

## 207 Crohn's Disease Associated Dysbiosis as a Predictive Factor of Clinical Relapse: A Microbiological Substudy of the GETAID-STORI Cohort

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**AIM:** Dysbiosis, an alteration of intestinal microbiota, has been previously described in Crohn's Disease (CD). It appears deeper in active disease than in remission and could predispose to relapse. The GETAID conducted a prospective cohort study to look for predictive factors of CD clinical relapse after infliximab discontinuation in patients treated for at least one year by a combined therapy with immunosuppressant. Faecal samples from a subset of patients in this cohort allowed seeking out whether dysbiosis could be predictive of CD relapse.

**MATERIALS AND METHODS:** Fecal samples from 31 healthy subjects and 37 CD patients included in the cohort were collected at D-1 (date of infliximab discontinuation), M2 (two months) and M6 (six months). At the end of the observation period (30 months), 18 of the CD patients remained in remission while 19 exhibited clinical relapse. A characterisation of the microbiota of fecal samples in groups (Bacteroides, *C. coccoides*, *C. leptum*, Lactobacilles, Bifidobactéries) and bacterial species (*F. prausnitzii*, *E. coli*), was performed using quantitative real-time polymerase chain reaction and expressed as a proportion of the total number of bacteria of each sample. Comparisons between groups (control vs CD, sustained remission vs future relapse) were made at different time points using Wilcoxon test. CD relapse-free survival analysis using Kaplan-Meier method (log rank test) was performed according to D-1 median rate of each bacterial species or group looking for the relapse predictive value of dysbiosis.

**RESULTS:** At D-1, dysbiosis was observed in CD patients in remission compared to healthy subjects. Dysbiosis was characterized by a low counts of Firmicutes (*C. coccoides*  $p=0.0003$  and *C. leptum*  $p<0.0001$ ) and *F. prausnitzii* ( $p=0.0003$ ). This dysbiosis (*C. coccoides* and *F. prausnitzii* decrease) was more pronounced in patients with future relapse compared to patients with sustained remission ( $p=0.02$ ). Same tendency was observed at different time points. Moreover, after infliximab drop out, a decrease in *C. coccoides* ( $p = 0.01$ ), Bacteroides ( $P = 0.03$ ) or *F. prausnitzii* ( $p = 0.03$ ) at D-1 was significantly associated with a shorter time to relapse. Écouter Lire phonétiquement

**CONCLUSION:** This work confirms dysbiosis in CD patients even in remission. This dysbiosis was characterized by a decrease in Firmicutes. Moreover, a deficit in some bacterial groups or species such as *F. prausnitzii* appears as a predictive factor of CD relapse after infliximab discontinuation. Further studies are needed to validate these findings and to assess the benefit of restoring normobiosis in CD management.