

	IBDQ Remission n (%) N=48	IBDQ Mean (SD) N=48	SF-36 PCS Mean (SD) N=48	SF-36 MCS Mean (SD) N=48
CHARM baseline	4 (8.3)	125 (29)	36 (8)	39 (11)
2 yrs from CHARM baseline*	29‡ (60.4)	171† (36)	46† (10)	47† (12)
3 yrs from CHARM baseline*	25‡ (52.1)	170† (33)	46† (9)	46† (12)

*2 and 3 yrs from CHARM baseline represent Weeks 60 and 108 in the OL extension (ADHERE), respectively. †p<0.05 vs. baseline (Student *t* test). ‡p<0.001 vs. baseline (Student *t* test).

S1064

Certolizumab Pegol Effectiveness in Crohn's Disease Patients with Secondary Failure to Infliximab Is Independent of Infliximab Dosing: Results from the WELCOME Study

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Background: WELCOME was a Phase IIb study with a 6-wk open-label induction followed by a 20-wk double-blind maintenance phase to evaluate efficacy and tolerability of certolizumab pegol (CZP), a PEGylated tumor necrosis factor- α (TNF- α) blocker, in pts with moderate to severe Crohn's disease (CD) who had failed prior therapy with infliximab (IFX) due to loss of efficacy or lack of tolerability. **Objective:** To evaluate the impact of the dose of last IFX infusion (≤ 5 mg/kg or >5 mg/kg) on the efficacy of CZP at Wk 6, following CZP open-label induction therapy. **Methods:** Pts with a CD activity index (CDAI) score of 220-450 who had previously responded to IFX but were no longer responding, or had developed intolerance due to acute or delayed infusion reactions received open-label CZP 400mg at Wks 0, 2, and 4. Responders (CDAI decrease ≥ 100 points from baseline [CDAI-100]) at Wk 6 were randomized to a 20-wk double-blind maintenance phase with CZP 400mg every 2 or 4 wks. Loss of response to IFX was defined as lack of improvement/worsening of clinical symptoms after 2 consecutive infusions of ≥ 5 mg/kg with a maximum interval of 8 wks evaluated 2-6 wks after the last infusion. The primary endpoint was clinical response at Wk 6. The number of pts achieving a CDAI-100 response was evaluated for the total population and by dosing of last IFX infusion (≤ 5 mg/kg or >5 mg/kg). **Results:** All 539 pts enrolled in the study had received prior treatment with IFX. Mean number of prior IFX infusions (SD; range) was 9.0 (7.9; 1-51). Pts had discontinued IFX therapy due to loss of response only (303 [56.2%]), infusion reaction only (198 [36.7%]), loss of response and infusion reaction (35 [6.5%]), or other reasons (3 [0.6%]). Pts achieving a clinical response at Week 6 by last IFX dose are shown in the table. No analyses were possible regarding IFX doses at <8 -wkly intervals due to the low number of pts who received this regimen. No new safety signals were observed following CZP therapy up to Wk 6, and no cases of tuberculosis, malignancy, or deaths were detected. **Conclusions:** CZP 400mg sc was efficacious in rapidly inducing a clinical response in pts with moderate to severe CD who had failed treatment with IFX, regardless of the dose regimen of the IFX infusion. CZP was well tolerated and no new safety signals were observed.

CDAI-100, n (%) [95% 2-sided CI]			
Wk after induction	Total population (n=539)	Last IFX dose ≤ 5 mg/kg (n=428)*	Last IFX dose >5 mg/kg (n=88)*
2	180 (33.4) [29.4-37.4]	149 (34.8) [30.3-39.3]	28 (31.8) [22.1-41.5]
4	234 (43.4) [39.2-47.6]	190 (44.4) [39.7-49.1]	38 (43.2) [32.8-53.5]
6	334 (62.0) [57.9-66.1]	271 (63.3) [58.8-67.9]	51 (58.0) [47.6-68.3]

*When data on last IFX dose was not available, pts were excluded from analysis

S1065

Predictors of Endoscopic Response and Remission in Patients with Active Crohn's Disease Treated with Certolizumab Pegol: A Logistic Regression Analysis of the MUSIC Data

