

**Results** During infection, control mice experienced a mild self-limiting colitis, with minimal weight loss. Expression of *Adamdec1* was up-regulated in the colon and this normalised with resolution. *Adamdec1*<sup>-/-</sup> mice were more susceptible to *C. rodentium* infection: they demonstrated dramatic weight loss ( $p < 0.001$ ), a more severe colitis and a reduced survival at the higher dose (67% vs 0%,  $p = 0.009$ ). Serum levels of TNF, IL-1 $\beta$  and IL-6 were significantly lower in the knock-out mice ( $p < 0.05$ ). Impaired survival was associated with positive cultures of the organisms from the spleen ( $p = 0.02$ ).

**Conclusion** By analysing the transcriptome of macrophages from CD patients we have identified a novel molecule involved in mucosal immunity. Further work is underway to elucidate the precise role of ADAMDEC1 in the immune response. Individuals with grossly attenuated expression levels may be at an increased risk of developing CD as a consequence of an impaired ability to handle enteric bacterial pathogens.

**Disclosure of Interest** None Declared

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## Gastroduodenal free papers

### OC-020 THE MURINE GASTRIC MICROBIOME IS INFLUENCED BOTH BY HELICOBACTER FELIS INFECTION AND SOMATIC DELETION OF NF-KAPPAB FAMILY MEMBERS

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**Introduction** The development of gastric atrophy in C57BL/6 mice infected with *Helicobacter felis* is differentially regulated by signalling involving NF- $\kappa$ B1 and NF- $\kappa$ B2. After infection, more severe atrophy developed in *Nfkb1*<sup>-/-</sup> mice than wild-type (WT), whilst *Nfkb2*<sup>-/-</sup> mice were protected from atrophic gastritis. Previous studies have also shown that the development of *H. pylori* induced gastric pathology was delayed in INS-Gas mice maintained in germ free, compared to conventional animal house conditions. Consequently we hypothesised that the different phenotypes observed in *H. felis* infected mice lacking specific NF- $\kappa$ B proteins may be influenced by altered gastric microbiomes. We have therefore quantified the abundance of specific bacterial phyla in *Nfkb1*<sup>-/-</sup>, *Nfkb2*<sup>-/-</sup> and C57BL/6 mice with and without *H. felis* infection.

**Methods** Groups of 3 C57BL/6, *Nfkb1*<sup>-/-</sup> and *Nfkb2*<sup>-/-</sup> mice aged 6 weeks were infected with *H. felis* by gavage. Animals were euthanased at 12 weeks and gastric antral DNA was extracted. Total bacterial load and relative abundance of  $\alpha$ -Proteobacteria,  $\gamma$ -Proteobacteria, Bacteroidetes, Firmicutes and Actinobacteria were determined by qPCR of 16S rDNA. *H. felis* colonisation was quantified by qPCR for *FlaA*, samples were normalised to murine *Gapdh*.

**Results** Untreated WT mice had 3.4 and 2.6 fold greater universal bacterial transcripts than *Nfkb1*<sup>-/-</sup> and *Nfkb2*<sup>-/-</sup> mice respectively. Actinobacteria abundance was 6.0 fold greater in untreated *Nfkb1*<sup>-/-</sup> mice *cf* WT and 7.0 times greater in *Nfkb2*<sup>-/-</sup> mice.  $\alpha$ -Proteobacteria were 9.0 times more abundant in untreated *Nfkb1*<sup>-/-</sup> mice *cf* WT. *H. felis* infection of WT mice resulted in 5.6 and 16.7 fold increases in  $\alpha$ -Proteobacteria and  $\gamma$ -Proteobacteria respectively *cf* uninfected mice.  $\gamma$ -Proteobacteria were more abundant in all infected groups, but significantly more so in *Nfkb2*<sup>-/-</sup> mice than others. This correlated with a 30 fold higher abundance of *H. felis* (Phylum:  $\gamma$ -Proteobacteria) in infected *Nfkb2*<sup>-/-</sup> compared to WT mice. Infected *Nfkb2*<sup>-/-</sup> mice also had a 3.3 fold greater abundance of Actinobacteria *cf* infected WT mice. No statistically significant differences were observed in the abundance of Firmicutes or Bacteroidetes.

