SATURDAY, 06 JUNE 2020
Spondyloarthritis - clinical aspects (other than treatment)

**SAT0364**

**DATA TO BE COLLECTED FOR AN OPTIMAL MANAGEMENT OF AXIAL Spondyloarthritis IN DAILY PRACTICE: PROPOSAL FROM AN EVIDENCE BASED AND CONSENSUAL APPROACHES**

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**Background:** Standardization of clinical practice has been proven to be effective in management of chronic diseases. This is particularly true at the time where the concept of treat to target is becoming more and more important in the field of axial spondyloarthritis (axSpA).

**Objectives:** To propose a list of variables to be collected at the time of the diagnosis and over the follow-up of patients with axial spondyloarthritis (axSpA) for an optimal management in daily practice.

**Methods:** The process comprised (1) the evaluation of the interest of 51 variables proposed for the assessment of axSpA via a systematic literature research, (2) a consensus process involving 78 hospital-based or office-based rheumatologists, considering the collection of the variable in a 4 grade scale from "potentially useful" to "mandatory," (3) a consensus on optimal timeline for periodic assessment of the selected variables on a 5 grade scale from "at each visit" to "never to be re-collected."

**Results:** The systematic literature research retrieved a total of 14,133 abstracts, of which 213 were included in the final qualitative synthesis. Concerning the data to be collected at the time of the diagnosis and during follow-up, we proposed to differentiate the results based on a) the way of collection of the variables (e.g. questionnaires by the patient, interview by the physician, physical examination, investigations) b) the usefulness these variables in daily practice based on the opinion of the rheumatologists. The optimal timeline between 2 evaluations of the variable based on the opinion of the rheumatologists.

**Conclusion:** Using an evidence-based and an expert consensus approaches, this initiative defined a core set of variables to be collected and reported at the time of the diagnosis and during follow-up of patients with axSpA in daily practice.

**SAT0365**

**EFFETS OF ANTI-TNF-THERAPY ON OSTEOBLASTIC ACTIVITY IN ANKYLOSING Spondylitis – RESULTS FROM A PROSPECTIVE STUDY USING PET-MRI OF SIJ AND SPINE**

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**Background:** The clinical efficacy of tumor necrosis factor inhibitors (TNFi) in patients with axial spondyloarthritis (axSpA) has been well established but its effect on new bone formation is still unclear. Positron emission tomography (PET) using bone-seeking [18F]Fluoride ([18F]F) in combination with magnetic resonance imaging ([18F]F-MRI) has been shown to depict not only bone marrow edema (BME) but also shows the quantity of tracer uptake in the late phase of perfusion suggestive of remodeling and osteoblastic activity, not only in radiographic axSpA (r-axSpA) (2).

**Objectives:** Assess the effect of TNFi on bone remodeling processes in the axial skeleton of r-axSpA patients using [18F]F/MRI prior (baseline, BL) and 4 months after (follow-up, FU) treatment.
Methods: Patients (11 male, 5 female, mean age 38.6±12.0 years) with clinically active ρ-axSpA (BASDAI>4, failure of NSAIDs, no previous biologics) prospectively underwent 3-Tesla and [18F]F PET/MRI (40 minutes after injection of a mean activity of 127 MBq [18F]F). Images of the SIJ (n=11 patients) and the whole spine (n=10 patients) were performed at BL and FU. Three readers (1 for [18F]FF/MRI and 2 for conventional MRI) evaluated all images independently and blinded to timepoint allocation. Only lesions on which all readers agreed on were used for further analyses. Inflammation (bone marrow edema, BME), structural lesions (fat deposition FD), sclerosis, erosions and ankylosis and focal [18F]F uptake were recorded on the level of SIJ (SIJ-Q) and vertebral quadrants (V-Q), with each SIJ or vertebral body consisting of 4 V-Q (superior and inferior sacral and iliac for the SIJ, and superior and inferior, anterior and posterior for the vertebral bodies).

Results: A total of 128 SIJ-Q and 920 V-Qs were analyzed at both BL and FU. In the SIJs, 75 (56.6%), 120 (93.8%), 69 (53.9%), 99 (77.3%) and 16 (12.5%) SIJ-Q showed BME, FD, sclerosis, erosions, ankylosis, while 111 (86.7%) SIJ-Q showed focal [18F]F-uptake at BL. Association with increased [18F]F-uptake was found most frequently in SIJ-Q with BME (70/75 SIJ-Q, 93.3%), sclerosis (65/69 SIJ-Q, 94.2%) and FD (105/120 SIJ-Q, 87.5%). At FU, 37 SIJ-Q still showed BME (improvement by 50.7%), while almost no changes were observed in chronic lesions. In comparison, improvement of focal [18F]F-uptake was found in all lesion combinations, with improvement of focal [18F]F-lesions associated with BME by 62.9%, with sclerosis by 33.6% and with FD by 22.9% of SIJ-Q.

Conclusion: In this first prospective study on whole spine and SIJ [18F]F/MRI in patients with ρ-axSpA, a significant decrease of osteoblastic activity was observed over 4 months of continuous anti-TNF treatment. The effect of treatment was observed not only at sites with inflammatory lesions (BME) but also at sites with pre-existing chronic structural lesions, while some osteoblastic activity remained visible at 4 months. This data support a short-term effect of anti-TNF treatment on osteoblastic activity, while the long-term effects need to be further studied.

References:

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