**Spondyloarthritis - treatment**

**OP0137**

**TUMOR NECROSIS FACTOR INHIBITORS SHOW A DELAYED EFFECT ON RADIOGRAPHIC SACROLIITIS PROGRESSION IN PATIENTS WITH EARLY AXIAL SPONDYLOARTHRITIS: 10-YEAR RESULTS FROM THE GERMAN SPONDYLOARTHRITIS INCEPTION COHORT**


**Background:** Observational cohort studies have shown that there is low, but still detectable progression level in radiographic sacroiliitis, which might also have an impact on the function in patients with axial spondyloarthritis (axSpA). Recent data showed that tumor necrosis factor inhibitors (TNFi) might retard spinal progression when initiated earlier and taken longer in patients with axSpA. However, the question of whether they also have such an effect on radiographic progression in sacroiliac joints (SIJJs) is still unclear.

**Objectives:** To investigate the longitudinal association between radiographic sacroiliitis progression and treatment with TNFi in patients with early axial SpA in a long-term inception cohort.

**Methods:** Based on the availability of at least two sets of SIJ radiographs, 301 patients (166 with nr-axSpA, symptom duration ≤5 years and 135 with axSpA, symptom duration ≤10 years) from the German Spondyloarthritis Inception Cohort (GESPIC) were included in this analysis. These patients contributed with a total of 737 2-year radiographic intervals. Two trained and calibrated central readers scored the radiographs according to the modified New York criteria, both scored an image as definite radiographic sacroiliitis, the patient was classified as having axSpA. The sacroiliac sum score was calculated as a mean of both readers. The association between previous as well as current TNFi use and radiographic sacroiliitis progression, which was defined as the change in the sacroiliitis sum score over 2 years, was analysed using longitudinal generalized estimating equations (GEE) analysis.

**Results:** At baseline, 9 (3.0%) patients were treated with a TNFi, and 87 (28.9%) patients received at least one TNFi during the entire follow-up period. A total of 141 of the radiographic intervals were covered with TNFi of any duration, while 109 of them were covered with a TNFi of at least 12 months. While receiving ≥12 months TNFi in the previous interval was associated with a lower progression of the sacroiliitis sum score compared to not receiving TNFi in the previous interval, this was not the case in patients who received TNFi ≤12 months in the current 2-year interval (Figure 1). The significant association between TNF ≤12 months in the previous interval and progression in the sacroiliitis sum score were confirmed in the adjusted multivariable longitudinal GEE analysis. In addition, a similar trend for the beneficial effects was observed in different models, which included other treatment definitions with TNFi in the previous 2-year interval (Table).

**Conclusion:** Treatment with TNFi was associated with retardation of radiographic sacroiliitis progression in patients with axSpA. This effect becomes evident between 2 and 4 years after treatment initiation.

**Table 1. The longitudinal GEE analysis of the association between progression in the sacroiliitis sum score and TNFi use.**

<table>
<thead>
<tr>
<th>TNFi treatment definition</th>
<th>Reference</th>
<th>β* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TNFi for ≥ 12 months in the previous 2-year interval</td>
<td>No TNFi for ≥ 12 months in the current 2-year interval</td>
<td>-0.09 (-0.18, -0.003)</td>
</tr>
<tr>
<td>Any TNFi use in the previous 2-year interval</td>
<td>No TNFi use in the previous 2-year interval</td>
<td>-0.09 (-0.17, 0.002)</td>
</tr>
<tr>
<td>TNFi for ≥ 12 months in the current 2-year interval</td>
<td>No TNFi for ≥ 12 months in the current 2-year interval</td>
<td>-0.03 (-0.11, 0.06)</td>
</tr>
<tr>
<td>Any TNFi use in the current 2-year interval</td>
<td>No TNFi use in the current 2-year interval</td>
<td>0.05 (-0.05, 0.14)</td>
</tr>
<tr>
<td>TNFi for ≥ 12 months in the previous and ≥ 12 months in the current 2-year interval</td>
<td>No TNFi for ≥ 12 months in the previous and ≥ 12 months in the current 2-year interval</td>
<td>-0.08 (-0.17, 0.004)</td>
</tr>
</tbody>
</table>

* Parameter estimates from the multivariable models adjusted for sex, age at the beginning of the current 2-year interval, HLA-B27 positivity, symptom duration at the beginning of the current 2-year interval, time-averaged elevated CRP, time-averaged BASDAI, and time-averaged NSAID intake score in the current 2-year interval.

