And the dose of prednisolone (PSL) at baseline was also significantly higher in the refractory group than the response group (p = 0.005). Multiple logistic regression analysis showed that high daily PSL dose (p = 0.032, 95%CI 1.014–1.363) at baseline and high CAI score at 7 days after achieving high trough level (p = 0.047, 95% CI 1.007–3.065) were significant predictive factors for the refractory to TA therapy.

**Conclusions:** Higher activity and higher daily PSL dose at baseline, poor response at 7 days after achieving high trough level were predictive factors for refractory to TA therapy. These refractory patients should be changed to alternative treatment including surgery without missing the appropriate timing.

### P407

**Predictive factors for the efficacy of leukocytapheresis in ulcerative colitis**

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**Background:** Leukocytapheresis (LCAP) has been reported to be a safe and effective treatment for active ulcerative colitis (UC). However, the factor predicting the efficacy of LCAP had not been yet established. The aim of this study was to perform the univariate analysis of the predictive factor for the efficacy of LCAP in patients with UC.

**Methods:** Between October 2001 and March 2011, LCAP therapy was conducted in Kurume University Hospital for 41 patients with moderate to severe UC which involves the left-sided to entire colon. These patients received the LCAP treatment from total 5 to 10 sessions once weekly. Disease activity was evaluated clinically by the Lichtiger’s clinical activity index (CAI) and endoscopically by the Rachmilewitz index. Univariate analysis in retrospective based on the patient’s case record was performed to identify the predictive factors which affected the therapeutic effect [1], the rapid response (responds within 3-sessions of LCAP) [2], and the long term remission [3].

**Results:** [1] The LCAP treatment showed 75.0% of clinical remission (Lichtiger’s CAI of 4 or less than) and 11.1% of clinical response (CAI reduction of ≥5 points or half from baseline). A significant difference (p = 0.0369) was observed in body mass index with univariate analysis performed between clinical responders and non-responders. [2] 47.2% of the LCAP-treated patients had rapid effects (the clinical remission and response after 3 LCAP sessions). The sex differed significantly between rapid responders and non-rapid responders (p = 0.0411). [3] Patients with male (p = 0.0222), first attack (p = 0.0005), elevated CRP levels (pre-treatment level, p = 0.0041), high leukocyte counts (post-treatment level, p = 0.0181), low endoscopic scores (post-treatment level, p = 0.0282) and low erythrocyte sedimentation rate (post-treatment level, p = 0.0029) achieved a long-term remission.

**Conclusions:** This study demonstrates the clinical efficacy of LCAP in active UC patients and also indicates that the induction of remission by repeated sessions of LCAP therapy is important to maintain the long-term remission.

### P409

**Physician knowledge of reproductive issues in inflammatory bowel disease is highly variable**

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**Background:** Reproductive care during inflammatory bowel disease (IBD) can be challenging in its multifactorial nature. Physicians must consider the impact of IBD and its treatment on fertility, pregnancy, and neonatal outcome. While women with inactive IBD have outcomes similar to the general population, patients with active IBD are faced with decreased fertility and varied fetal outcomes. There is a higher rate of voluntary childlessness in women with IBD compared to the general population, with this decision often being made because of the IBD diagnosis. Our previous study assessing patient knowledge of reproductive issues in IBD demonstrated that patient knowledge regarding reproductive issues in IBD was poor, despite 50% reported discussing these issues with their physicians. The aim of this study was to assess, in physicians treating women with IBD, their IBD-related reproductive knowledge and their practice in discussing this knowledge with IBD patients.

**Methods:** Physicians attending a national IBD conference, and a provincial gastroenterology for general practitioners conference both in 2012, were invited to complete a survey package consisting of: 1) Crohn’s and Colitis Pregnancy Knowledge (CCPKnow) score and 2) questionnaire regarding individual practice patterns. The validated CCPKnow score differentiates between poor (0–7), adequate (8–10), good (11–13) and very good (14–18) reproductive knowledge.
Results: The response rate was 53% (85/160). Gastroenterology trainees, general internists and gastroenterologists scored, 15.8±2.2, 17.0±1.4, and 16.9±1.7, and had higher CCPKnow scores than general practitioners (9.8±3.7) (p<0.001). Characteristics that significantly influenced CCPKnow included years in practice, type of practice, total number of IBD patients and pregnant IBD patients seen per year. There were significant deficits in physician knowledge and use of medications in the reproductive period, some of which could be harmful to the pregnancy. Gastroenterologists (87%) and general internists (100%) were more likely to discuss family planning. Physicians with very good CCPKnow (84%) were more likely to discuss family planning and address medication issues appropriately.

Conclusions: This is the first study to demonstrate that general practitioners have limited knowledge regarding reproductive issues in IBD compared to specialists. Furthermore, despite good knowledge, gastroenterologists and general internists have widely varied practices regarding the management of pregnant IBD patients.

