TROUGH LEVELS AT INDUCTION: IMPACT ON LONG TERM RESPONSE WHEN RE-INITIATING INFliximab

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Infliximab (IFX) is indicated for the treatment of inflammatory bowel disease (IBD) (ulcerative colitis(UC) or Crohn disease(CD)). Nevertheless, a significant proportion of patients will experience a loss of response (LoR) to IFX over time which may require despite optimization a switch to another anti-TNF or to swap out to another biotherapy. We have recently reported that week 2 and 6 IFX levels (TLs) can be predictive of treatment failure and long term response. Only one study has shown that week 14 TLs can be predictive of long term response on re-initiation of IFX therapy. Our objective is to evaluate early on at induction IFX TLs and antibodies to IFX (ATI) in patients previously exposed to anti-TNF.

269 IBD patients (194 CD-75 UC) have been treated with IFX on follow-up. 2331 samples were prospectively collected but measured retrospectively by ELISA in parallel with clinical data. 91 samples (TL measured <1µg/ml) were analyzed for ATI testing using drug-sensitive ELISA. At follow-up, patients were subdivided into three groups: long-term responders, patients who had LoR but responded to optimization or patients who had LoR but did not respond to optimization and were switched to another biotherapy. Each group was subdivided according to naïve or previous treatment with anti-TNF (IFX or Adalimumab) status.

During induction (week 2 and 6 combined), in the LOF Switched group, median IFX TL was significantly lower in previously exposed patients than in naïve patients (0.92µg/ml [0.12-4.49µg/ml] vs 6.79µg/ml [0.15-19.93µg/ml], p=0.043). Inversely, there was no statistical difference between median TL in the Long-term responders group between naïve and previously exposed patients (0.98µg/ml [0.17-9.41µg/ml] vs 1.18µg/ml [0.17-9.41µg/ml], p=0.52) as well as in naïve and previously exposed Long-term responders (0.97µg/ml [0.44-11.97µg/ml] vs 1.19µg/ml [0.12-19.93µg/ml], p=0.92). Overall, among the previously exposed patients, the LOF Switched group had a lower median IFX TL (0.92µg/ml [0.12-4.49µg/ml]) compared to the Long-term responders (0.97µg/ml [0.44-11.97µg/ml], p=0.015) and the LOF Optimized group (1.12µg/ml [0.23-12.09µg/ml], p=0.003). The percentage of ATI occurrence was statistically lower in the Long-term responders (5.7%) than in the LOF Optimized (37.5%) and LOF Switched groups (45%), p<0.002. Interestingly, among the LOF Switched group, the percentage of ATI occurrence was similar in patients whether naïve or previously exposed to anti-TNF (38.8% vs 42.9%, p=0.80).

The primary objective was to assess the proportion of children with NFLEXS treatment who respond to optimization or patients who had NFLEXS treatment but did not respond to optimization and were switched to another biotherapy. Each group was subdivided according to naïve or previous treatment with anti-TNF (IFX or Adalimumab) status. Excluding induction (week 2 and 6 combined), in the LOF Switched group, patients previously exposed to anti-TNF seem to have lower IFX TLs at induction (at week 2 and 6) than naïve patients. This may not be related to immunogenicity as the presence of ATI was similar in patients whether naïve or previously exposed to anti-TNF.