mSv (6.2 - 8.1); no GI diagnosis, 8.0 mSv (6.1 - 9.9) and; malignancy, 21.3 mSv (8.4 - 34.2). Mean CED was not significantly different between the non-malignancy diagnostic groups. **CONCLUSION:** Patients with functional gastro-intestinal disorders frequently required radiological studies and were exposed to significant levels of medical radiation which were comparable to levels for patients with so-called "organic" GI disorders. Our results, and previously published findings, call for the development of low-radiation protocols for patients who require abdomino-pelvic imaging.

T1033

Health-Related Quality of Life Associated with Chronic Constipation or Irritable Bowel Syndrome with Constipation

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Introduction: Chronic constipation (CC) and Irritable Bowel Syndrome with constipation (IBS-C) can negatively affect health-related quality of life (HRQoL). The objective of this study was to evaluate the effects of CC and IBS-C on HRQoL, by using a sample of subjects from the National Health and Wellness Survey (NHWS) conducted by Consumer Health Sciences International. Methods: Data were taken from the 2007 U.S. NHWS database, an annual cross-sectional internet survey of the healthcare attitudes and behaviors of adults (aged ≥18 years). Respondents indicated whether they suffered from CC or IBS-C in the past 12 months, and were then directed to answer a series of questions about the conditions. Respondents with CC or IBS-C were then compared to a control group of respondents without the conditions. HRQoL data were collected by using the validated instrument, SF-12v2, and both mental and physical component summary scores were computed, which are normative to the US population (mean score=50, SD=10). Higher scores indicated better physical or mental well-being. A difference of 3 to 5 in the component scores were considered clinically meaningful. Multivariate linear regression models were developed to adjust for potentials confounders including demographics, psychiatric illness, other GI diseases, cancer, opioid use, body weight, the status of alcohol use, smoking, and exercise, and comorbid conditions. Results: Among the 63,012 respondents in the survey, there were 2,648 subjects with CC or IBS-C, and 60,364 controls. Females comprised 67% of the CC or IBS-C subjects (vs. 50% for controls), and the mean age was 49.4 years (47.8 years for controls). Compared to the control group, subjects with CC or IBS-C were more likely to smoke (64% vs. 55%, $p<0.05$), less likely to use alcohol (60% vs. 67%, $p<0.05$), and exercised less (5.8 days/month vs. 7 days/month, $p<0.05$). The CC or IBS-C group had significantly worse mean physical (38.5 versus 47.6, $p<0.05$) and mental (40.9 versus 48.1, $p<0.05$) scores than controls. After adjusting for the confounders listed above, CC or IBS-C subjects had significantly lower physical (3.1, $p<0.001$) and mental (2.4, $p<0.001$) scores than the control group. Conclusion: CC and IBS-C are associated with a significant negative effect on physical and mental quality of life. Treatments that alleviate the symptoms of CC or IBS-C may prevent worsening of HRQoL, thereby alleviating the significant burden of this illness. Further studies are warranted to validate study findings.

T1034

Symptom Severity, Quality of Life and Associated Factors in Patients with Irritable Bowel Syndrome Managed in Primary Care

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Introduction: Most patients with irritable bowel syndrome (IBS) are managed in primary care, but little information is available about symptom control, quality of life and other aspects of their well being. Objective: To document details of the care of patients with IBS in general practice in the UK in relation to symptom status, quality of life and a range of psychological parameters. Methods: Patients under treatment for IBS by 37 family practitioners in 5 primary care centres in the UK who had consented to take part in a quality improvement project completed survey instruments,on symptom severity (IBS SSS), quality of life (IBS-QOL and EQ5D), anxiety and depression (HADS) patient enablement (Patient Enablement Instrument, PEI) and patient satisfaction (General Practice Assessment of Quality consultation subscale, GPAQ). Results: We studied 219 patients, of whom 162 (74%) were female; mean age 53 years (range 21-86), with a mean duration of IBS of 5.3 years (range 0-50). The mean primary care consultation rate amongst those who had consulted in the previous 12 months was 3/year (range 1-25); 39% (81/206) of patients had not consulted for their IBS, and only 9% (19/210) had visited a gastroenterologist in the last year (mean of 2.6 consultations; range 1-12). Only 6% reported seeking advice from a complementary therapist and 3% had been treated with a psychological therapy for IBS. The mean IBS SSS score was 232.6 ± 83, indicating that 80% of patients had mild or moderate disease and 20% were classified as still having severe disease. There was a significant effect of symptom severity on the performance of usual activities ($\chi2=6.188$, $p=0.045$) and pain or discomfort ($\chi2=15.676$, $p<0.0005$) sub scales of the EQ5D. The population mean for the IBS QOL was 72.3 ± 21.4, and for the EQ5D 71.4 ± 17.7 respectively: There were significant negative correlations between symptom severity scores and IBS-QOL ($r=-0.710$, $p<0.0005$), and EQ5D scores ($r=-0.374$, $p<0.0005$). Increasing symptom severity was associated with persisting anxiety ($r=0.457$, $p<0.0005$), and depression($r=0.357$, $p<0.0005$), and was inversely correlated with patients' scores on communication with their primary care physicians ($r=-0.258$, $p<0.05$) but not with patient enablement. Borderline or definite anxiety was identified on the HADS as being present in 51% of patients. Comment: There is persisting impairment of quality of life, persisting symptoms and continuing psychological problems in a representative IBS population managed in primary care in the UK. Current management strategies fall short of providing an adequate degree of symptom relief and restoration of quality of life.

