disease with hepatocellular carcinoma (HCC). Microsporidial infection was positive on wet preparation in 8(2.7%), in 11(3.7%) on Trichrome staining and in 13(4.3%) on PCR. Microsporidia was diagnosed with PCR in 8(61%) (p= 0.002) with IBS-D, 4(31%) with HCC and 1(8%) with functional dyspepsia. Conclusion: Microsporidial infection may be associated with IBS-D. PCR for microsporidia has a better yield than examination of a wet preparation or Trichrome staining

T1831

Do Caesarean Section and Birth Order in Twin Pairs Influence Development of IBS Later in Life

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Background and aims: There is emerging evidence that previous gastrointestinal infection and persistent low-grade inflammation play an important role in the pathogenesis of at least a subset of patients with irritable bowel syndrome (IBS). We hypothesize that perinatal factors disturbing the gut colonization in newborn, might trigger an inflammatory response in the mucosa and thereby contribute to development of IBS later in life. Mode of delivery and birth order of twins within the pair might represent this group of perinatal factors. Earlier investigation of our population-based twin cohort has demonstrated that low birth weight increased the risk for development of IBS, with environmental factors in utero as the most relevant contributing factor. However, the analyses were not adjusted for possible perinatal confounders. Low birth weight is closely related to critical illness, perinatal infections and use of antibiotics, which all could influence the gut microflora of the newborn. In the present study we evaluated the association between IBS and perinatal factors including mode of delivery (caesarean versus vaginal) and birth order of twins within the pair. Methods: A postal questionnaire was sent in 1998 to 12700 Norwegian twins born between 1967 and 1979 who were identified from the Norwegian national birth registry, which was established in 1967. The questionnaire included a checklist of 31 illnesses and symptoms, including IBS. Results: In 321 twin pairs, at least one twin reported a positive history of IBS. Twenty four pairs were concordant, and 297 pairs were discordant for IBS. There was no link between caesarean section and IBS when tested by logistic regression in the full sample, adjusted for birth weight and gestational age (adjusted OR = 1.01, 95 % CI: 0.65, 1.55). The association between IBS and the first born (51.2 %) and the second born (48.8 %) twin in discordant twin pairs (285 pairs) was almost similar (OR = 0.91, 95 % CI: o.65, 1.26). Conclusion: The risk for development of IBS was not influenced by mode of delivery and birth order in twin pairs, suggesting that gut colonization is not important for IBS.

T1832

Methanobrevibacter *Smithii* is Prominent in Stool of Subjects With Constipation Predominant IBS and Methane on Lactulose Breath Test

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Evidence supports the association between constipation and methane on breath testing. This association is more than casual since methane infusion in an animal model of transit results in a 70% slowing of intestinal transit. In a recent study of stool flora, Ruminococcus was noted to be prominent in C-IBS subjects (Kassinen, et al). Ruminococcus sp. are not methanogenic organisms but a known hydrogen donor to facilitate methane production by true methanogenic organisms. The most common methanogen in humans is Methanobrevibacter smithii. In this study, stool from subjects with C-IBS and methane on breath test are compared to hydrogen only IBS subjects for Ruminococcus and Methonobrevibacter. Methods: Consecutive Rome II IBS subjects presenting for lactulose breath testing were eligible for study. Using a questionnaire and breath test results, subjects with methane (>3ppm during 180 minutes of testing) and constipation predominant IBS were determined. The control group included subjects with IBS not positive for methane on breath testing. After completion of breath testing, subjects were asked to provide a fresh frozen stool sample. From each stool sample, bacterial DNA was extracted (Qiagen QIAamp). PCR with previously published primers specific for Methanobrevirbacter smithii, Ruminococcus albus and Ruminococcus flavifaciens 16S rRNA were used to detect their presence in stool Results: After exclusion criteria were applied 9 subjects (8 female) with and 10 subjects (8 female) without methane completed the study. The average age was no different between groups. In the methane group the validated symptom C-D score was 5.1±3.8 compared to -0.11±3.6 for non-methane subjects (P<0.01) indicating the balance towards significant constipation in methane subjects. Bloating and abdominal pain were not different between groups. The mean methane area-under-the-curve for the first 120 minutes of breath test was 156±77ppm. On PCR only 1 patient (methane positive) had evidence of both R. albus and R. Flavifaciens. However, Methanobrevibacter smithii was strongly present in 5 of 9 (56%) methane producers and only weakly positive in 2 of 10 (20%) non-methane subjects. Among only methane producers, those positive for M. smithii had a greater area-under-the-curve for methane at 187±85ppm compared to methane subjects without M. smithii (118±53ppm) although not powered enough to be significant. Conclusions: Ruminococcus albus and flavifaciens appear to be uncommon in methane subjects with C-IBS. Methanobrevibacteri smithii appears important in these subjects although other methanogens must also be examined since 4 of 9 methane subjects had no detectable M. smithii.

