# [SAT0129] INCIDENCE AND CLINICAL OUTCOME OF ANTI-DRUG ANTIBODIES IN INFLIXIMAB-TREATED PATIENTS

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**Background:** Infliximab (chimeric monoclonal antibody against TNF-α) reduces the severity of symptoms and induces remission of active disease. However, some patients may experience adverse drug reactions (ADR) or loss of efficacy during treatment and this could be related to infliximab immunogenicity and development of specific antibodies
**Objectives:** To highlight the incidence of the development of anti-infliximab antibodies in patients suffering from rheumatoid arthritis (RA), seronegative spondiloarthritis (SpA) and systemic vasculitis (Vas) as well as their clinical impact on adverse infusion-related reactions and secondary loss of response.
**Methods:** 123 consecutive patients suffering from active RA (n=33), SpA (n=66) or Vas (n=25) were treated with infliximab (IFX) as resistant to DMARDs. Patients were defined as responsive, non-responsive or reactive to treatment depending on clinical outcome and the occurrence of ADR. Sera for the detection of anti-infliximab antibodies (ATI) were collected after any ADR or at loss of efficacy, before the next infusion. Non-isotype-specific ATI were measured by a double-capture ELISA kit (Immundiagnostick AG) according to the manufacturer's instructions. Sera were considered to be positive when exceeded the cut-off value [twice the optical density (OD) of the negative control]. A $\chi^2$-test was used to analyze patients groups and a $p<0.05$ value was considered as significant.
**Results:** ATI resulted positive in 26 out of 123 enrolled patients (20.9%). Sixty-seven of them tolerated IFX and displayed a good clinical response, while 35 were non-responder, 15 resulted reactive and 6 were defined as both reactive and non-responder. Serum ATI were detected in a significantly higher proportion of reactive patients (15 out of 21, 71.4%, $p<0.0001$) and non-responders (12 out of 41, 29.2%, $p<0.001$) compared to responders (3 out of 67, 4.4%). The ATI frequency was significantly higher in reactive than in non-responder patients ($p<0.005$).
**Conclusions:** The identificatio of ATI may not reflect the full extent of immunogenicity, which is an extremely complex process affected by many other factors. However, our results show that in a consistent proportion of cases that both loss of efficacy and infliximab related ADR, were associated with the appareance of ATI with a strict timing relationship. In the future, the management of biologicals in rheumatic disease may include measurement of anti-drug antibodies to avoid inappropiate therapy and favour therapeutic optimization.
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