**Conclusion** Constitution of the murine gastric antral microbiome is influenced both by *Helicobacter felis* infection and somatic deletion of NF- $\kappa$ B family members. Since deletion of NF- $\kappa$ B1 and NF- $\kappa$ B2 have been reported to alter susceptibility to *H. felis* induced gastric atrophy, these data support the hypothesis that specific differences in microbiota may be responsible for, or reflect this altered susceptibility. Further studies are needed to determine whether specific organisms influence the development of gastric pathology either individually or within complex communities.

**Disclosure of Interest** None Declared

### OC-021 A RETROSPECTIVE AUDIT OF PNEUMOCOCCAL & INFLUENZA VACCINATION IN COELIAC DISEASE

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**Introduction** Patients with coeliac disease (CD) are at increased risk of mortality from sepsis. In particular, the risk of sepsis with encapsulated organisms such as Pneumococci is higher<sup>1</sup>. This may be a consequence of hyposplenism. Current Department of Health Green Book guidelines as well as Coeliac UK recommend vaccination against Pneumococci and influenza. We aimed to investigate whether or not patients with CD received vaccination against Pneumococci and influenza.

**Methods** CD patients were identified through a register of 1000 ICD-10 classified patients currently under follow up at Royal Liverpool and Broadgreen University Hospitals NHS Trust. A random sample of 250 patients was selected from the register. Electronic case notes were interrogated for demographic details as well as the most recently confirmed comorbidities. Patients of all ages were included in the study. Patients aged over 65 and patients with certain comorbidities (e.g. chronic obstructive airways disease, ischaemic heart disease, liver cirrhosis etc) were analysed separately as these patients should already be immunised against pneumococci and influenza regardless of their coeliac disease diagnosis. Immunisation status was obtained by contacting individual patient's general practitioners. The proportion of vaccinated patients were analysed according to the age groups < or > 65.

**Results** A total of 250 patients were included out of which we were able to obtain records for 198 patients. Of the 198 patients, 32% of patients had osteopenia and 13% of patients had one or more concurrent autoimmune illness (e.g. thyroid disease, pernicious anaemia, Sjogren's syndrome). 129 patients were < 65 years of age (M: F ratio 1: 2, median age-50, range 19–64) and 69 were > 65 (M: F ratio 1: 2, median age-73, range 65–84).

In the < 65 category, we found 10 with no comorbidities necessitating vaccination which left 119 patients in the main study arm; 23 (19.3%) were vaccinated against Pneumococci and 42 (35%) against influenza.

**Abstract OC-021 Table 1** Vaccination uptake in < and > 65 age groups.

Age	Percentage of patients who had received the vaccination	
	Pneumococcal vaccine	Influenza vaccine
< 65	19.3%	35%
> 65	72.5%	82.6%

**Conclusion** Very few patients with CD are vaccinated against preventable causes of sepsis such as Pneumococci. Gastroenterologists, GPs and patients need to be aware of the increased risk of sepsis and the need to administer vaccines against preventable infections in CD patients. Vaccination status should be routinely obtained during follow up visits. Due to the lack of a simple clinical test for

hyposplenism and the high prevalence of hyposplenism in CD, it is worth considering pneumococcal vaccination for all CD patients at diagnosis.

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#### OC-022 ENDOSCOPY PITFALLS IN CELIAC DISEASE DIAGNOSIS; A MULTICENTRE STUDY

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**Introduction** The traditional diagnosis of celiac disease (CD) requires a small bowel biopsy to identify at histology the characteristic mucosal changes. The current biopsy practise among endoscopists for celiac disease is in most part unknown. The aims of this study were to compare the different diagnostic criteria in various centres in Italy, Iran, Lithuania, Romania and the UK, the methodological approach to the biopsy and to investigate the pitfalls of CD diagnosis.

To measure the number of specimens submitted during duodenal biopsy among patients in Italy, Iran, Lithuania, Romania and the UK, and to determine the incremental diagnostic yield of adherence to the recommended number of specimens.

