Introduction Systemic corticosteroids, the mainstay of treatment for immune checkpoint inhibitor (CPI) induced enterocolitis, are associated with complications including life-threatening infection. The topically-acting oral corticosteroid Beclomethasone Dipropionate (BD) is an effective treatment for mild to moderate flares of ulcerative colitis, and has fewer side effects than systemic corticosteroids. In this study, we hypothesised that BD is a safe and effective treatment for mild and microscopic CPI enterocolitis.

Methods We performed a retrospective analysis of all patients who started BD for CPI enterocolitis at three UK cancer centres between November 2017 &amp October 2020. All patients underwent endoscopic assessment and biopsy. The initial regimen of BD was 5mg once daily for 28 days. The primary outcome was clinical remission at 28 days, defined as a return to baseline stool frequency. Secondary outcomes included the rates of adverse events and clinical relapse after BD cessation.

Results Twenty-two patients (14 male) with a median age of 64 (range 45–84) were treated with BD. At baseline, ten patients (71%) had an increase in stool frequency of greater than 3 per day above baseline (CTCAE grade 2 or more) and the median number of loose stools in a 24-hour period was six. 11 (50%) patients were dependent on systemic corticosteroids prior to starting BD. Baseline sigmoidoscopy showed mild inflammation (loss of vascular pattern, mucosal granularity, small erosions) in eleven patients (50%) and normal findings in eleven patients (50%). Twenty patients (91%) had histopathological features of inflammation. There were no adverse events attributable to BD. All 22 patients (100%) had a clinical response to BD and 21 (95.5%) achieved clinical remission with a return to baseline stool frequency. Ten patients (45.5%) had symptomatic relapse on cessation of BD, five (22.7%) within seven days of stopping. All 10 relapsing patients recaptured response on restarting BD.

Conclusions Topical BD is an appealing alternative option to systemic immunosuppressive treatments to treat colonic inflammation. In this study, BD was safe and effective at inducing remission in mild and/or microscopic CPI induced enterocolitis. Further randomised studies are needed to confirm these findings and determine the optimum dosing regimen.