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THU0389 IS THERE ANY ROLE OF IMMUNOGENICITY ON THE RESPONSE TO THE ANTI-TUMOR NECROSIS FACTOR ALPHA THERAPY IN PATIENTS WITH ANKYLOSING SPONDYLITIS: THE FIRST RESULTS OF A PROSPECTIVE COHORT STUDY

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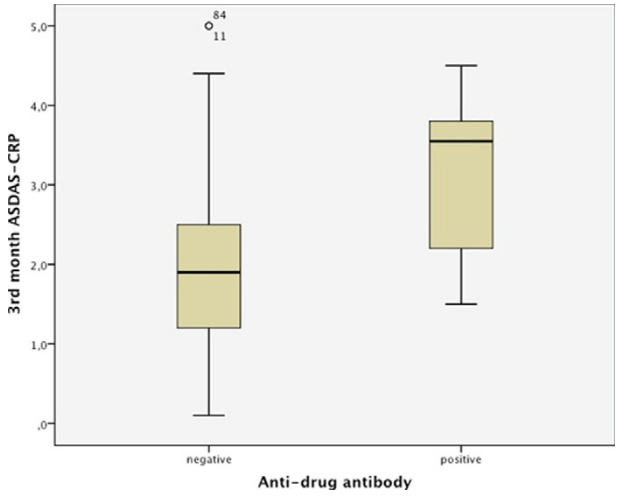
Background: Although anti-tumour necrosis factor agents (anti-TNFs) are very effective in most patients with ankylosing spondylitis (AS) significant proportion of patients quit the treatment due to non-response or adverse events. The development of anti-drug antibodies (ADAs) and low serum drug levels might have a mechanistic role in loss of efficacy of or the development of adverse events in patients treated with anti-TNFs. There is limited data regarding the immunogenicity of anti-TNFs in patients with AS.
Objectives: Therefore the aim of this study was to evaluatethe relationship between the formation of ADAs, serum through drug levels and clinical response to anti-TNFs in patients with AS.
Methods: In total 350 AS patients with a new anti-TNF agent prescription in the last two weeks period were planned to include this multi-center prospective observational cohort study. Herein we are presenting the data of first 102 patients who had >3months follow-up. Clinical data and serum samples were collected at baseline and at every three months of treatment. Serum drug levels and ADAs were measured by ELISA in one center to avoid inter-assay variability.
Results: 102 biologic naïve AS patients (75 [74%] male, mean (±SD) age; 37.2±10.7 years) who started anti-TNF agents (14 infliximab [13.7%], 27 adalimumab [26.5%], 33 etanercept [32.4%] and 28 golimumab [27.5%]) were included in the present analysis. In comparison to baseline values BASDAI, ASDAS-CRP and CRP values were significantly decreased in third months of follow-up ($P<0.001$) (table). At 12 weeks of follow-up 9 patients (9%; 2 on infliximab and 7 adalimumab) had ADAs and 20 (20%; 10 on adalimumab, 4 infliximab, 4 golimumab and 2 etanercept) had no detectable drug levels.The presence of ADAs were significantly correlated with serum drug levels ($P<0.001$). Up to 12 months of follow-up none of patients treated etanercept developed ADAs. Third month BASDAI and ASDAS-CRP values were significantly higher in patients with ADAs (BASDAI values were 5.2±1.4 vs 3.0±1.8; $P<0.001$ and ASDAS-CRP values were 3.1±1.0 vs 1.9±1.1; $P<0.001$) (figure) and patients with no detectable drug levels BASDAI values were 4.1±1.8 vs 2.9±1.8; $P=0.012$ and ASDAS-CRP values were 2.7±1.3 vs 1.9±1.0; $P=0.015$).
Conclusions: ADAs against anti-TNF agents might develop as early as 12 weeks of treatment. Our results confirm that ADA development may hinder the anticipated response to anti-TNF agents in patients with AS.

Table 1. Baseline and third month's follow-up indicators of activity and response in AS patients treated with anti-TNF agents

	Baseline	Third month
BASDAI	6.8±5.2	3.2±1.9
ASDAS-CRP	4.1±2.5	2.0±1.1
CRP	23.8±32.8	7.9±13.9



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THU0390 EFFECT OF REHABILITATION ON THE CHEST EXPANSION IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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Background: Ankylosing spondylitis (AS) is a form of chronic inflammatory arthritis that leads to pain, stiffness, progressive spinal deformity, and spinal fusion, limitation of the spine, rib cage motion and severe functional impairment. Pulmonary function is altered in AS owing mainly to the limited chest expansion.
Objectives: The purpose of this study was to investigate the effect of rehabilitation on the limited chest expansion measured by respiratory index and relationship between duration of the rehabilitation and age, disease onset, disease duration and respiratory index in patients with AS during physical treatment and rehabilitation.
Methods: The study was designed as a retrospective study that included 47 consecutive AS patients (33 male and 14 female), average age of 52.53±11.58 years that were hospitalized and treated in rehabilitation center. Average duration of the rehabilitation was 17.77±5.92 days. Respiratory index was measured for all AS patients at the beginning and at the end of rehabilitation with a centimeter ribbon. Student's t-test and Pearson's test of correlation were used for statistically analysis.
Results: Average disease duration was 13.35±8.74 years, disease onset was at 39.64±12.87 years. Respiratory index was 1.98±1.34 cm at beginning of rehabilitation and 3.01±1.75 cm at the end of rehabilitation. The difference was statistically significant (t=8.025, $p<0.001$). Pearson's test of correlation was shown statistically significant correlation between value of respiratory index at beginning and at the end of rehabilitation (r=0.872, $p<0.001$). Duration of the rehabilitation (hospital days) statistically significant correlate with value of respiratory index at beginning rehabilitation (r=-0.289, $p<0.05$), but not with age, disease duration and disease onset ($p>0.05$).
Conclusions: The physical therapy and rehabilitation has led to the improvement the respiratory index in patients with AS, which confirms its effectiveness. The value of respiratory index at beginning rehabilitation is associated with duration of the rehabilitation. Significant limitation in respiratory index indicates longer hospital stay. These results could be having importance in planning of rehabilitation of patients with AS.

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THU0391 FEMALE GENDER IS ASSOCIATED WITH A POORER RESPONSE TO TNF INHIBITORS IN ANKYLOSING SPONDYLITIS

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Background: Limited data are available on the influence of gender and lifestyle factors, such as smoking, alcohol consumption and Body Mass Index (BMI) on disease activity and response to TNF inhibitors (TNFi) in ankylosing spondylitis (AS).
Objectives: This study aimed to determine whether these factors influence age at diagnosis, disease activity and response to TNFi.
Methods: In a prospective study, clinical data (age, gender, C-reactive protein, Ankylosing Spondylitis Disease Activity Score (ASDAS), Bath Ankylosing Spondylitis Disease Activity Score (BASDAI), Bath Ankylosing Spondylitis Functional Index (BASFI) and Bath Ankylosing Spondylitis Metrology Index (BASMI), smoking, alcohol consumption and BMI) were collected in AS patients from a observational cohort, who started or switched treatment with TNFi. Data were collected at baseline and after 6, 12 and 24 months. Independent T-tests and linear regression analyses were performed to assess the influence of gender and lifestyle factors on age at diagnosis and disease activity.