**Methods** A total of 931 patients who underwent duodenal biopsy for CD were recruited prospectively at nine centres in European and Middle East countries. Small-bowel biopsies were obtained from the duodenal bulb and the second part of the duodenum (and from the duodenal bulb when it had a micronodular appearance). The histopathological appearances were described according to the modified Marsh classification.

**Results** The most frequent degree of villous atrophy amongst Iranian subjects was 3A and that of the rest of the study population was 3C. The most common number of biopsy specimens for Romanian subjects was 1 (52%) followed by 2 for Iranian (56%), 3 for Lithuanian (66.7%) and British patients (65%) and 4 for Italian patients (48.3%). The main presenting symptom was anaemia (18.7%) followed by malabsorption (10.5%), diarrhoea (9.3%) and dyspepsia (8.2%).

**Conclusion** Taking less biopsy samples than recommended will have a negative impact in detecting massive number of undiagnosed cases. As CD is more common with atypical presentation, taking 4 duodenal biopsies is mandatory for an accurate diagnosis or its exclusion.

**Disclosure of Interest** None Declared

#### OC-023 SPECIALIST CARE OF IN-PATIENTS WITH NON-VARICEAL UPPER GASTROINTESTINAL BLEEDING IS ASSOCIATED WITH A DRAMATICALLY SHORTER LENGTH OF STAY

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**Introduction** Acute upper gastrointestinal bleeding (UGIB) is a common medical emergency that has a 10% mortality rate [1], requiring specialist input and management [2]. It is not known if

the care, outcome and length of stay of UGIB is influenced by whether patients are primarily cared for by Gastroenterologists or General physicians. We conducted a retrospective study to assess these aspects of care for in-patients with UGIB.

**Methods** A retrospective review of case-notes (Electronic patient record-EPR) was conducted for all patients admitted to Kings College hospital with suspected UGIB between February and September 2012. Patients were divided as to whether they came immediately under the care of Gastroenterologists (GI) or general physicians (non-GI) after initial evaluation in the Acute Admission Unit. Patients were assigned on the basis of bed availability in a ward-based system. Statistical comparisons were made as appropriate with t-test or Fisher's exact test.

**Results** 109 patient episodes were reviewed. 14 had no evidence of UGIB and were excluded from further analysis. 59 (76.6%) of patients had an initial risk assessment (including documented score) completed on admission. After excluding patients with major non-medical ('social') issues, 53 (69%) GI and 24 non-GI patients were compared. The two groups were broadly similar in their baseline characteristics. Mean length of stay (days) was significantly shorter in the GI group: 5.5 ± 5.7 vs 15.7 ± 20.8 (p = 0.02). Other comparators are shown in the table.

Abstract OC-023 Table

	GI (n = 53)	Non-GI (n = 24)	p
Age (years)	56.4 ± 22.87	53.9 ± 21.9	0.64
Male:Female	43:10 (4.3:1)	17:7 (2.4:1)	0.37
Time to endoscopy (days)	1.23 ± 1.57	1.79 ± 2.93	0.38
Laparotomy	0	2 (8.3%)*	0.09
Mortality ascribed to UGIB	3 (5.7%)	2 (8.3%)*	0.64

\*different patients

**Conclusion** The length of stay of patients with UGIB is dramatically shorter when receiving specialist care. This was statistically significant even after adjusting for social issues. Further data regarding the specific management of each case will be forthcoming. In line with previous reports [3], we found that the incidence of UGIB was higher in males. There was a trend toward better risk assessment, shorter time to endoscopy, reduced need for surgery and mortality in the GI group. Mortality rates in both groups compared favourably to the national average.

**Disclosure of Interest** None Declared

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#### OC-024 PROLONGED PLATELET ACTIVATION IN PATIENTS WITH ACUTE UPPER GASTROINTESTINAL BLEEDING

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**Introduction** Acute upper gastrointestinal bleeding (AUGIB) is a common reason for hospital admission and is associated with significant cardiovascular (CVS) morbidity and mortality. Patients who have aspirin withheld for 8 weeks following AUGIB have significantly higher rates of CVS events.<sup>1</sup> We previously demonstrated that patients with AUGIB have significantly higher levels of platelet activation during the index hospital admission.<sup>2</sup> This study aimed to assess the level of platelet activation and reactivity 12 weeks following admission for AUGIB.