellular permeability. Further research on the pathophysiology of drug-induced MC should include other factors, such as gut microbiota composition and host-specific susceptibility.

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Inflammatory bowel disease in Norway 1999 to 2014: increasing prevalence and local geographical differences

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Background: An increasing occurrence of inflammatory bowel disease (IBD) and geographical differences have been reported worldwide the last decades. In Norway, no national prevalence figures have been published. The aim of this study was to determine the time trends in prevalence of ulcerative colitis (UC) and Crohn's disease (CD) in Norway by exploring data from the Norwegian Patient Registry (NPR).

Methods: Data were retrieved from the NPR, which includes all patient contacts in the specialist health care services from 1999 through 2014. *IBD cases* were defined as persons with records of the ICD-10 codes K 50 or K51 in the registry during 1 year. Overall number of IBD cases were reported as per year and stratified by diagnosis, gender, age, and county. The corresponding population figures were retrieved from Statistics Norway and used to calculate prevalence with 95% confidence intervals.

Results: The national prevalence of CD increased from 88 (85 to 91) / 100.000 in 1999 to 185 (181 to 189) / 100.000 in 2014 (110% increase). Corresponding UC prevalence was 139 (136 to 142) / 100.000 in 1999 and 250 (245 to 254) / 100.00 in 2014 (80% increase). Men had the highest UC prevalence throughout the observation period with a male/female ratio of 1.23 in 1999 and 1.09 in 2014. There was no gender difference in CD prevalence in 1999 (male/female ratio 1.0). The CD prevalence in women increased more than in men during the observational period and by 2014 the male/female ratio for CD prevalence was 0.86. As from 2002 and onwards, CD prevalence was significantly higher than UC prevalence in the age groups 0 to 19 years (2002 CD prevalence; 37 [33 to 40] / 100.000 vs UC prevalence 29 [26 to 32] /100.000). For all other age groups UC prevalence was higher than CD prevalence throughout the time period. There was a significant difference in prevalence between counties. In 2014 UC prevalence ranged from 181 (162 to 200) / 100.000 (Oppland County) to 385 (352 to 418) / 100.000 (Nord-Trøndelag county) and for CD from 139 (128 to 150) / 100.000 (Rogaland County) to 272 (151 to 293) / 100.000 (Nordland County). The highest prevalence figures were seen in the northern and western parts of the country.

Conclusions: The prevalence of UC and CD has increased significantly the last 15 years. In 2014 UC was more prevalent in men and CD more prevalent in women. From 2002 CD was more prevalent than UC in the age group 0 to 19 years. Striking differences in prevalence between geographical areas were found. Awareness of time trends in IBD occurrence is crucial, and it provides the basis of organisation of health care services for this patient group.

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Nationwide prevalence of inflammatory bowel diseases in Hungary: a population-based study based on the National Health Insurance Fund database

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Background: Regional studies on inflammatory bowel disease (IBD) suggest an increasing prevalence over time, but no nationwide estimate has been published so far. To estimate the IBD prevalence in 2013 in Hungary overall, by disease, and in specific patient segments.

Methods: Patients were identified according to international classification codes for ulcerative colitis (UC) and Crohn's disease (CD)