P651
Reliability of blood tests, neutrophil lymphocyte ratio (NLR) and Glasgow prognostic index (GPI) to evaluate the severity of the Crohn’s disease

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Background: The blood tests are used in recent years to detect the severity of the chronic diseases (CD). White blood cell (WBC), lymphocyte (L), platelet (Plt), C-reactive protein (CRP), neutrophil (N), albumin (Alb), platelet neutrophil ratio (PNR), neutrophil lymphocyte ratio (NLR) are good markers to predict the severity of the inflammatory bowel diseases and postoperative morbidity rate of gastrointestinal surgery. We aimed to evaluate predictive accuracy of the markers above in respect of length of hospital stay (LOS) for the active CD.

Methods: The medical records of consecutive patients who were operated in our clinic between 2012 and 2017 with a diagnosis of CD were reviewed retrospectively. Forty-three patients with intraabdominal abscess, enterocutaneous fistula or enteroenteric fistula were included in the study. WBC, L, platelet, CRP, N, A, PNR, NLR values were recorded from the file charts. The Glasgow prognostic index (GPI) and length of the postoperative stay in hospital were also recorded. The effect of the parameters to the major morbidity rates and the LOS was evaluated statistically.

Results: The mean age was 41.5 (19–66) years and 28 patients (65.1%) were male. The mean LOS was 8.1 (3–30) days. Three major (6.0%) and seven minor complications (16.2%) were detected in the study group. The mean values of the parameters were: Alb = 3.3 g/dl, CRP = 4.7, WBC: 9.2/dl, L: 1.78/dl, platelet = 379 000/dl, N = 6.5/dl, haemoglobin = 11.7 g/dl, PNR = 67.5, NLR = 5.2. The GPI was found 0, 1, and 2 in 11, 12, and 20 patients, respectively. The L count and NLR value were significantly predictive markers for the LOS (p < 0.05). The other parameters were ineffective to predict the LOS. The statistical effect of the parameters to the complications were not researched because the morbidity rate was low.

Conclusions: Elevated PNR and L count were associated with prolonged length of post-operative hospital stay in the patients with complicated active CD. NLR and L count are reliable markers to predict the severity of the CD.

P652
Nutritional adequacy of popular defined diets for inflammatory bowel disease

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Background: A robust evidence base for dietary recommendations for patients with inflammatory bowel disease (IBD) is lacking, and patients are increasingly turning to popular defined diets for nutritional therapy.

Methods: The Scripps Translational Science Institute Nutrition and Physical Activity Research Program in IBD is a prospective, blinded, randomized trial comparing the effects of three defined diets on the health of adults with IBD. Of 141 patients consented, 88 were eligible for analysis, 34 each in the Atkins, Mediterranean and Gerson diets. The primary outcome was the nutritional adequacy of each diet measured by assessment of nutrition and physical activity. Secondary outcomes included other markers of health. Diet compliance was measured by a food diary over a period of 6 months.

Results: The mean age was 41.0 years (SD: 13.3), 71% were females, 75% were Caucasian, 77% were diagnosed with UC. 45% had a BMI of <30 kg/m². The mean duration of IBD was 10.2 years (SD: 4.5). The median length of follow-up was 23.7 months (SD: 11.7). The Atkins diet was associated with a higher intake of protein, fat and fiber, a lower intake of carbohydrates and a higher prevalence of dietary deficiencies. The Mediterranean diet was associated with a higher intake of carbohydrates and a lower intake of protein and fat. The Gerson diet was associated with a lower intake of carbohydrates and a higher intake of protein and fat. The three diets were similar in terms of energy intake, macronutrient composition and dietary deficiencies.

Conclusions: The Atkins diet was associated with a higher intake of protein, fat and fiber, a lower intake of carbohydrates and a higher prevalence of dietary deficiencies. The Mediterranean diet was associated with a higher intake of carbohydrates and a lower intake of protein and fat. The Gerson diet was associated with a lower intake of carbohydrates and a higher intake of protein and fat. The three diets were similar in terms of energy intake, macronutrient composition and dietary deficiencies.

