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THU0387

THE IMPACT OF TREATMENT WITH A BIOLOGICAL DISEASE-MODIFYING ANTIRHEUMATIC DRUG ON SPINAL MOBILITY AND ITS CORRELATION WITH DISEASE ACTIVITY IN PATIENTS WITH SPONDYLOARTHRITIS

S. Garcia¹, B. M. Fernandes¹, S. Ganhão¹, M. Rato¹, F. Pinheiro¹, G. Terroso¹, M. Bernardes¹, L. Costa¹. ¹Centro Hospitalar Universitário São João, Porto, Portugal

Background: Bath Ankylosing Spondylitis Metrology Index (BASMI) is an instrument developed to assess spinal and hip mobility. The relationship between BASMI and disease activity is not always linear and, above all, the data that correlate the variation in BASMI values (Δ BASMI) with the variation in disease activity scores and response to treatment are not unanimous.

Objectives: Explore the effect of biological disease-modifying antirheumatic drugs (bDMARD) in spine mobility (as assessed by BASMI) and the associations between Δ BASMI and disease activity.

Methods: Observational retrospective study was performed including consecutive patients with the diagnosis of Spondyloarthritis (SpA) followed at our Rheumatology Department. Demographic, clinical, including Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), BASMI, Ankylosing Spondylitis Disease Activity Score with erythrocyte sedimentation rate and C-reactive protein (ASDAS ESR and ASDAS CRP, respectively), and laboratory data were collected from our national database at baseline, 6 and 12 months after initiation of a bDMARD. The variation of each parameter was calculated as the difference between the levels recorded at 6 and 12 months and the reference level and presented in the form of Δ . Statistical analysis was performed using SPSS 23.0. Correlations between variables were studied using Spearman correlation analysis and comparison between groups was performed using Wilcoxon and Kruskal-Wallis tests.

Results: Median age of patients (n=178) was 42 years old [34, 50], 92 (51.7%) were males with a median disease duration of 4.9 [1.0, 10.3] years. One hundred and twenty-six patients (70.8%) had Ankylosing Spondylitis, 15 (8.4%) Inflammatory Bowel Disease related SpA and 30 (16.9%) Undifferentiated SpA. Fifty four (30.3%) patients were taking glucocorticoids and regarding conventional synthetic disease-modifying anti-rheumatic drugs use before starting the bDMARD: Sulfasalazine (52, 29.2%), Methotrexate (31, 17.4%) and Leflunomide (3, 1.7%). Regarding the bDMARD, only one patient started Secukinumab and the others a Tumor necrosis factor inhibitor (TNFi) [Golimumab (n= 64, 36.0%), Adalimumab (n=36, 20.2%), Infliximab (n= 35, 19.7%), Etanercept (n= 32, 18.0%) and Certolizumab (n= 10, 5.6%)].

The majority of the patients had very high disease activity at baseline (86.0%, n=153); median ESR was 29mm/h [15, 47], median CRP was 13.7mg/L, [6.60, 27.3], median ASDAS CRP was 7.6 [6.0, 9.0] and median BASMI was 8.0 [7.0, 9.0]. After 6 and 12 months of treatment, mean ESR, CRP, ASDAS-CRP and BASMI were significantly lower than mean baseline values (p<0.01), with median ASDAS-CRP at 12 months of 2.20 [1.50, 2.90] and median Δ BASMI of -4.10 [-5.50, -2.40].

BASMI at baseline showed a moderate correlation with ASDAS CRP (r=0.468, p<0.01), BASDAI (r=0.496, p<0.01) and patient visual analogic scale (VAS) (r=0.563, p<0.01). No correlations were found between BASMI and CRP, ESR, physician VAS or the consumption of nonsteroidal anti inflammatory drugs at baseline.

A significant positive correlation was found between Δ BASMI and Δ ASDAS at 6 months and 12 months (r=0.243, p=0.02; r=0.286; p<0.01) and also between Δ BASMI and Δ BASDAI at 6 and 12 months (r=0.183, p=0.04; r=0.291, p=0.02). No correlations were found between Δ BASMI and Δ CRP or Δ ESR. No differences were observed in Δ BASMI, regarding the bDMARD of choice.