P410
Physician-initiated treatment patterns of ulcerative colitis patients in the United Kingdom: a review of chart-abstracted data
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Background: Various treatment options exist for managing ulcerative colitis (UC) in the United Kingdom (UK). Relapse-associated treatment patterns, and the degree to which treatment options differ by physician specialty, however, have not been studied. This study aimed to describe common relapse-related treatment patterns for UC, both overall and by physician specialty.

Methods: A retrospective chart review of UC patients diagnosed at least 1 year prior to study start was performed. General practitioners (GPs, 12) and gastroenterologists (GIs, 17) reported on treatments given to 91 patients who had experienced at least 1 flare in the past year. Treatment options (increasing dosage of existing treatment, new oral steroid prescription, topical prescription, other prescription, further investigation, and any hospitalisation or surgery) were grouped into 8 distinct treatment patterns. Descriptive statistics and the Fisher exact test were used to assess treatment patterns by type and physician specialty, stratifying by UC status at last investigation, and any hospitalisation or surgery.

Results: Top treatment patterns for UC relapse/flare included increasing the dosage of existing medication (19% of patients), prescribing a new oral steroid (19%), and prescribing a combination of 2 treatment options (22%). Any hospitalisation or surgery was reported in 7 cases (8%). Adjusting for mild/moderate UC, GIs more often prescribed 2 or 3 combinations of treatment options compared to GPs (30% and 25% vs. 11.5% and 3.8%), and utilised any hospitalisation/surgery as a treatment option (10% vs. 3.8%). GPs were significantly more likely to report prescribing a new oral steroid only compared to GIs (26.9% vs. 10%; p<0.03).

Conclusions: While a variety of treatment options were commonly used to treat UC flares, treatment patterns differed by physician specialty, even when adjusting for disease status. Further research is needed to understand how physician treatment patterns may lead to different outcomes in order to improve UC management in the UK.

P411
Pharmacokinetics of adalimumab in pediatric patients with moderate to severe Crohn’s disease
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Background: To characterize the pharmacokinetics (PK) of adalimumab in pediatric patients (pts) with moderate to severe Crohn’s disease (CD).

Methods: Trough serum adalimumab and anti-drug antibody (ADA) concentrations (conc) were measured in a 52-week (wk) study (N=189), which had a 4-wk open-label induction phase (dose was determined by pt weight) followed by a 48-wk double-blind maintenance phase (high and low-dose arms). Pts with inadequate response could increase from eow to ew dosing. A non-linear mixed effects modeling (NONMEM®) approach was used.

Results: At wk 4, the mean±SD adalimumab conc (µg/mL) for pts ≥40 kg, 15.7±6.55 (160/80 mg), was higher (p<0.001) than for pts <40 kg, 10.6±6.06 (80/40 mg). For the maintenance phase, the mean±SD adalimumab conc (µg/mL) are listed in the table.

Table: Mean±SD adalimumab concentrations in the maintenance phase

<table>
<thead>
<tr>
<th>Dose</th>
<th>Wk 16*</th>
<th>Wk 26*</th>
<th>Wk 52*</th>
</tr>
</thead>
<tbody>
<tr>
<td>40/20 mg eow, High-Dose (HD)</td>
<td>10.3±4.80</td>
<td>10.4±4.26</td>
<td>9.48±5.61</td>
</tr>
<tr>
<td>20/10 mg eow, Low-Dose (LD)</td>
<td>3.98±2.38</td>
<td>3.63±2.50</td>
<td>3.51±2.21</td>
</tr>
</tbody>
</table>

Pts receiving ew dosing had higher adalimumab conc at wk 52 (HD: 15.3±11.4, p=0.065; LD: 6.65±3.49, p=0.002) compared to those on eow. Anti-TNF naïve pts had slightly higher adalimumab conc than those with prior anti-TNF exposure. Among pts with prior anti-TNF exposure, those with immunogenicity to prior anti-TNF had slightly lower adalimumab concentrations than those without. Six pts (6/182, 3.3%) were AAA positive during the study; and adalimumab conc were lower in those pts. Pts on concomitant immunosuppressants (azathioprine, 6-mercaptopurine & methotrexate; IMM) had slightly lower (–18%) adalimumab clearance (12.4±5.74 mL/h) compared to pts without IMM (15.2±7.88 mL/h). Only body weight was identified as a statistically significant covariate; but, it explained only 2.6% of total PK variability. A combination of multiple covariates of interest (body weight, albumin, age, sex, CRP, and concomitant IMM) was able to explain <13% of total PK variability.

Conclusions: Adalimumab trough conc were maintained in pts receiving eow regimen for 52 wks. Dose escalation was associated with an increase in adalimumab conc compared to eow dosing. Pts with prior anti-TNF exposure (especially those with immunogenicity to prior anti-TNF) tended to have lower adalimumab conc compared to anti-TNF naïve pts. Body weight was the only statistically significant baseline covariate affecting adalimumab clearance, but it accounted for <3% of PK variability.