The aim of the present study was to determine the long-term efficacy of the treatment strategy with early surgical intervention based on infliximab therapy for pCD.

Methods: In this retrospective cohort study, consecutive patients seen at Affiliated Hospital of Nanjing University of Chinese Medicine, which received combined infliximab and surgical treatment between July 2010 and January 2017 for active pCD were included. Patients received surgical intervention during the induction infliximab therapy (time interval < 6 weeks) were grouped into the do-not-wait (DNW) cohort, while with time interval >6 weeks were grouped into the do-wait (DW) cohort. The long-term recurrence rate was compared using Kaplan–Meier curves and log-rank tests. Cox proportion hazard model was used to identify risk factors for the development of recurrence in DNW cohort.

Results: One hundred and seventeen patients were included and followed-up for a median of 36.0 (IQR 23.5–58.5) months. Among them, 73 patients and 44 patients were grouped into DNW cohort and DW cohort, respectively. There was no significant difference in baseline characteristics between two cohorts. The median interval between surgery and initial infliximab infusion was 9.0 (IQR 5.5–17.0) days in DNW cohort and 188.0 (IQR 102.25–455.75) days in DW group. Greater percentages of patients in the DNW cohort had anorectal stenosis compared with patients in the DW cohort (37% vs. 20.5%, p = 0.061). At the end of follow-up, 61.6% of patients in DNW group and 65.9% patients in DW group derived clinical remission respectively (p = 0.643). The cumulative recurrence rate after perianal surgery was 23%, 32%, 35% in DNW group and 16%, 24%, 24% in DW group, at 1, 2, and 3 years, respectively (p = 0.162). In DNW cohort, the presence of concurrent abscess at baseline (HR: 3.802: 95% CI 1.413–10.229; p = 0.061) and maintenance infliximab therapy >3 infusions (HR: 2.356; 95% CI 1.012–5.488; p = 0.047) predicted the development of recurrence.

Conclusions: Based on infliximab therapy, early surgical intervention could provide long-term benefits for pCD. The presence of concurrent abscess and maintenance infliximab therapy more than three times were risk factors for recurrence with early surgical intervention.

Kaplan–Meier curve of the proportion of patients with recurrence-free clinical benefit after the combination of infliximab and surgical therapy.
management of symptoms and inflammation. However, many proposed diets involve elimination of various foods or food groups, and may exacerbate or inadequately replete micronutrient deficiencies prevalent in many patients with IBD at baseline. The goal of this study was to compare the dietary reference intake (DRI), a collection of reference values assessing nutrient intake from the Institute of Medicine, among various published and/or popular dietary protocols for patients with IBD.

**Methods:** Dietary comparisons of USDA General Recommendations (modified according to recommendations from the Crohn’s & Colitis Foundation for IBD; USDA-CCF), autoimmune protocol (AIP) diet, specific carbohydrate diet (SCD), Crohn’s disease exclusion diet (CDED) as a partial enteral nutrition (PEN), IBD-anti-inflammatory diet (IBD-AID), low FODMAP diet, and gut and psychology syndrome (GAPS) diet were performed. Protocol differences regarding elimination, allowance, duration of elimination and maintenance phases, unique features, and published data regarding efficacy were compared. Typical macronutrient and micronutrient intake with such diets were calculated and compared using published sample menus.

**Results:** Published data indicate clinical response or remission rates of 40–80% from mostly non-randomised studies (sample size ranging from 9 to 417) across all diets. There are no published data on efficacy of USDA-CCF or GAPS in IBD. Elimination phases range from 2 to 8 weeks, with maintenance phases lasting at least 5 weeks or remaining undefined. For an average 35-year-old man or woman, most diets adequately met macronutrient requirements, except fibre (Table 1). Daily caloric range was 1135–2661 kcal. All diets were sufficient in B12. Iron intake was generally adequate for men (6 of 8 diets), but inadequate for women (1 of 8 diets). Most diets (7 of 8) failed to meet RDI for vitamin D and calcium, while at least 3 of 8 were deficient in omega-3 and zinc.