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Background MUSIC is an open-label, 54-week trial designed to evaluate the efficacy of certolizumab pegol (CZP), the only PEGylated FC-free fragment of an anti-TNF- α antibody, on improving mucosal lesions in patients with active Crohn's disease (CD). **Objective** To identify prognostic factors of endoscopic response and remission at Week 10 in the MUSIC study. **Methods** Patients with moderate to severe CD (CD Activity Index [CAI] score of 220-450) and active endoscopic disease (≥ 2 segments with endoscopic ulcerative lesions and a CD Endoscopic Index of Severity [CDEIS] score ≥ 8 points) were eligible. CZP 400 mg was administered subcutaneously at Weeks 0, 2, 4, and then every 4 weeks. Primary end point was change from baseline to Week 10 in CDEIS. Exploratory end points included endoscopic remission (CDEIS <6), and response (≥ 5 -point decrease in CDEIS from baseline). In a logistic regression analysis, baseline CDEIS, CAI, C-reactive protein (CRP, on log-scale), corticosteroid (CS) and immunosuppressant (IS) use, and disease duration were assessed as potential prognostic factors of endoscopic response and remission. **Results** At Week 10, endoscopic response and remission were achieved by 61.5% and 42.3% of patients, respectively. In this analysis, none of the covariates tested were statistically significant prognostic factors of endoscopic response. In contrast, CDEIS ($p=0.0047$), and CRP level ($p=0.0146$) were statistically significant prognostic factors of endoscopic remission. Lower

baseline CDEIS or CRP levels were associated with higher remission rates. There was no statistical evidence that concomitant use of CS or IS had any impact on response or remission achievement. **Conclusions** The only identified prognostic factors of endoscopic remission following CZP treatment in patients with severe endoscopic CD were those linked to disease status at baseline (CRP and CDEIS). Endoscopic response and remission were achieved irrespective of the concomitant use of CS or IS. This research was funded by UCB, Brussels, Belgium

S1066

Oral Alpha-4 Integrin Inhibitor (AJM300) in Patients with Active Crohn's Disease — A Randomized, Double-Blind, Placebo-Controlled Trial

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Background & Aims: Recently it reported that a humanized anti-alpha-4 integrin antibody had effectiveness for Crohn's disease. AJM300 is a new chemical compound which was developed as an orally available, highly specific alpha-4 integrin inhibitor. A randomized, double-blind, placebo-controlled multicenter trial was performed to evaluate the efficacy, safety, and dose response of AJM300 in patients with Crohn's disease. **Methods:** A total of 71 patients with active Crohn's disease were randomised to receive placebo, AJM300 40mg tid, 120mg tid, or 240mg tid orally for 8 weeks. Main inclusion criteria were Crohn's Disease Activity Index (CDAI) of 150 or higher, and C-reactive protein (CRP) in abnormal value. The clinical evaluations were performed at weeks 0, 2, 4, and 8. The primary efficacy endpoint was the decrease of CDAI score from baseline to final evaluation at week 4 or later. Secondary efficacy endpoint was clinical response, defined by a decrease of at least 70 points in the CDAI. Safety evaluation was done by reporting adverse events and recording laboratory parameters. **Results:** In AJM300 groups, the decreases of CDAI (40mg: 19.9 \pm 74.1, 120mg: 25.5 \pm 61.3, 240mg: 21.6 \pm 84.9; mean \pm SD) were higher than placebo group (5.2 \pm 71.0). Although no significant difference in clinical response was observed between AJM300 groups and placebo group, in the patients who had CDAI ≥ 200 at week 0, the decreases of CDAI from baseline were 41.5 \pm 57.5 in 120mg group ($p=0.0485$, paired *t* test) and 41.6 \pm 94.1 in 240mg group, and the clinical response rate in 240mg group was 50.0% at the final evaluation. In the 240mg group, mean CRP decreased from 1.97mg/dL (at week 0) to 0.96mg/dL (at week 8) ($p=0.0220$, paired *t* test). The incidence of adverse drug reactions was not dose-dependent manner; 16.7% in the placebo group, 0.0% , 23.5% , and 22.2% in AJM300 40mg, 120mg and 240mg groups. **Conclusion:** AJM300 was effective to active Crohn's disease at doses of 120 and 240mg tid. Moreover, AJM300 is safe and well tolerated in this trial. AJM300 is suggested to provide the novel mechanism-based therapy that is different from the existing medication to the patients with active Crohn's disease.

