

subjects underwent glucose BT to detect SIBO under standard conditions. The presence of SIBO was based on the occurrence of a peak of H<sub>2</sub> values more than > 10 ppm above the basal value after 75 gr glucose ingestion. Differences between groups were assessed by the chi square 2 Yates test. A p value <0.05 was considered to be statistically significant. **Results:** A total of 17 out of 30 pts resulted to be positive to glucose BT (56.6%) with respect to 1 out of 30 control subjects (3.3%). The difference between groups resulted to be statistically significant (p<0.0001).

**Conclusions:** Our study seems to indicate that SIBO is highly prevalent in patients affected by hypothyroidism. Intestinal dysmotility could be responsible of such findings. Present data could have a pharmacological relevance since bacteria in excess could use levothyroxine as energetic substrate, thus leading to high drug dosage in order to maintain effective levothyroxine plasma levels.

### OC3.5.3

#### PATIENTS WITH FUNCTIONAL DYSPEPSIA AND HEADACHE ARE CHARACTERIZED BY A MEAL-INDUCED REDUCTION OF DISCOMFORT THRESHOLD

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**Background and aim:** Several patients with functional dyspepsia very often present headache. Up to now, no data are available on the putative pathophysiological mechanism responsible for this association. Therefore, the aim of the present study was to assess whether headache represents a symptom associated with a peculiar pathophysiological mechanism of functional dyspepsia.

**Material and methods:** Thirty-five HP-ve patients (22 F, mean age 33±9 yrs) with functional dyspepsia, diagnosed according to Rome II criteria took part in the study. Eighteen patients also suffered from migraine without aura depending on HIS criteria. As a control group, ten age- and sex-matched healthy volunteers were also enrolled. In all patients presence and severity of dyspeptic symptoms (epigastric discomfort, bloating, fullness, early satiety, nausea, vomiting, belching, epigastric burning, epigastric pain) and headache was evaluated by a 0-3 score where 0=absence of symptom, 1=mild, 2=relevant, and 3=severe. All subjects underwent gastric barostat test according to previous studies in order to evaluate whether an alteration of gastric accommodation (1) or hypersensitivity to gastric distention (2) was present. Discomfort threshold was also determined postprandially to evaluate whether postprandial sensitisation occurs, and a relevant reduction, according to results in healthy volunteers, was defined as a threshold reduction higher than 4 mmHg. Finally, gastric emptying for solids was evaluated by <sup>13</sup>C-octanoic acid breath test.

**Results:** The prevalence of relevant (score=2 or 3) symptoms was not different between patients with impaired accommodation (8/35; 22%) and patients with normal accommodation, between patients with hypersensitivity (10/35; 28%) or normal sensitivity to gastric distention, and between patients with delayed gastric emptying (25/35; 71%) and normal gastric emptying. On the contrary, patients with postprandial reduction of discomfort threshold (15/35; 43%) showed a significantly higher prevalence of headache (73% vs 35%; p=0.040). Stepwise multiple logistic analysis confirmed the significant association (p=0.01) between relevant headache and the risk of postprandial hypersensitivity to gastric distention.

**Conclusions:** Among patients with functional dyspepsia, the subgroup showing an association with migraine is characterized by postprandial hypersensitivity to gastric distention.

### OC3.5.4

#### COMPUTER-ASSISTED ANALYSIS OF ENDOSCOPIC CAPSULE IMAGES FOR THE STUDY OF THE INTESTINAL MOTILITY

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**Background and aim:** Conventional methods for the study of intestinal motility, particularly the fed pattern, are complex and invasive. We studied whether no-invasive endoluminal image and displacement analysis, using new capsule technologies, allows correlation of wall motion and propulsion.

**Material and methods:** Intestinal motor activity was recorded using the M2A Given capsule specially fitted with a localizer device that measure displacement over time. External detectors were fixed on the abdominal wall, and the capsule was ingested. Just immediately after the capsule entered the duodenum, a test meal was administered and small bowel passage was recorded for a maximum of 6 hours.

In a group of 8 healthy subjects we studied, first, the effect of a meal on intestinal motility (fed vs fast). In another group of 8 healthy subjects we tested the effect of single nutrient solutions administered directly into the duodenum (carbohydrate vs lipids vs proteins) in random order and on separate days. Semiautomated analysis of endoluminal images and displacement was performed by a specifically developed computer program.

**Results:** Meal ingestion stimulated intestinal contractile activity (3,7 ± 0,3 contraction/min vs 1,7 ± 0,2 during fast; p<0,05). Postcibal contractions did not modify net transit time (263±53 and 269±46 min during fast), but induced less movement and increased the capsule displacement (anterograde plus retrograde) by 84% (p<0,05 versus fasting). The effect of meal was nutrient specific: carbohydrates induced less contractile activity (2,2± 0,2 contractions/min) than either proteins or lipids (3,5±0,4 and 3,5±0,6 contractions/min, respectively; p<0,05 for both). Carbohydrates did not significantly modify net capsule displacement, but induced contractions with stronger propulsive effect than those induced by lipids and proteins (42 and 93% more displacement/contraction, respectively; p<0,05 for both) and increased the speed of movement, particularly when compared to proteins (27% more displacement/min; p<0,05).

**Conclusions:** Semi-automatic endoluminal image analysis of physiological contractile and propulsive activity in humans provides a new insight into intestinal motility.

### OC3.5.5

#### HLA CLASS I AND II IN PATIENTS WITH WHIPPLE'S DISEASE

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**Background and aim:** Whipple's disease (WD) is a systemic chronic-relapsing disorder due to both environmental and host factors. Although *Tropheryma Whipplei* is known to be the environmental factor, the host factors are still unknown. Probably due to the rarity of this condition, the association between HLA and WD was studied in only small samples of patients. The few papers that have been published so far have given conflicting results [1,2].

**Material and methods:** The EU funded European Study Group on WD (QLRT-2001-01049) collected DNA and tissue samples from 60 western European WD patients. HLA class I and II alleles were identified, at low resolution level, with sequence specific primers and PCR