

## P274. Clinical utility of measuring serum TNF alpha level, anti TNF alpha levels and antibody titers in critical situations in inflammatory bowel disease and in psoriasis

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### Background

Pharmacokinetic monitoring of infliximab and adalimumab to control disease activity and optimise the treatment of inflammatory bowel disease (IBD) and psoriasis is not standardized in the daily routine. The aim of this study was to assess TNF alpha and anti TNF alpha serum concentrations and antibodies against anti TNF alpha molecules in patients with IBD who developed loss of response, side effects or allergic reaction during anti TNF alpha therapy and in patients suffering from active psoriasis.

### Methods

Blood samples of 48 IBD patients (21 patients with Crohn's disease [CD] and 10 patients with ulcerative colitis [UC]) who lost response, developed side effects or allergic reaction to anti TNF alpha therapy and 51 patients suffering from moderately/severely active psoriasis were collected to measure trough serum TNF alpha level, infliximab (IFX)/adalimumab (ADA) and anti-infliximab (ATI)/anti-adalimumab concentration (Matriks Biotek Laboratories). Seventeen patients (9 CD, 8 UC-receiving IFX) in complete clinical remission were selected for control group. We examined the correlation between loss of response, the development of side effects or hypersensitivity and serum TNF alpha, IFX/ADA trough levels and ATI/anti-adalimumab concentrations.

### Results

Serum TNF alpha level showed an inverse correlation with serum IFX/ADA trough levels both in IBD and psoriasis. ATI/anti-adalimumab concentration significantly correlated with low trough levels of IFX/ADA. ATI was detected in 7 patients with IBD and 7 patients with psoriasis. Anti-adalimumab antibodies were detected in 3 patients with IBD and 4 with psoriasis. Two of the IBD patients with antibodies against anti TNF alpha developed side effects, 5 patients lost response and allergic reaction occurred in 3 patients.

### Conclusion

ATI/anti-adalimumab positivity was detected in 32% of IBD patients with loss of response, side effects or hypersensitivity and in 20% of patients with psoriasis. The higher TNF alpha level correlated with more severe disease activity and less efficacy of therapy both in IBD and psoriasis. We suggest that the simultaneous measurement of serum TNF alpha level, serum anti TNF alpha concentration and antibodies against anti TNF alpha may help to optimize the therapy in the critical situations