S1067

Two Different Ways of Nutrition Load Test in Assessment of Gastric Accommodation in Health Subjects

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Backgrounds Gastric accommodation is important for understanding of the pathophysiology in functional dyspepsia. Drinking test with nutrition is one of the potential non-invasive well-tolerated approaches, but the amount of ingested liquid may be affected by taste, and others. Aims our study was to investigate two different ways of liquid nutrient load test, nutrient drinking test or perfusion test, in evaluation of gastric accommodation. **Methods** Twenty one health subjects (12 F aged 44.9 (10.1) yrs, 9 M aged 39.7 (8.2) yrs) participated in the study. Each one randomly received drinking nutrient load test and perfusion nutrient load test (through nasal-gastric tube) with a constant rate of 50 ml/min (0.75 kcal/ml) in separate day within one week. Percentages of protein, carbohydrate, and lipid in nutrition liquid were 13%, 48% and 39%, respectively. Meanwhile, intra-gastric pressure was recorded and 2D ultrasonography was used to measure both the proximal and distal gastric area during nutrient load test. Satiety was evaluated by Visual analogue scale (VAS, 0-10) during drinking and perfusion tests. **Results** (1) The amount of nutrition liquid in perfusion nutrient load test were higher than those in drinking nutrient load test (201.1 \pm 25.0 vs. 84.3 \pm 11.8, at the minimal satiety $p<0.001$; 809.5 \pm 44.1 vs. 477.14 \pm 28.9 ml, at the maximal satiety, $p<0.001$). (2) However, there was no difference of the intra-gastric pressure between perfusion nutrient load test and drinking nutrient load test (1.89 \pm 0.25 vs. 1.83 \pm 0.24 at the minimal satiety, $p>0.1$; 5.67 \pm 0.31 vs. 6.08 \pm 0.44 at the maximal satiety, $p>0.1$). (3) Compared with drinking nutrient load test, the maximal tolerated volume in perfusion nutrient load test was significantly correlated to the proximal gastric area at the maximal satiety score ($r = 0.470, p=0.032$), but not in drinking nutrient load test ($r = -0.81, p=0.727$). (4) The amount of nutrition liquid at maximal satiety was significantly correlated to distal gastric area in both perfusion and drinking tests ($r = 0.438, p=0.047$ vs. $r = 0.459, p=0.036$). **Conclusion** Our study suggests that perfusion nutrient load test might be more accurate to predict gastric accommodation in HS, for there were no influenced factors, such as swallowing air, taste. Further study needs to be performed in the patients with functional dyspepsia.

S1068

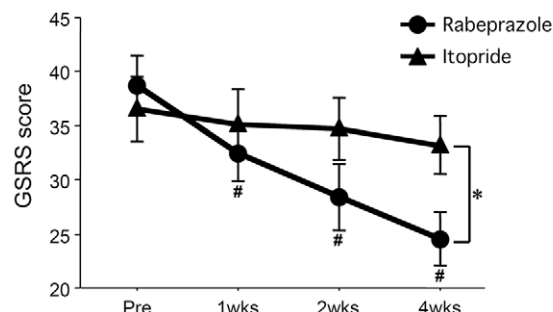
Rabeprazole vs. Itopride: A Randomized, Multicenter Trial in Nagoya to Determine Efficacy in Japanese Patients with Functional Dyspepsia

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Background and Aims: The initial therapy with a PPI in epigastric pain syndrome (EPS) and with a prokinetic in postprandial distress syndrome (PDS) is proposed in FD. The aims of this study were to compare the therapeutic effects of rabeprazole (RPZ), a PPI, and itopride (ITO), a dopamine D2 antagonist with acetylcholinesterase, in Japanese FD patients by Rome III in a randomized, open-label trial. **Methods:** 129 FD patients (male 48/female 81, age

53.0±15.2 years) by Rome III, were randomly assigned to either 4-week treatment with RPZ 10 mg daily or with ITO 150 mg t.i.d. Dyspeptic symptoms were evaluated with questionnaire, the Gastrointestinal Symptom Rating Scale (GSRS) at baseline and 1, 2, and 4 weeks after treatment. In addition, the patients were divided into EPS and PDS, and the efficacies of RPZ and ITO were evaluated in each. **Results:** 1. In the overall analysis, the RPZ group showed significant improvement in both GSRS within 1 week ($P<0.05$), while the ITO group had significant improvement in the GSRS after 2-week treatment ($38.8\pm2.1\rightarrow34.5\pm1.5$, $P=0.013$). 2. In EPS, the GSRS score in the RPZ group decreased significantly after 1 week ($38.7\pm2.7\rightarrow32.5\pm2.6$, $P=0.0446$), whereas no significant change was observed in the ITO group. After 4 weeks, the GSRS score in the RPZ group (24.5 ± 2.5) was significantly lower than in the ITO group (33.2 ± 2.6 ; $P=0.0170$). In PDS, the GSRS score improved significantly in the RPZ after 4 weeks and ITO groups after 2 weeks ($P<0.05$). There was no significant difference in the GSRS scores between the two groups. 3. The RPZ group demonstrated significantly better improvement in EPS (24.5 ± 2.5) than in PDS (33.2 ± 3.1 ; $P=0.0397$), while the ITO group showed no significant differences between EPS and PDS. **Conclusions:** RPZ demonstrated faster onset and better efficacy in relieving FD symptoms than ITO in EPS, whereas no significant difference in the effect was observed between RPZ and ITO in PDS. These results show that acid suppressive therapy with PPI is useful for PDS, as well as for EPS, in Japanese FD patients.