**Conclusions:** Limited data are available to guide clinicians on use of dietary protocols for IBD. These results indicate potential for nutritional inadequacy of popular defined diets for IBD. Partnership with registered dietitians are needed to guide patients with IBD in nutrition and dietary intervention. Larger randomised studies are needed to support evidence-based dietary recommendations for IBD.

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**P653 Impact of ileostomy on recurrence rate after ileo-colic resection for Crohn’s disease: A critical appraisal from a referral centre**

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**Background:** Post-operative recurrence after ileo-colic resection for Crohn’s disease (CD) is somehow inevitable. Several studies investigated risk factors for recurrent disease. The introduction of laparoscopic surgery for CD has improved the quality of life of patients undergoing ileo-colic resection, however the need for protective ileostomy has remained substantially unchanged. Ileostomy diverts the stools before the anastomosis, and could potentially have a role in the disease relapse. Aim of the study was to correlate the presence of a protective ileostomy with the postoperative recurrence rate after ileo-colic resection for CD.

**Methods:** All the patients who underwent ileo-colic resection for CD from 2008 onwards have been prospectively enrolled. Patients who had a so-called “protective” ileostomy or those requiring a postoperative ileostomy due to complications, were retrieved from the database and endoscopic recurrence in 1 and 3 years after surgery was compared with patients who did not receive any diversion. Other risk factors for recurrent disease were also considered. Recurrence was assessed through ileocolonoscopy and classified by the Rutgeerts scoring system. Chi-square and t Student tests were used for statistical analysis.

**Results:** Twenty out of 185 patients who underwent ileo-colic resection for CD, received an ileostomy (16 “protective” ileostomies and 4 for postoperative complications). Endoscopy was performed in 166 patients at 1 year and in 115 patients at 3 years after surgery. Endoscopic recurrence (assessed as a Rutgeerts score > 2) was found in 25% of patients who had an ileostomy vs. 86% of those without ileostomy at 1 year (p < 0.03) and in 54% vs. 88% at 3 years (p < 0.04). Patients underwent closure of ileostomies from 1 to 5 months (3 months on average) away from surgery, with no major complications.

**Conclusions:** The presence of an ileostomy in our CD patients undergoing ileo-colic resection appeared to represent a protective factor for post-operative endoscopic recurrence both at 1 and 3 years from surgery. Although the main bias represented by the limited number of patients treated with ileostomy, this result seems worthy of further investigation to better understand a possible role of intestinal diversion in CD recurrence.

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**P654 Advances in optimisation of therapeutic drug monitoring using mucosal TNF expression and anti-TNF concentration in patients with inflammatory bowel disease treated with biologics: Preliminary results from a single-centre study**

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**Background:** The introduction of anti-TNF therapy has dramatically changed the treatment of refractory inflammatory bowel disease (IBD-Crohn’s disease [CD], ulcerative colitis [UC]). However, the clinical use of anti-TNF therapies is limited by loss of response posing significant challenge for clinicians. Therapeutic drug monitoring has gained increasing popularity in the management of IBD. However, relationship between clinical outcomes and serum anti-TNF levels is complex and controversial in many cases. The aim of this study is to simultaneously analyse the serum, mucosal and faecal inflximab and adalimumab levels, to determine the mucosal expression of TNF-α and to assess the relationship between the levels of anti TNF-α in the above-mentioned biological samples with endoscopic and clinical activities of IBD patients receiving anti-TNF maintenance therapy.

**Methods:** Patients with luminal CD and UC receiving maintenance anti TNF-α therapy have been started to enrol in the study and the enrolment is still ongoing. Clinical disease activity is assessed, blood samples and faecal specimens are collected and colonoscopy with biopsies samples is performed in every patient. Biopsy samples