HRQoL = Health related quality of life

**Background**
- bowls urgency is one of the most common symptoms experienced by patients with ulcerative colitis (UC) and may impact health-related quality of life (HRQL)1
- Mirikizumab is a humanized monoclonal antibody directed against the p19 subunit of IL-23
- Mirikizumab demonstrated efficacy2, was well-tolerated, and significantly reduced bowel urgency in a phase 2/52-week randomized clinical trial in patients with UC (NCT02859655)

**Methods**
- Figure 1. Study Design

**Key results**

- Table 1. Baseline Demographics and Characteristics

- **DISCLOSURES**
  - M. Dubinsky has received consultancy fees from: Abbvie, Amgen, Pharmacuticals, Biolyx, Gilead, Eli Lilly and Company, Genentech, Janssen, Pfizer, Prometheus Labs, Takeda, and is a co-founder of Corium Health. Co-Founder And shareholder Clinical Trials, Merck & Co., Merck Research Laboratories, MerckSerono, Millennium, Nisshin Kyorin, Novartis, Novo Nordisk, NPS Pharmaceuticals, PDL Biopharma, Pfizer, Procter and Gamble, Protabs, Receptos, Relypsa, Regeneron Pharmaceuticals, Inc., Takeda, Tetherex Pharmaceuticals, UCB Pharma, Waltham, MA, USA. M. Dubinsky has received fees for speaking at symposia from: Abbvie, Amgen, Celgene, Eli Lilly and Company, Genentech, Janssen, MSD, Pfizer, Prometheus Labs, Takeda, and is a co-founder of Cornerstones Health, Co-Founder And shareholder Trellus, Waltham, MA, USA. M. Abreu has received consultancy fees from: Abbvie, Amgen, Celgene, Genentech, Janssen, MSD, Pfizer, Prometheus Labs, Takeda, and is a co-founder of Cornerstones Health, Co-Founder And shareholder Trellus, Waltham, MA, USA. S. Arora has received consultancy fees from: Abbvie, Amgen, Celgene, Gilead, Janssen, Janssen, Lippincott Williams & Wilkins, Merck, MSD, Novartis, Novo Nordisk, PDL Biopharma, Prometheus Laboratories, Regeneron Pharmaceuticals Inc., Takeda, Tetherex Pharmaceuticals, UCB Pharma, Waltham, MA, USA. A. N. Naegeli has received grant/research support from: Abbvie, AbGenomics, Arena Pharmaceuticals, Celgene, GlaxoSmithKline, Janssen, Salix Pharmaceuticals, Shield Therapeutics, Takeda, Tetherex Pharmaceuticals, UCB Pharma, Waltham, MA, USA. S. Vermeire has received grant/research support from: Abbvie, Janssen, MSD, Pfizer, Takeda, consultancy fees/honoraria from: Abbvie, Arena, Asana, Celgene, Gilead, Genentech, Janssen, MSD, Pfizer, Takeda, and is a co-founder of Corium Health. Co-Founder And shareholder Clinical Trials, Merck & Co., Merck Research Laboratories, MerckSerono, Millennium, Nisshin Kyorin, Novartis, Novo Nordisk, NPS Pharmaceuticals, PDL Biopharma, Pfizer, Procter and Gamble, Protabs, Receptos, Relypsa, Regeneron Pharmaceuticals, Inc., Takeda, Tetherex Pharmaceuticals, UCB Pharma, Waltham, MA, USA. R. Panaccione has received consultancy fees from: Abbvie, Amgen, Celgene, Genentech, Janssen, MSD, Pfizer, Prometheus Labs, Takeda, and is a co-founder of Cornerstones Health, Co-Founder And shareholder Trellus, Waltham, MA, USA. S. Lee has received grant/research support from: Abbvie, AbGenomics, Arena Pharmaceuticals, Celgene, GlaxoSmithKline, Janssen, Salix Pharmaceuticals, Shield Therapeutics, Takeda, Tetherex Pharmaceuticals, UCB Pharma, Waltham, MA, USA. J. L. Kelly has received consultancy fees from: Abbvie, Amgen, Celgene, Genentech, Janssen, MSD, Pfizer, Prometheus Labs, Takeda, and is a co-founder of Cornerstones Health, Co-Founder And shareholder Trellus, Waltham, MA, USA. R. Panaccione has received consultancy fees from: Abbvie, Amgen, Celgene, Genentech, Janssen, MSD, Pfizer, Prometheus Labs, Takeda, and is a co-founder of Cornerstones Health, Co-Founder And shareholder Trellus, Waltham, MA, USA. S. Lee has received grant/research support from: Abbvie, AbGenomics, Arena Pharmaceuticals, Celgene, GlaxoSmithKline, Janssen, Salix Pharmaceuticals, Shield Therapeutics, Takeda, Tetherex Pharmaceuticals, UCB Pharma, Waltham, MA, USA. J. L. Kelly has received consultancy fees from: Abbvie, Amgen, Celgene, Genentech, Janssen, MSD, Pfizer, Prometheus Labs, Takeda, and is a co-founder of Cornerstones Health, Co-Founder And shareholder Trellus, Waltham, MA, USA.