GSRS comparison between RPZ and ITO with EPS



S1069

The Worldwide Prevalence of Dyspepsia: Systematic Review and Meta-Analysis

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Aims: Dyspepsia is common in the community. The prevalence may vary according to the criteria used to define its presence, and the population under study. There has been no definitive systematic review conducted to assess if this is the case. **Methods:** Systematic review and meta-analysis of studies reporting prevalence of dyspepsia. MEDLINE and EMBASE were searched up to August 2008. There were no language restrictions and studies were eligible if they contained ≥ 50 adults (≥ 16 years) and reported prevalence of dyspepsia. Studies conducted in the community, at the workplace, at screening or blood donor clinics, and family physician and internal medicine clinics were all eligible. Studies conducted in gastroenterology clinics were excluded. Eligibility assessment and data extraction were performed independently by 2 reviewers in a double-blind fashion. Data were extracted to estimate the prevalence of dyspepsia using a broad definition (any upper GI symptom). Data were pooled to give overall prevalence of dyspepsia with a 95% confidence interval (CI) for all eligible studies, according to geographical region. **Results:** The search yielded 23 457 citations. Of these, 241 studies were retrieved and evaluated. A total of 157 studies were eligible for inclusion, and 63 separate studies provided data for this analysis. The prevalence of dyspepsia (broad definition) varied by geographical region (table). In some regions where there were more than one study there appeared to be a higher prevalence of dyspepsia, such as Southern Europe and South Asia, although this difference was not statistically significant (Cochran $Q = 3.22$ (df = 5) $P = 0.67$). **Conclusions:** The worldwide prevalence of dyspepsia, using a broad definition, is remarkably consistent in North America, Northern Europe, South America, South East Asia and Australasia. Prevalence appeared higher in South Asia and Southern Europe although more studies are required both to confirm this, and to explore possible reasons for these differences. There is a dearth of data from Africa and the Middle East, which needs to be addressed.

	Number of studies	Number of subjects	Pooled prevalence of dyspepsia (%)	95% confidence intervals
North America	11	25 876	30	18%-44%
Northern Europe	33	79 808	29	25%-33%
Southern Europe	7	6518	37	27%-48%
South Asia	2	2746	49	15%-84%
South East Asia	6	3877	27	10%-48%
South America	3	1702	29	13%-50%
Australasia	5	11 499	25	14%-38%
Middle East (Jordan)	1	2254	60	58%-62%
Africa (Nigeria)	1	1151	45	42%-48%
Worldwide	63	135 431	31	28%-35%

S1070

The Impact of Symptom Severity On Therapeutic Response, and An Attempt to Fix An Adequate Responder Definition in Functional Dyspepsia. Experience from Japanese Mega Study (JMMS)

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The symptom (Sx) severity may influence on therapeutic response in functional dyspepsia (FD). Various responder definitions were proposed, the adequate one has yet not be determined. To investigate this concern, we analyzed the characteristics of the patients enrolled to clinical trials for dyspeptic patients conducted in Japan under the name of JMMS (Japan Mosapride Mega-Study). Of 1,027 patients, the remaining 618 patients, who had not meet the exclusion criterion, were allocated to two treatment groups; mosapride (5HT4 agonist) 5mg tid and teprenon (gastric mucosa protectant) 50mg tid. Each group had pharmacotherapy for 2 weeks. [Methods] 536 patients completed the study. The patients were classified into three groups according to total Sx scores (sum of stasis Sx and pain Sx scores, 0-6 for each Sx severity and Frequency, total score 0 - 12); Mild Sxs with score <4 ($n=199$); moderate Sxs with score $4\leq$ and <8 ($n=307$), and severe Sxs with score ≥ 8 ($n=30$). Age, gender, Sx subtypes, Sx scores for Sx subtypes and patients' impression were analyzed. The responder rates were compared according to the Sx severity. Following parameters for the responder criteria were tested; (I) satisfactory relief of dyspeptic Sx defined by patients' impression with "much improved" or "improved", (II) at least a 50% reduction in total Sx scores, (III) changes in total Sx scores 2, 3 or 4<, (IV) maintaining Sx scores 2 or 1<. [Results] Prevalence of age, gender were statistically similar between the groups according to the Sx severity. The QOL was statistically different in all domain according to Sx severity, mild > moderate > severe, respectively ($p<0.05$). Mosapride treatment was statistically superior to teprenon treatment in mild and moderate groups ($p<0.005$), while there was no statistical difference in severe group. In terms of responder rate, there were no statistical difference among the groups according to the Sx severity in the evaluation responder by criteria (I) and (II). However, statistical significance was detected with criterion III (mild < moderate = severe) and with criterion IV (mild > moderate > severe) ($p<0.05$). [Conclusion] Among the patients with severe Sxs, reduction in Sx score is larger than that in patient with mild Sxs, which results in better efficacy of treatment, but they may still have some Sxs. Among the patients with mild Sxs, more patients enjoy complete Sx relief, which results in much better efficacy in such patients than that in patients with severe Sxs. Therefore, comparison of the efficacy of therapeutic intervention in different FD patients groups should be based on the equal severities of the Sxs with similar evaluation method.

