P-Glycoprotein 170 (P-GP) Functional Activity in Peripheral Blood Lymphocytes (PhB) According Therapeutic Response in Ulcerative Colitis (UC) Aiciu M. Sambuelli, Catalina M. Cetarda, Anhui H. Gil, Silva M. Negretra, Sergio Huertas, Silvina Goncalves, Pablo Pardo, Marcel I. Belloso, Marta A. Carballo

**BACKGROUND:** P-gp, encoded by MDR-1 gene, is a transmembrane efflux pump described overexpressed in cancer refractoriness by panning treatment drops out of cells. It is expressed in PhB, other haematopoetic cells, apical superficial epithelium of colon, ileum and other tissues with barrier function. It is an interesting and controversial candidate for UC therapeutic response and pathogenesis. Increased expression has been reported associated with steroid UC refractoriness. Conversely, deficient P-gp function has been postulated as UC susceptibility/severity factor. AIM: to investigate the role of MDR1 gene in the therapeutic response of UC by studying the P-gp functionality in PhB. METHODS: P-gp functional activity was evaluated in PBL of 27 patients (15 M, 12 F) median age 30 (16-71) yrs with active UC (Mayo score: severe n=9, moderate n=9, mild n=9) categorized in: S-REFR (steroid-refractory, primary non-response or allergic reactions was observed. Assessment of ATI may be useful for the early new assay when some newly added drug reached effectiveness (X±SD) Significant differences were observed in absence and presence of verapamil inhibition, remain in the intracellular leading to an increase of % of cells in M1 vs. M2 (Tukey's test, p<0.05 for both in M1 vs M2 RESULTS: (X±SD) Significant differences were observed in absence and presence of verapamil inhibition, showing increased P-gp functional activity in S-REFR vs. S-RESP (p<0.01 and HP (p<0.01), but not between S-RESP and HP (ANOVA and Student-Newman-Keuls post-test). Tabla) Results were not influenced by cumulative steroids. Three out of 4 severe patients showing M2>M1 in the assay with verapamil required surgery. Clinical disease activity correlated with M2 (with inhibitor=0.57, p=0.00056, Spearman). Interestingly, S-REFR showed a decrease of M2 (S-RESP=0.51, M1=0.45) in early months. Data support that newly added drug reached effectiveness (6-MP n=4, infliximab n=3) CONCLUSION: our results suggest: 1a relevant role of P-gp in UC treatment response 2a possible usefulness of P-gp functional assay in the early detection of individual therapeutic response.

A Prospective, Single-Center Study Assessing the Adherence to Long-Term Anti-TNF Treatment in IBD

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**Introduction:** Patients with Inflammatory Bowel Disease in long-standing remission self-report low adherence to oral therapies (5-ASA, azathioprine, 6-MP). In contrast, the issue of adherence to anti-TNF [infliximab (IFX) and adalimumab (ADA)] maintenance treatment has only recently been addressed. Methods: This was a prospective, single-centre study assessing the adherence to IFX and ADA scheduled maintenance treatment of patients with steroid-dependent luminal and/or fistulizing CD who achieved remission on induction therapy with IFX (5mg/kg at wks 0, 2, 6) or ADA (160/80mg, at wks 0, 2). Patients were followed prospectively from January 2002 until December 2008 with monthly visits to the outpatient clinic or the infusion area. At each visit a review of the medical history between infusions, physical examination, adverse events check, and concomitant medication were assessed, and routine hematological and biochemical tests were performed. Adherence to treatment was determined as the ratio of active to expected visits for IFX infusions or ADA prescriptions (and of return of the used syringes). Turning on for an infusion session which was not performed or a prescription which was not given for a different reason was not considered as non adherence. The study was prematurely stopped for loss of response or severe adverse event, treatment, moving area, or death. The study was approved by the local ethics committee. Results: 72 patients (43 males), mean age 27.2 (17-38) years with luminal (54%) or perianal/perifctal CD (18) received scheduled IFX either as monotherapy (n=33), or combined with AZA (n=30), or initially combined AZA+IFX that was switched later to IFX monotherapy (9 for a mean of 33) (5) 12 months. Fifteen patients were active and 17 ex-smokers; 23 had extraintestinal manifestations (EIM); 120 were of rural origin. 22 patients received top-down therapy for perianal CD or EIM. At the end of the trial patients received a mean (range) of 21 (3-42) infusions. Treatment was switched to adalimumab in 16 patients for loss of response (7), infusion reactions (5), and adverse events (4) to IFX and were reinfused on 40 mg ev ew evew 2w 2 (0.2-4) years (mean, range). Two patients stopped treatment temporarily (2 pregnancies and personal choice, respectively) and 11 (18%) are receiving 10 mg IFX. Adherence to IFX was 98%, and to ADA 100%. Adherence to AZA of patients receiving combined AZA+IFX therapy was 69%. Conclusion: Even in quiescent CD, adherence to IFX or ADA approximates 100%. This may be due to selection bias, satisfaction with effectiveness of treatment, and/or acceptable dose regimen.

**Assessing Changes in Reported Medication Adherence Over a Three Year Period: the Manitoba IBD Cohort Study**

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This study reports on medication adherence over time from the Manitoba IBD Cohort Study, a longitudinal, population-based study of multiple determinants of health outcomes in IBD. Medication adherence was assessed, or for personal choice or other med reasons. Results: 290 participants. Adherence was measured using a validated multi-item patient report tool, the Medication Adherence Response Scale (MARS-5). The MARS-5 rates the frequency of adherence behaviours with 5 representing complete adherence. Poor adherence was defined as a score ≥2/5 on our previously published work on this scale. Differences in response patterns were analyzed, as well as potential correlates of adherence such as beliefs about medication, memory strategies, obstacles to compliance (e.g. cost, dose frequency), and disease activity. Results: Adherence scores were comparable to those reported 3 yrs previously by the same sample. Time 1=20 50, 3=4 30, 4=0.001, p=0.001. Most participants (58.4%) reported scores within 2 points of their previous responses even...