gluten challenge. Adjusting for these cases led to a sensitivity of 98% and a specificity of 97%.

Conclusions Appropriate use of IEL flow cytometry yields surprising results and is the only existing test capable of reliably diagnosing Coeliac Disease in the presence of gluten withdrawal, normal biopsies and negative serology. Whilst expensive and time consuming, it now represents the 'gold standard' of diagnosis in Coeliac Disease.

Nutrition

047 THE DOSE-DEPENDENT EFFECT OF ENTERAL NUTRITION ON FAECAL MICROBIAL METABOLITES OF HEALTHY VOLUNTEERS

[1]V Svolos*, [1]K Gkikas, [1]V Rizou, [1]E Christina, [1]P Kapranos, [1]JFJ Klein Gunnewiek, [2]JP Seenan, [2]Jonathan Macdonald, [3]DR Gaya, [4]R Hansen, [4]RK Russell, [1]K Gerasimidis. *[1]University of Glasgow, Glasgow, UK; [2]Department of Gastroenterology, Queen Elizabeth University Hospital, Glasgow, UK; [3]Department of Gastroenterology, Glasgow Royal Infirmary, Glasgow, UK; [4]Department of Paediatric Gastroenterology, Hepatology and Nutrition, Royal Hospital for Children, Glasgow, UK*

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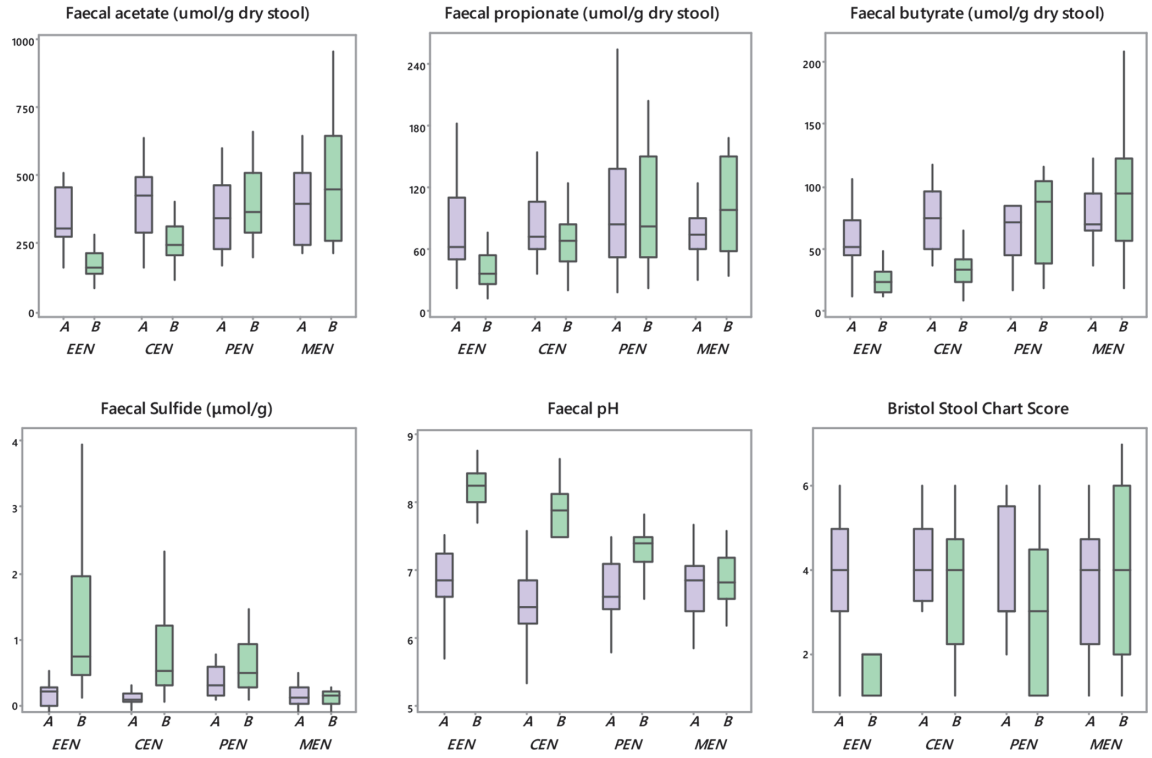
Introduction Treatment with exclusive enteral nutrition (EEN) offers a nutritional therapy paradigm in Crohn's disease, with the extensive modulation of gut microbiome being its proposed mechanism of action(1). Recent studies propose variable clinical efficacy for 85% EN (Cheat EN/CEN), 50% EN (Partial EN/PEN) and 20% EN (maintenance EN/MEN), and a dose-dependent effect of EN use in CD(2–4). Therefore, this study aims to investigate the dose-dependent effect of 100%, 85%, 50%, and 20% EN on faecal microbial metabolites; and to investigate if this effect can be used as a compliance marker for EEN.