S1071

Acupuncture Therapy Improves Bloating in Functional Dyspepsia Patients: A Randomized Controlled Trial of Sham vs. Real Acupuncture

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Aims: The treatment of Functional Dyspepsia (FD) remains a challenge, and whilst patients increasingly embrace complementary and alternative medical therapies such as acupuncture, there is a paucity of interventional placebo-controlled trials. Our aim was to determine the effects of acupuncture on FD symptoms and in doing so, the change on patients' Health Related-Quality of Life (HR-QOL) and Hospital Anxiety & Depression (HAD) indices. **Methods:** Patients who fulfilled the Rome III criteria for FD and had symptoms of at least moderate severity were enrolled into this trial. Exclusion criteria included past gastrointestinal surgery, H pylori infection and previous use of any form of acupuncture. Following a washout period of 2 weeks, subjects were randomly assigned to receive either real (at the Zusanli, Neiguan and Zhongwan points) or sham (at dummy points) acupuncture twice a week for a total of 4 weeks by nationally accredited acupuncturists, who were blinded to the patients' clinical details. The patients were evaluated at baseline and at the end of treatment using the Nepean Dyspepsia Index (symptoms and 10-item short-form HR-QOL scales), Perceived Stress Scale and HAD by an independent assessor. **Results:** 20 patients were recruited into the trial, and 17 received real (9) or sham (7) acupuncture. 59% (9) patients were female, with a mean age of 42 years. Baseline dyspepsia index and psychological indices were statistically similar in both groups. Thus far, 16 patients completed treatment with no reported adverse events. After 4 weeks, there was an improvement in bloating for subjects who received real vs. sham acupuncture (change in symptom score of -6.1 vs. -2.6, $p=0.046$). Significantly, the difference was in the reduction of "intensity" and "bothersome degree" of bloating. On the short-form HR-QOL scores, there was a larger improvement on tension (-2.0 vs. -1.7), activity (-2.7 vs. -1.0) and control (-1.6 vs. -0.9) scores in the real vs. sham acupuncture subjects, and also a trend in improvement of the HAD total (-3.0 vs. -2.0), anxiety (-2.4 vs. -2.1) and depression (-0.6 vs. +0.1) scores, as well as a improvement in the Stress Scale total scores (-2.4 vs. -1.6), although these were not statistically significant. **Conclusions:** Acupuncture delivered to prescribed "gastrointestinal" treatment points has a significant beneficial effect on bloating and a trend towards improvement in dyspepsia, HAD and stress scale scores compared to placebo in FD patients. With continuing enrollment and a larger number of subjects, we expect to see more significant results. We suggest that acupuncture is a promising treatment to relieve symptoms of FD.

S1072

The Predictive Value of Ethnicity and Helicobacter pylori Status in the Endoscopic Evaluation of Dyspepsia

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Introduction: Dyspepsia may be associated with clinically important upper gastrointestinal findings, including peptic ulcer disease (PUD). Studies examining these associations have not been performed in ethnically diverse cohorts. We aimed to assess the predictive value of ethnicity and H. pylori status for endoscopic pathology in a diverse dyspeptic cohort. **Methods:** All EGD's performed for dyspepsia evaluation in adults at an urban hospital over the previous 29 months were identified. Demographic and clinical information was extracted along with endoscopic and pathologic findings. H. pylori status was confirmed by histology.