INFLIXIMAB INFLUENCED CHANGES OF SERUM TNF-ALFA LEVELS

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Introduction: Towards a more successful follow up of anti TNF-alfa treatment we investigate the changes of serum TNF –alfa levels during infliximab (IFX) infusions.

Method: During the scheduled IFX treatment the serum TNF-alfa levels were measured before and after every infusions by ELISA assay Quantikine® HS, R&D SYSTEMS, Minneapolis USA). Presently in this clinical study 8 immunmodulant+IFX treated subjects (7 Crohn- 4 Luminal and 3 fistulising- and 1 Colitis ulcerosa), and 9 control subjects treated only with immunmodulant were involved.

Results: The avagare of serum TNF-alfa levels of inactive subjects treated only with immunmodulant are <1,0. The avarage of serum TNF-alfa levels of active subjects treated only with immunmodulant are 13,3. The avarage of serum TNF-alfa levels of active subjects pretreated with immunmodulant and steroid are 1,7. The serum TNF-alfa levels markedly increase by the influence of IFX infusions. The increasing interval beetween the IFX infusions decrease the trend of this increasing. The increassing of serum TNF-alfa levels in comparison either before the first IFX infusion (pretreated data) and it's levels before the sequential IFX infusions during the treatment are significant: $P<0,0001$ (Mann-Whitney test). The serum TNF-alfa levels decrease significantly after each infusion, ($P<0,0001$ Wilcoxon signed-ranks test), however the serum TNF-alfa levels increase in the interval between two sequencial infusion . ($P<0,0001$ Wilcoxon signed-ranks test).

Conclusion: The cause of this surprising phenomena will take some explaining. The IFX increase the shedding of tumornecrosis factor receptor 2 (TNFR2) from the surface of immuncompetent cells. The soluble TNFR2 binds and inactivates the TNF-alfa molecules, and plays natural anti TNF effect. This inactive complex stays longer in circulation , and it is traceable by the used TNF-alfa ELISA kit.