Methods Healthy adults followed EEN, CEN, PEN or MEN diet for 7 days. Fresh faecal samples were collected before and after each dietary intervention. Dietary assessment was performed throughout the intervention using estimated weight food diaries. Faecal pH, Bristol Stool Chart Score (BSCS), short chain fatty acids and hydrogen sulphide were measured.

Results 122 faecal samples were collected from 61 subjects. The Mean(SEM) EN intake for the 4 groups was EEN:100(0), CEN:86(0.5), PEN:50(0.4), MEN:20(0.2)% of total energy intake. The baseline levels of all faecal sample measures were no different between the 4 groups. Faecal propionate and BSCS significantly decreased only during EEN (all $p \leq 0.03$). Faecal pH significantly increased during EEN, CEN and PEN (all $p < 0.001$), but not during MEN ($p = 0.728$). Faecal pH post intervention was highest for EEN, followed by CEN and PEN [Mean(SEM), EEN:8.2(0.1); CEN:7.8(0.2); PEN: 7.3 (0.1), all pairwise $p \leq 0.002$]. Faecal concentration of hydrogen sulphide, acetic and butyrate significantly changed following both EEN and CEN groups (all $p \leq 0.009$). The concentration of acetate post EEN was significantly lower than the concentration post CEN [Mean(SEM), EEN: 173(10); CEN: 261(24) umol/g, $p = 0.001$]. Hydrogen sulphide and butyric acid concentrations post EEN and post CEN were non-different ($p = 0.337$, $p = 0.141$).

Conclusions EEN and CEN extensively modulate faecal microbial metabolites. PEN induces variable effects and further analysis should investigate if this variation reflects differences in the non-EN food intake of the participants (50%). MEN had no effect on faecal microbial metabolites. Further analysis including high-throughput deep sequencing techniques will provide additional information about the dose-dependent effect



Abstract O47 Figure 1

of EN regimen on gut microbiome composition. 1) Quince, Am J Gastroenterol 110, 1718–1729; 2) Logan, APT 50, 664–674, 2019; 3) Gupta, IBD 19, 1374–1378, 2013; 4) Lee, IBD 21, 1786–1793, 2015

048 RATE AND SEVERITY OF 30-DAY AND 1-YEAR COMPLICATIONS ARISING FROM PERCUTANEOUS ENDOSCOPIC GASTROSTOMY USE

[1]Conor Boylan*, [2]Diane Barrett, [2]Vincent Li, [2]Leanne Dean, [2]Sue Merrick, [2]Aravinth Muruganathan, [2,3]Helen Steed. *[1]University Of Birmingham, Birmingham, UK; [2]Royal Wolverhampton NHS Trust, Wolverhampton, UK; [3]University of Wolverhampton, Wolverhampton, UK*

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Introduction Percutaneous Endoscopic Gastrostomy (PEG) feeding is utilised in patients with exceptionally poor oral intake, such as those undergoing treatment for head and neck cancer or dysphagia. PEG feeding increases the risk of many complications which are important in pre-insertion counselling and post-insertion management. While some papers have been published on this topic, this is the first UK study to review longitudinal gastrostomy complications since the 2004 NCEPOD audit of PEG deaths and the subsequent changes in practice.

Methods Single-centre retrospective chart review of all patients receiving PEG insertion between January 2016 and December 2018. Subgroup analysis compared those who were cared for with professional help vs those who relied on self/family support using chi-squared and Fisher exact analysis.

Results 306 patients met the inclusion criteria. The mean age at insertion was 67 years. The majority were cared for in their own home (80.4%) by themselves or family (74.8%). 127 were inserted for dysphagia and 165 prophylactically prior to treatment for head and neck cancer.

16.7% had a complication in the first 30 days. The most common complication was pain (45.3%), followed by a weeping/irritated site (17.2%), leaking tube (6.3%) and site infection (6.3%). 50.0% of 30-day complications were 'mild' (treated in the community), 48.4% were 'moderate' (reviewed in secondary care) and 1.6% were 'severe' (required an invasive procedure to rectify).

