BAPEN symposium: "dietary management of GI disorders"

OC-054 IMPACT OF A FERMENTABLE CARBOHYDRATE RESTRICTED DIET ON LUMINAL MICROBIOTA, FERMENTATION, SYMPTOMS AND NUTRIENT INTAKE IN PATIENTS WITH IRRITABLE BOWEL SYNDROME: A RANDOMISED CONTROLLED TRIAL

doi:10.1136/gutjnl-2012-302514a.54

[1,2]H Staudacher,* [1,2,3]M C Lomer, [1]J L Anderson, [4]J S Barrett, [4]J G Muir, [1,3]P M Irving, [1]K Whelan. [1]*Diabetes and Nutritional Sciences, King's College London, London, UK;* [2]*Nutrition and Dietetics, London, UK;* [3]*Department of Gastroenterology, Guy's and St Thomas' NHS Foundation Trust, London, UK;* [4]*Eastern Health Clinical School, Monash University, Melbourne, Australia*

Introduction Retrospective studies suggest that dietary restriction of fermentable carbohydrates (Fermentable Oligosaccharides, Disaccharides, Monosaccharides and Polyols, FODMAPs) improves irritable bowel syndrome (IBS) symptoms. Prebiotic fructo-oligosaccharides and galacto-oligosaccharides stimulate colonic bifidobacteria, however the effect of a fermentable carbohydrate restricted diet on the gut microbiota has never been examined. The aim of this randomised controlled trial was to investigate the impact of a fermentable carbohydrate restricted diet on luminal microbiota, fermentation and symptoms in IBS.
Methods Adult patients with IBS were recruited from gastroenterology outpatient clinics. Eligible patients were randomised to the intervention diet or their habitual diet for 4 weeks. A fresh stool sample was collected and analysed for the major bacterial groups using fluorescent in situ hybridisation, short chain fatty acid (SCFA) concentration was analysed using gas liquid chromatography and pH was recorded. The incidence and severity of GI symptoms and stool output were recorded and dietary intake was assessed using food diaries. All outcome measures were recorded at baseline and 4 weeks. Continuous data were compared using an independent samples t-test and categorical data were compared using the χ^2 test.
Results Of 41 patients randomised, six withdrew (five protocol violations, one lost to follow-up). In the intention-to-treat analysis, more patients in the intervention group reported adequate control of symptoms (68%) compared with controls (23%) (p=0.003). However, there were strikingly lower concentrations (7.4 vs 8.2 $\log_{10}$ cells/g, p=0.001) and proportions (1.2% vs 5.5%, p=0.002) of bifidobacteria in the intervention group compared with controls at follow-up. This was not associated with any change in luminal markers of fermentation. There were no differences in energy, protein or fat intake at 4 weeks between groups but total carbohydrate intake was lower in the intervention group.
Conclusion This is the first randomised controlled trial investigating the effect of a fermentable carbohydrate restricted diet, demonstrating significant improvements in symptoms but a dramatic reduction in luminal bifidobacteria, a species that have an important role in colonic health. Significant questions remain; is the shift in bifidobacteria permanent, how might it be prevented and what is the impact of reintroduction of fermentable carbohydrates on the microbiota?

Competing interests None declared.

AUGIS prize papers

OC-055 WHAT IS THE TRUE INCIDENCE OF METACHRONOUS COLORECTAL LIVER METASTASES? EVIDENCE FROM THE UK FACS (FOLLOW-UP AFTER COLORECTAL SURGERY) TRIAL (ISRCTN: 41458548)

doi:10.1136/gutjnl-2012-302514a.55

[1]S Pugh,* [2]A Fuller, [2]P Rose, [2]R Perera-Salazar, [1]J Mellor, [1]S George, [2]D Mant, [1]J Primrose. [1]*University Surgery, University Hospital Southampton NHS Foundation Trust, Southampton, UK;* [2]*Department of Primary Care, University of Oxford, Oxford, UK*

Introduction Detecting patients with resectable metachronous colorectal liver metastases and performing potentially curative surgery is commonly cited as a reason for following up patients with completely resected colorectal cancer. However, the actual incidence of metachronous metastasis in fully staged and optimally treated colorectal cancer patients is not known with certainty. The FACS trial, the UK national trial on colorectal cancer follow-up, provided an opportunity to address this question.
Methods Patients were recruited to the trial following potentially curative resection of the primary colorectal cancer (Dukes' stages A–C, (I–III)). Complete evaluation by CT chest, abdomen and pelvis and a normal CEA (carcinoembryonic antigen) after surgery or adjuvant chemotherapy were prerequisites to trial entry. Patients were randomised in a 2×2 trial design of intensive imaging vs minimal CT imaging and CEA vs no CEA measurement. Follow-up data including site of recurrence and further surgery has been collected prospectively. An observational analysis has been performed on the entire cohort at a median follow-up of 54 months.
Results A total of 1260 patients were recruited of which 22% were in Dukes' stage A (I), 48% stage B (II), and 30% stage C (III) (remainder awaiting data clarification). At follow-up 85.6% of patients were alive without recurrence (stage A 90.9%, stage B 86.7%, stage C 80.4%). Of the 178 recurrences the majority were loco-regional or at multiple sites. Liver metastases were found in 72 (40% of patients with recurrence) and 45 (25%) had liver only disease. A potentially curative liver resection was performed in 35 patients (20%). Thus at a median follow-up of 54 months 5.7% of the study cohort had metachronous metastases in the liver. In 3.6% of the cohort the disease was confined to the liver and 2.8% went on to have a potentially curative liver resection.
Conclusion These preliminary data demonstrate that the incidence of metachronous liver metastasis in fully staged patients with colorectal cancer appears to be low. Furthermore due to the often multi-site nature of the recurrence only a small proportion of patients can be cured. Thus very intensive follow-up strategies to detect colorectal liver metastases are unlikely to be cost effective. These data emphasise the importance of fully staging the liver at the time of treatment of the primary disease.

Competing interests None declared.

OC-056 VIRAL WARFARE: FRONT LINE DEFENCE AND ARMING THE IMMUNE SYSTEM: THE USE OF AN ONCOLYTIC VIRUS AS A VACCINE AGAINST COLORECTAL LIVER METASTASES

doi:10.1136/gutjnl-2012-302514a.56

[1]R Dave,* [2]F Errington-Mais, [3]D Kirn, [1]G Toogood, [2]A Melcher. [1]*Transplant and HPB Surgery, St James University Hospital, UK;* [2]*Section of Oncology & Clinical Research, University of Leeds, Leeds, UK;* [3]*Jennerex Biotherapeutics, San Francisco, USA*

Introduction Liver resection for colorectal liver metastases (CRLM) from colorectal cancer (CRC) has a 50% 5-year survival rate. However, recurrence rates are reported as 50% within 2 years. Thus, there is a need for a further treatment modality that may induce long-lasting anti-tumoural activity. Virotherapeutics provides this by directly infecting and lysing tumour cells and inducing immune-mediated tumour cytotoxicity.
Methods Using a double-stranded enveloped pox virus backbone, a Vaccinia virus (VV), termed JX-594, has been genetically manipulated to encode for granulocyte macrophage colony stimulating factor (GM-CSF). Enzyme Linked Immunoabsorbent Assay (ELISA) was used to confirm production of GMCSF when CRC cell lines and primary CRLM tissue were infected with this VV. ELISA was also