T1833

***Blastocystis hominis* in Patients With Irritable Bowel Syndrome and Eradication With Nitazoxanide**

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Purpose: *Blastocystis hominis* (BH) is a protozoan commonly found in the human digestive tract. Surveillance studies from the United States and Europe indicate 11-38% of the population may be infected with this organism. However, the pathogenicity of BH is controversial despite increasing evidence supporting the role of this protozoan in digestive disorders. While some patients with BH may be asymptomatic, recent studies indicate a strong association between irritable bowel syndrome (IBS) and BH infection. There is no drug indicated for the treatment of BH, metronidazole has traditionally been used for treatment. Unfortunately drug resistance has become problematic with metronidazole therapy. Currently, the 2009 Sanford Guide to Antimicrobial Therapy recommends nitazoxanide as the primary treatment option for BH. Nitazoxanide is indicated for the treatment of *Cryptosporidium parvum* and *Giardia lamblia* in adults and in children and has demonstrated activity against BH in both clinical and *In Vitro* studies. This abstract reports on the use of nitazoxanide for the eradication of BH in patients with IBS. **Methods:** Patients with a diagnosis of IBS by ROME II/III criteria had their stool examined via microscopy (Diagnos-Techs, Inc., Kent, WA) for the presence of BH as part of their serial workup. Those with positive stools were then treated with nitazoxanide 1 g twice daily for 14 days. Upon follow-up examination patients had their stools rechecked for the presence of BH and they were re-evaluated for their IBS symptoms. Microbiologic cure was defined as those with negative stools for BH after therapy. Clinical response was defined as resolution of IBS related symptoms. **Results:** Overall 22 patients (10 males and 12 females) with IBS had stool studies positive for BH. The mean age of the population was 53 years. A microbiologic cure was achieved in 82% (18/22) of the patients and a clinical cure in 86% (19/22) of the patients. There was an excellent correlation between the eradication of BH and the resolution of IBS symptoms, 94% (17/18). Nitazoxanide was well tolerated with most patients reporting yellowing of the urine, and a few complaining of gastrointestinal discomfort during therapy which had resolved at follow-up. **Conclusion:** In this study, nitazoxanide was effective for the treatment of *Blastocystis hominis* infection. The complete pathogenic role of BH remains unclear, however it should be considered a potential pathogen in symptomatic patients. Double-blind placebo controlled studies are warranted to determine the role of *Blastocystis hominis* in patients with IBS.

T1834

The Expression of the Tight Junction Proteins, Claudin-1, Occludin and ZO-1 is Reduced in the Colonic Mucosa of Patients With Irritable Bowel Syndrome

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Introduction: Recent studies have suggested that an increased intestinal paracellular permeability is a key physiopathological factor in the irritable bowel syndrome (IBS). This increased permeability could be due to alterations of tight junction proteins. The aim of this prospective study was to compare in the colonic mucosa the expression of the tight junction proteins in patients between IBS patients and healthy controls. Materials and methods: 23 IBS patients (21 women, 2 men, mean age: 47,69 years) fulfilling the Rome III criteria and 20 controls (12 women, 8 men, mean age: 59,65years) were included. IBS patients were D-IBS in 9 cases, C-IBS in 7, and A-IBS in 7 cases. IBS was post-infectious in 3 patients. Controls underwent a colonoscopy within the framework of screening. IBS symptom intensity was quantified on 10-cm VAS. On the protein extracted from colonic biopsies, the expression of tight junction proteins (claudin-1, ZO-1, occludin) was analyzed by western - blot. The results, expressed as average ± mean deviation, were compared by Mann-Whitney and Kruskal-Wallis tests Results: The expression of the 3 proteins of the tight junctions was significantly lower in the patients with IBS than in the controls (Table). The comparison of the expression of proteins according to the subgroups of IBS revealed only a decrease expression of occluding in case of C-IBS vs controls (0,26±0,08; p < 0,05). The lowest expression of occludin was observed in patients with an abdominal pain intensity higher than 6 : 0,24±0,14 vs 0,55±0,16 for VAS between 3 and 6 (p < 0.05). There was also a trend for a more important decrease of occludin in case of new IBS (occurrence < 1year). Conclusion: This study shows that expression of tight junction proteins (claudin-1, occludin, ZO-1) is decreased in colonic biopsies of IBS patients. This factor could contribute to increase the intestinal permeability observed in IBS.

	IBS	Controls	p
Claudin-1	0,12±0,03	0,20±0,04	p = 0,021
Occludin	0,39±0,05	1,65±0,53	p = 0,023
ZO-1	0,29±0,04	0,55±0,13	p = 0,020

T1835

Giardiasis and Chronic Dyspeptic Syndrome

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INTRODUCTION: Giardia lamblia (GL) is the most prevalent human intestinal parasitic protist in the world. Clinical manifestations of GL infection vary from asymptomatic infection to chronic diarrhoea.Chronic GL infection prevalence and symptomatology is unclear. We studied the presence of GL in patients with chronic dyspeptic syndrome of unknown origin. AIMS & METHODS: We enrolled into study 116 patients (29 males/ 87 females) with chronic dyspeptic syndrome,normal laboratory tests, negative abdominal ultrasound and upper endoscopy findings. We studied presence of selected symptoms (heartburn, dull epigastric pain, epigastric cramps, epigastric fullness, flatulence, diarrhoea), weight loss and presence of GL infection (analysis of duodenal juice aspirate collected during upper endoscopy), *Helicobacter pylori* infection (HP), and coeliac disease (CD) in examined patients. We studied symptomatology of GL positive patients 2 months after metronidasol therapy. RESULTS: GL infection was diagnosed in 27% (9/22) patients. GL without CD or HP was present in 12% (4/10) patients, GL and HP in 12% (4/10), GL and CD in 2% (1/1), and GL,CD and HP in 1% (0/1) of patients. Average lenght of dyspeptic syndrome history was 23,3 months (22/24) with weight loss of 2,8kg (3,5/2,4). Most frequent symptoms in patients with isolated chronic GL infection were epigastric fullness (86%), dull epigastric pain (50%), heartburn (43%), flatulence (36%), abdominal cramps (29%) and diarrhoea (29%). We documented total remission of symptoms in 79%(7/17) examined patients with GL infection after 14-days course of therapy with metronidasol 250 mg tid. There were no statistically