35.6% experienced at least one complication in the first year. The most common was pain (27.6%), followed by a weeping/irritated site (17.8%), external overgranuation (11.4%) and site infection (11.4%). 53.0% were 'mild', 40.5% 'moderate' and 6.5% 'severe'.

The incidence of serious gastric bleeds over the 1-year period was 2.2%, aspiration pneumonia occurred in 3 patients (1.6%) and buried bumper syndrome (BBS) occurred in 1 (0.6%). 30-day mortality for patients post-insertion was 4.2%, with the 10/13 of these falling into the dysphagia group.

Subgroup analysis showed those who relied on self- or family-care had a 63% higher chance of developing at least one complication over a 1-year period compared to those with professional support. This was statistically significant at p = 0.0177.

Conclusions This study represents one of the largest of its kind evaluating the complications arising from PEG insertion. The findings correlate reasonably well with published data.

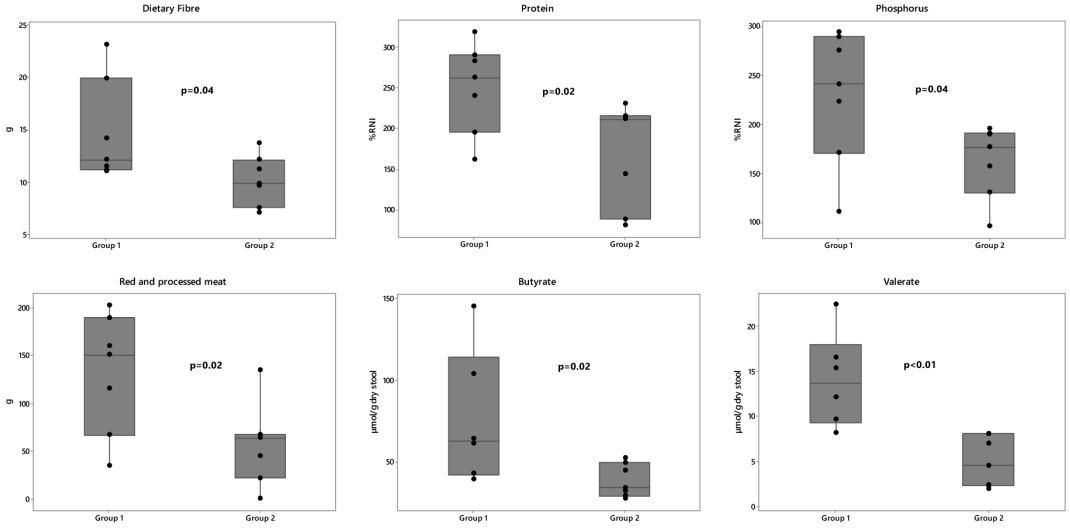
This study provides valuable data on the rate and severity of complications arising from PEG use and has implications for consenting and counselling patients pre-insertion as well as planning support services and post-insertion management.

049 DIETARY TRIGGERS OF COLONIC INFLAMMATION FOLLOWING EXCLUSIVE ENTERAL NUTRITION TREATMENT IN CHILDREN WITH CROHN'S DISEASE

[1]Konstantinos Gkikas*, [1]Michael Logan, [1]Ben Nichols, [1]Clare M Clark, [1]Umer Z Ijaz, [2]Lisa Gervais, [2]Hazel Duncan, [2]Vikki Garrick, [2]Lee Curtis, [2]Elaine Buchanan, [2]Tracey Cardigan, [3]Lawrence Armstrong, [4]Caroline Delahunty, [2]Diana M Flynn, [2]Andrew R Barclay, [2]Rachel Tayler, [2]Richard Hansen, [2]Richard K Russell, [1]Konstantinos Gerasimidis. *[1]University Of Glasgow, Glasgow, UK; [2]Royal Hospital for Children, Glasgow, UK; [3]Crosshouse Hospital, Kilmarnock, UK; [4]Wishaw General Hospital, Wishaw, UK*

10.1136/gutjnl-2020-bsgcampus.49

Introduction Exclusive enteral nutrition (EEN) ameliorates gut inflammation in children with Crohn's disease (CD). We have previously described the rapid rise in faecal calprotectin levels (FC) when children with CD return to their habitual diet after



Abstract O49 Figure 1 Comparisons of intake of nutrients and foods and Short chain fatty acid levels between Group 1 (above median FC) and Group 2 (below median FC) in children with Crohn's disease, at food reintroduction, post EEN completion.