T1035

Alanine Transaminase (ALT) Levels in Normal Adult Sri Lankans

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Background Alanine transaminase (ALT) levels are widely used in screening for liver disease. The upper limit of normal (ULN) of ALT (males 30 IU/l, females 19 IU/l) have been defined for western populations. Normal levels have not been established for Asian populations. Objectives To establish levels of ALT for a normal, adult Sri Lankan population Methods This study was part of a community based investigation - Ragama Health Study (RHS). The study population consisted of 35-64 year old adults, selected using stratified random sampling. Consenting adults were screened by a structured interview, liver ultrasound and collection of 10 ml venous blood. The "normal" population was defined as those not using potentially hepatotoxic drugs, safe alcohol consumption (14 units/week for males, 7 units/week for females), absence of fatty liver, and being HBsAg and anti-HCVab negative. ALT levels were estimated by a kit using the Bergmeyer method. The 95th percentile of the ALT levels was taken as the ULN. Results 3012 subjects participated in the study. The ALT level (U/l) among 831 normal males (mean 36, median 30, SD 20, ULN 68) was significantly higher than that of the 885 normal females (mean 29, median 25, SD 13, ULN 53) ($p<0.001$, Student's t-test). Conclusion The ULN for ALT levels of a "normal" Sri Lankan population was higher than observed in western populations. The levels were higher in males. ULN for ALT may need to be redefined for different population groups.

T1036

Clinical and Laboratory Features of Patients with Significantly Elevated Serum Gastrin Level

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Background: The most frequent conditions of hypergastrinemia are the Zollinger-Ellison syndrome (ZES) and type A autoimmune chronic atrophic gastritis. It has been reported that, a fasting serum gastrin level greater than 1000 pg/mL is virtually diagnostic of ZES. Methods: The aim of this study was to investigate the clinical and laboratory features of patients (pts) with significantly elevated (>1000 pg/mL) serum gastrin level. Fifty-two pts (34 women, median age: 53 yrs) with various gastrointestinal (GI) complaints with significantly high serum gastrin level (35 pts: > 1000 pg/mL, 17 pts: 500-1000 pg/mL) were included into the study. Pts were evaluated in terms of GI symptoms, upper GI endoscopy+biopsy, gastric juice pH, antiparietal cell antibody (APCA) presence of *Helicobacter pylori*, and serum iron and vitamin B12 level. Results: The median fasting gastrin level in 52 pts was 1596 pg/mL. The main symptoms of pts were: bloating=14, epigastric pain and diarrhea=8, abdominal pain=7, intermittent diarrhea=4, fatigue=8, amnesia=5, nausea=6, referred for vitamin B12 and iron deficiency=6, heartburn=3, chest pain=4, and gnawing=1 . All pts were negative for *Helicobacter pylori*. The mean gastric juice pH was 6.5. Twenty-six pts' vitamin B12 level were under normal range (<160 pg/mL). There was no relationship between gastrin and vitamin B12 level ($r=-0.058$, $p=0.687$). Fourteen pts (27%) had various thyroid diseases (Hashimoto's thyroiditis=10, Graves=2, nodular thyroid disease=2), 6 had diabetes mellitus and 2 pts had biopsy proven steatohepatitis. All pts (n=10) who had Hashimoto's thyroiditis exhibited serum gastrin level over 1000 pg/mL ($r=0.275$, $p<0.05$). The final diagnosis of 52 pts was autoimmune gastritis (AIG) in 50 (96%), ZES and retained antrum in two pts. In 50 pts with AIG, 3 of them also had gastric carcinoid type I, and one patient had gastric antral vascular ectasia. Endoscopic findings revealed fundic gland polyposis in two pts and gastric hyperplastic polyps in another two pts. APCA was studied in 38 pts with AIG and 32 (84%) of them were positive for APCA. Conclusions: Most of the pts with serum gastrin level over 1000 pg/mL have AIG and negative for *Helicobacter pylori* infection. The prominent symptoms of these pts were abdominal bloating and epigastric pain+intermittant diarrhea. Patients with auotimmune thyroid disease should also be screened for the presence of AIG. Gastric juice pH determination and histopathological examination of the gastric corpus biopsies should be the initial steps for the investigation of elevated serum gastrin level before initiating expensive tests such as octroscan or endoscopic ultrasonography.

T1037

Response-Guided Therapy of Peginterferon Alpha 2B Plus Ribavirin for Chronic Hepatitis C with Genotype 2 and a High Viral Road As An Effective Method Optimizing Therapy Duration

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Background: The sustained virological response (SVR) rate in patients infected with hepatitis C virus (HCV) is reported to be closely associated with rapid virological response (RVR; HCV RNA level <50 IU/mL at week 4) of therapy with pegylated interferon (peginterferon) alfa-2b plus ribavirin. Patients infected with HCV genotype 2 and a high viral road have SVR rates of approximately 70-80% after 24-week peginterferon plus ribavirin therapy. Aim: We conducted a prospective study to optimize the therapy duration of peginterferon alfa-2b plus ribavirin therapy based on virological response at week 2 and 4 after receiving therapy. Patients and Methods: A total 65 study subjects with HCV genotype 2 and a high viral road have received peginterferon alfa-2b 1.5μg/kg/week plus ribavirin based on body weight daily. The therapy duration was assigned to be 12 weeks in patients achieving super rapid virological response (HCV RNA level <50 IU/mL at week 2), 24 weeks in patients achieving RVR, and 48 weeks in patients showing late virological response (HCV RNA level≧50IU/mL at week 4). A SVR was defined as an undetectable serum HCV RNA level (<50 IU/mL) 24 weeks after the end of therapy. Results: The overall SVR rate was 73.8% (48/65) comparable to the established reports. The SVR rate was 75% (6/8), 75% (36/48), and 66.7% (6/9) in super rapid virological response group, RVR group, and late virological response group, respectively. The patients that did not agree with the study protocol and showed late virological response revealed only 26.7% (4/15) of the SVR rate for 24-week