Introduction ESPEN guidelines advise regular screening for micronutrient deficiencies in patients with inflammatory bowel disease (IBD). This is rarely undertaken in UK and in the presence of active disease and systemic inflammation, plasma micronutrient concentration is complicated by the influence of acute phase response. We prospectively audited the micronutrient profile in an IBD cohort in clinical remission attending the OPC.

Methods 54 IBD patients in remission were identified between September 2017 and January 2018 with a Harvey Bradshaw Index ≤4 or partial Mayo score < 2. Micronutrient screen was performed for Vitamin B1, B2, B6 and B12, Vitamin A, Vitamin E, Vitamin C, Vitamin D, Vitamin K, Selenium, Manganese, Copper, Ferritin, Zinc, Manganese and Folate. Serum albumin and CRP were measured and faecal calprotectin was also tested.

Results 33 patients had Crohn’s disease with the majority Montreal A2 (15), L2 (15), B1 (23). 21 patients had UC or IBDU with majority Montreal A2 (12), E2 (10). Low levels of Vitamin B2 were identified in 1 (2%); Vitamin B6 in 10 (19%); Vitamin B12 in 6 (11%), Vitamin A in 1 (2%); Vitamin C in 9 (17%); Vitamin D in 39 (72%); Ferritin in 3 (6%); Zinc in 10 (20%) and Folate in 4 (8%). 3 (6%) patients had low levels of Selenium, Magnesium and Copper. Vitamin E, Vitamin B1 and Manganese were within normal range in all patients. To rule out the effect of acute phase response on blood micronutrient levels, a subgroup of 27 (50%) patients with albumin > 34 g/L, CRP < 20 mg/L and faecal calprotectin < 250 mg/kg were analysed. Low levels of Vitamin B2 were identified in 1 (4%); Vitamin B6 in 4 (15%); Vitamin B12 in 2 (8%); Vitamin A in 1 (4%); Vitamin C in 2 (7%); Vitamin D in 20 (74%); Copper in 2 (7%); Ferritin in 1 (4%); Zinc in 4 (15%) and Folate in 2 (7%). Magnesium was within normal range in all patients. A few patients had high Vitamin B1 (1), Selenium (1) and Manganese (1).

Spearman’ rank correlation analysis showed positive significant correlations between faecal calprotectin with Vitamin B2, Magnesium, Copper, Ferritin and manganese; CRP with serum Selenium and Copper; and Albumin with Vitamin B2, Vitamin A, Vitamin D, serum Selenium, Copper, Ferritin and Zinc.

Conclusions While we identified a substantial number of IBD patients with micronutrient deficiencies, a proportion of these may be an epiphenomenon of the acute phase response. We propose that micronutrient screening only be performed in IBD patients with disease in ‘deep’ remission.