Background Biomarkers of disease activity in IBD have variable performance when it comes to sensitivity and specificity. The clinical use of serum calprotectin remains unclear, but commercially available assays are now available. Previous studies have suggested that serum calprotectin (s-Cp) may have a role in managing IBD. Studies have shown an association between s-Cp and the recurrence of Crohn’s disease in the STORI cohort. These studies did however show that s-Cp has a similar profile in CD to that offered by C-reactive protein. Others have investigated its role in the unselected evaluation of disease location.

Design Patients attending the IBD clinic between July 2017 and December 2017 were assessed and standard blood tests and a faecal calprotectin were collected. Serum was analysed using two commercially available calprotectin assays (Buhlmann and Immunodiagnostics). Additional data recorded included demographics, disease classification and an assessment of the clinical interpretation of their disease activity.

Results There was no difference seen in s-Cp in UC patients comparing active vs quiescent UC, except in those with pancolitis (Montreal E3) using the Buhlmann assay (median 5098 vs 3502 ng/mL; p = 0.0362).

Medians of s-Cp were, however, significantly higher in patients with active CD than in those with quiescent CD for both assays (5507 vs 3830 ng/mL; p = 0.0001 (Buhlmann assay) and 5131 vs 2994 ng/mL; p = 0.0003 (Immunodiagnostics)). The difference in s-Cp remained significant in patients with both small (p = 0.008) and large bowel CD (p = 0.005), with similar results for each serological test. Serum calprotectin correlated with faecal calprotectin in all patients with IBD (r = 0.2362; p = 0.0051 (Buhlmann) and r = 0.2183; p = 0.0098 (Immunodiagnostics)).

Similarly, s-Cp correlated with serum CRP in individuals with IBD and specifically CD (r = 0.4865; p < 0.0001 (Buhlmann) and r = 0.5016; p<0.0001 (Immunodiagnostics)).

Conclusions There does not appear to be any significant association with the confirmation of ulcerative colitis disease activity. In patients with CD there appears to be a significant association between s-Cp, for both commercially available assays, and the presence of active disease irrespective of the disease location.

s-Cp also appears to significantly correlate positively with other markers of disease activity in patients with active and inactive IBD. Additional data analysis suggests that s-Cp offers a potential benefit over currently available biomarkers, specifically in patients with CD.

REFERENCE 1. http://dx.doi.org/10.1016/j.crohns.2013.06.008
2. https://doi.org/10.1016/j.clinbiochem.2017.01.006