**References:**

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**OP0138**

**FEASIBILITY OF PROGRESSIVE ANTI-TNF TAPERING IN AXIAL SPONDYLOARTHRITIS PATIENTS IN LOW DISEASE ACTIVITY: RESULTS FROM THE MULTICENTER NON-INFERIORITY PROSPECTIVE RANDOMIZED CONTROLLED TRIAL SPACING**


**Abstract:** Tumor necrosis factor inhibitors (TNFis) have demonstrated an impact on disease progression and are currently recommended in patients with axial spondyloarthritis (axSpA) in clinical practice guidelines. However, no randomized controlled trials have compared TNFi tapering versus continuation in patients with low disease activity (DAS 28 ≤5.1). The SPACING trial is a multicenter non-inferiority prospective randomized controlled trial comparing TNFi tapering versus continuation in patients with low DAS 28 activity. The primary endpoint is the proportion of patients with DAS 28 >5.1 at 52 weeks. Secondary endpoints include disease activity, physical function and quality of life, as well as patient-reported outcomes. The feasibility of 12-months treatment with TNFi tapering versus continuation was assessed in the core 12 months of the trial, which was performed in 16 sites. This abstract reports the feasibility of TNFi tapering and continuation in patients with low disease activity (DAS 28 ≤5.1) in the core 12 months of the trial.
Background: Anti-TNF treatments (TNFi) have shown high efficacy in axial spondyloarthritis (axSpA) with a similar response rate to non-steroidal anti-inflammatory drugs (NSAIDs). However, their effect remains predominantly symptomatic, and their long-term tolerance as well as significant societal cost justify investigation about a potential reduction in drug dosage, or—most feasible and comfortable for the patient—increase in intervals between doses.

Objectives: To assess if a progressive and monitored reduction of administered TNFi by increase of intervals between injections results in a comparable proportion of patients remaining in low disease activity despite 12 months (m) in low disease activity state despite a decreased cumulative treatment dose received.

Methods: Non-inferiority randomized controlled trial, having included adult patients with axSpA fulfilling ASAS criteria, already treated by anti-TNF, and in stable low disease activity for at least 6 m (current and at least 6 m old BASDAI<4/10), who were randomized into 2 groups: either keeping on their usual treatment with stable doses ("unchanged" group), or progressive spacing of injections of their treatment ("spacing" group). Follow-up was done every 3 m during 12 m, with regular monitoring of disease activity and, in patients from the "spacing" group—modifying the rhythm of the injections according to disease activity and predefined standardized protocol (either increase or decrease (step-back) of intervals between injections). The primary endpoint was the difference of proportions of patients having a low disease activity state (BASDAI≤4/10) after 12 m of follow-up between the 2 groups. It was estimated on the ITT population after multiple imputation. The 90% confidence interval associated was calculated using the Farrington-Manning method and the lower bound was compared to the non-inferiority margin of -20%. With an expected proportion of 85% patients remaining in low disease activity in the unchanged group, and α and β risks at respectively 5% and 90%, the required number of patients was calculated at 358, and thus 398 had to be included with a 10% expected proportion of patients with unavailable data.

Results: 398 patients were randomized in 23 French rheumatology units (197 and 201 in the spacing and unchanged groups respectively), and 389 included in analyses (9 did not receive the allocated treatment). Mean (SD) age was 44.3 (12.4) years, 71.2% were males. Mean (SD) BASDAI at inclusion was 1.45 (1.02). TNFi used were etanercept (35.7%), adalimumab (33.9%), infliximab (20.6%), golimumab (9.3%) and certolizumab (0.5%). For the 373 patients with complete follow-up (93.7%), 162/184 (88.0%) had a low disease activity in the "spacing" group vs. 173/188 (91.5%) in the "unchanged" group at 12 m. After multiple imputation for the 16 patients with missing data, the difference of proportion between the two groups was estimated to -4.18% [CI90%: -10.0; 1.7], thus confirming the non-inferiority of the "spacing" procedure. In the "spacing" group at 12 m, 134/162 (83.1%) patients in low disease activity were still receiving a lowered TNFi dose.

Conclusion: In axSpA patients with BASDAI≤4 for at least 6 months under TNFi, it is possible to increase intervals between injections while maintaining a low disease activity by adjusting treatment with quarterly monitoring of SpA activity.

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