**Figure 1. Study Design**

**RESULTS**

- Patients with absence of bowel urgency at weeks 12 and 52 achieved greater IBDQ total domain and domain subscores compared to those with presence of bowel urgency (Figure 2 & 3)
- Patients with absence of bowel urgency at weeks 12 and 52 also achieved a greater change from baseline in IBDQ total and domain scores compared to those with presence of bowel urgency (Figure 2 & 3)
- A patient's rectal bleeding score was seen to have the greatest association with IBDQ total and domain subscores
- Bowel urgency had similar magnitudes of association with change in IBDQ total score and domain subscores as stool frequency and endoscopy

**Figure 3. Magnitude of the partial correlation (R2) for urgency status, Stool frequency, Rectal Bleeding, and Endoscopy for the IBDQ total score and domain subscores at week 12**

- **Conclusions**
  - Absence of bowel urgency is associated with improvements in HRQL as measured by IBDQ total score and domain subscores
  - These findings suggest that bowel urgency is a distinct symptom that may be a useful surrogate marker of disease activity
  - Bowel urgency is an important symptom to discuss with patients with UC along with stool frequency and Rectal bleeding

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**key eligibility criteria**
- inclusion criteria
  - moderate to severely active UC
  - Mayo score ≥ 12 and endoscopic subscore ≥ 2 within 14 days before the first dose of study treatment
- exclusion criteria
  - Up-to-date colorectal cancer surveillance for subjects with family history of colorectal cancer, personal history of increased colorectal cancer risk ≥ 50 years, or other known life risks
- Treatment history
  - naive to biological therapy and have adequate response or intolerance to current treatment with corticosteroids or immunomodulators, at a history of corticosteroid dependence
- Excluded patients: failure to respond to or tolerate biological treatment (1/3 biological agent

**Clinical outcome measures**
- Figure 4. Inflammatory Bowel Disease Questionnaire (IBDQ)

<table>
<thead>
<tr>
<th>Domain</th>
<th>Bowel Symptoms (10 questions)</th>
<th>Symptomatic (9 questions)</th>
<th>Rectal Function (4 questions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score 1</td>
<td>Score 2</td>
<td>Score 3</td>
<td>Score 4</td>
</tr>
</tbody>
</table>

**Statistical Analysis**
- Absence of bowel urgency was defined as reporting three consecutive days of no bowel urgency prior to the week 12 and 52 visits.
- Missing bowel urgency data were imputed as having bowel urgency present at that visit.
- HRQOL outcomes were assessed at week 12 by pooling a subset of the Intent-To-Treat population that demonstrated clinical response at week 12.
- Mean change from baseline was assessed using analysis of covariance (ANCOVA) models. Each ANCOVA model included absence of urgency status, geographic region, prior biological experience, age, gender, and baseline value of the IBDQ score.
- Multivariable linear models were fitted to compare the coefficients of partial determination (R2) between absence of urgency, stool frequency, rectal bleeding, and endoscopic score. Each linear model included the Week 12 Mayo stool score, rectal bleeding score, endoscopic score, absence of bowel urgency status, geographic region, prior biological experience, age, gender, and baseline value of the IBDQ score.
- Modified baseline outcome was carried forward to impute missing Mayo score components and IBDQ values at weeks 12 and 52.

**Abbreviations**
- UCL=Ulcerative Colitis; IBDQ=Inflammatory Bowel Disease Questionnaire; HRQL=health related quality of life; ASMC=American Society of Gastroenterology; ANCOVA=Analysis of covariance

**References**

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