performed on the residuals using standard Bioconductor packages (limma, minfi and lumi). Epithelial cell content differences were accounted for in our analysis. To facilitate generalisation of results, this process was repeated in a manner similar to hold-out cross validation, where a sub-cohort generates a discovery model, and the remaining samples are used to test it. This was repeated 1000 times. The loci that were the most often selected were used in a Random Forest machine-learning algorithm to assess their classification performance.

Results The 50 most frequently selected probes showed a noticeable pattern of global separation between controls and Crohn's samples in both discovery and test sets and have clear biological relevance including reported effects on NOD2 signaling and Th1/Th17 balance. Diagnostic accuracy for a 5 probe classifier was 72%, rising to 79% with 10 probes and 90% when 40 probes were included. The dataset, though matched for cases and controls, has a wide distribution of ages (10 – 87 years old), and includes both sexes (in roughly a 2-to-1 female-to-male ratio). Location of Crohn's in the gut also varies between participants. This is a modest result that is nonetheless strongly suggestive that saliva contains valuable information about the disease status of the individual even when applied on the most general of cohorts. Further refinement of the test cohort or the use of this result with other clinical data has the potential to increase this accuracy and make this a viable diagnostic tool in the future.

Conclusion We have preliminary evidence that a non-invasive saliva-based candidate biomarker panel could be implemented to offer a cheap, rapid, self-administered screening method for OAC.

PMO-4 IMMUNE CHECKPOINT INHIBITOR-INDUCED COLITIS IS MEDIATED BY IL23 RESPONSIVE CD90+ CYTOTOXIC LYMPHOCYTES

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Background and aims Immune checkpoint inhibitors (CPI) have revolutionised cancer treatment, with previously untreatable disease now amenable to potential cure. Combination regimens of anti-CTLA4 and anti-PD-1 show enhanced efficacy but are prone to off target immune-mediated tissue injury, particularly at the barrier surfaces. CPI-induced colitis is a common a serious complication.

Methods To probe the impact of immune checkpoints on intestinal homeostasis mice were challenged with combination anti-CTLA4 and anti-PD-1 immunotherapy, manipulation of the intestinal microbiota and antibody blockade/depletion studies. Colonic immune responses were profiled using RNA-sequencing, including high-resolution single cell analyses, and flow cytometry.

Results CPI colitis was dependent on the composition of the intestinal microbiota and was characterized by remodelling of mucosal lymphocytes with induction of polyfunctional, cytolytic responses in T-cells (both CD4⁺ and CD8⁺ cells) and innate lymphoid cells (ILCs), all of which likely participated in immune-mediated tissue injury. CD90⁺ lymphocytes were

especially enriched for cytolytic molecules (*Gzmb*, *Prf1*, *Nkg7*), pro-inflammatory cytokines (*Ifng*, *Il22* and *Il17a*), and chemokines (*Ccl3*, *Ccl4* and *Ccl9*). Network analysis of predicted upstream regulators identified multiple potential activators of CD90⁺ mucosal lymphocytes, including IL23. Functionally, CD90 depletion or IL23 blockade significantly attenuated CPI colitis.

Conclusions This study provides new mechanistic insights into CPI colitis, identifying IL23 responsive CD90⁺ lymphocytes with cytolytic and polyfunctional cytokine responses as key mediators of disease. Therapeutic targeting of these pathogenic effector cells likely holds the key to preventing and reversing CPI colitis.

PMO-5 STEROIDS AND TAPERING REGIMES IN INFLAMMATORY BOWEL DISEASE – WHAT DO WE PRESCRIBE?

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Introduction Steroids have been an established treatment in flares of inflammatory bowel disease (IBD) for the past 50 years. Whilst evidence exists to guide the initial dose of these drugs, data regarding the optimal length and tapering regime is lacking and consequently anecdotal reports suggests prescribing practice varies substantially. Steroids have a wide range of side-effects according to the dose and duration of therapy. We aimed to help characterise steroid prescribing practice in the UK for the management of inflammatory bowel disease.

Methods A survey was created using Google Forms® and circulated with the support of the British Society of Gastroenterology using the members email distribution over a 2 week period. All questions were mandatory and focused around clinical scenarios of mild-to-moderate disease flares in Ulcerative Colitis (UC) and Crohn's Disease (CD).

Results 128 healthcare professionals completed the survey of which 123 were able to prescribe steroids. 80% of respondents were consultants (n=98) followed by 10% specialist registrar (n=12) and 4% IBD CNS (n=5).

92% of prescribers (n=113) would treat a UC flare with 40mg Prednisolone. 65% (n=80) would give full treatment dose for 7 days followed by 23% (n=28) giving full treatment for 14 days. 86% (n=106) would prescribe a tapering regime of 5mg every week with 7% (n=8) tapering 5mg every 5 days. 98% of respondents (n=121) would not prescribe steroids to maintain remission of UC.

90% of prescribers (n=111) would give the same dose and taper for a Crohn's patient with a similar flare. For those prescribing differently in a CD flare, 67% (n=8) would start at Prednisolone 40mg followed by 17% (n=2) prescribing a dose of 0.75-1mg/kg and 17% (n=2) a differing preparation. 50% (n=6) would prescribe full treatment dose for 7 days followed by 25% (n=3) prescribing full treatment for 14 days and 17% (n=2) prescribing full treatment for greater than 14 days. 50% (n=6) would prescribe a tapering regime of 5mg every week with 33% (n=4) tapering 5mg every 5 days.

72% prescribed 2nd generation synthetic steroids (budesonide preparations/beclomethasone) for UC patients (n=88) versus 76% in CD patients. 54% (n=66) would use these preparations before conventional steroids in mild-moderate flares of UC versus 79% in mild-moderate flares of CD.