Conclusion: In our cohort, starting a bDMARD improved BASMI scores through a 12 month period and there was a correlation between the variation of BASMI and disease activity improvement. As such, a TNFi may retard the

progression of spinal mobility dysfunction in SpA patients. We cannot draw conclusions regarding differences between TNFi and interleukin 17 inhibitors and further work is needed to clarify possible differences in their impact in improving spine mobility.

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THU0388

UVEITIS IN AXIAL SPONDYLOARTHRITIS: FREQUENCY AND RELATIONSHIP TO BIOLOGICAL THERAPY. SINGLE CENTER UNIVERSITY STUDY OF 255 PATIENTS

I. González-Mazón¹, L. Sanchez-Bilbao¹, J. Rueda-Gotor¹, D. Martinez-Lopez¹, M. A. González-Gay¹, R. Blanco¹. ¹H. U. Marques de Valdecilla, Santander, Spain

Background: Uveitis is one of the most frequent extra articular manifestation of spondyloarthritis (SpA). Biological therapy, especially monoclonal TNF inhibitors, may be useful to prevent and to treat uveitis. However, other biologics had been related to paradoxical uveitis.

Objectives: Our aim was to assess a) the epidemiological and clinical features of uveitis associated to SpA and b) its relationship with biological treatment used in SpA.

Methods: An observational study of patients who developed uveitis form a cohort of 255 consecutive unselected patients with axial SpA (axSpA) classified according to the ASAS criteria. They were divided into: a) ankylosing spondylitis (AS) according to New York modified criteria (n= 193) b) non-radiographic axSpA (nr-axSpA) (n= 62). All these patients were followed in a single reference University Hospital.

Results: We studied 255 patients with axSpA (151 men/104 women); mean age 37.8±10.6 years. In 36 (31 in AS; 5 in nr-axSpA) (14.2%) patients at least one episode of uveitis was observed after a follow-up 12.4±4.5 years. The mean age at onset of uveitis was 45.7±14.2 years. The diagnosis of uveitis preceded SpA diagnosis in 5 patients, but most of them occurred after a median of 6 [2-15] years of follow-up. Pattern of uveitis was anterior and acute in all cases, and unilateral in 83%. Median of anterior chamber cells was 1 [1-2] cells. Comparison of baseline characteristics and clinical features between patients who developed uveitis and those who did not is shown in table. Almost all patients who developed uveitis were HLAB27 positive. In these patients a lower frequency of enthesitis and inflammatory bowel disease was observed.

Table.

	Uveitis N= 36	Non uveitis N= 219	p
Baseline general features			
Age, years (mean±SD)	45.7 ± 14.2	44.7 ± 12.1	0.49
Sex, n (m/w) (%)	21/15 (58.3/41.7)	130/89 (59.4/40.6)	0.91
HLAB27, positive n (%)	35 (97.2)	130 (59.4)	0.00
Anti-TNF, n			
Adalimumab	3	53	0.06
Certolizumab	1	4	0.79
Golimumab	1	11	0.87
Infliximab	1	29	0.13
Etanercept	0	12	0.31
Disease Characteristics			
Follow-up of AxSpA, year (mean±SD)	13.64 ± 7.6	12.16 ± 9.73	0.33
AS, n (%)	31 (86.1)	162 (74.0)	0.12
nr-AxSp, n (%)	5 (13.9)	57 (26.0)	0.12
Peripheral arthritis, n (%)	9 (25.0)	67 (30.6)	0.49
Hip affection, n (%)	3 (8.3)	15 (6.8)	0.97
Enthesitis, n (%)	9 (25.0)	81 (37.0)	0.16
Dactylitis, n (%)	2 (5.5)	14 (6.4)	0.85
Psoriasis, n (%)	4 (11.1)	24 (11.0)	0.79
Inflammatory bowel disease, n (%)	1 (2.8)	15 (6.8)	0.57
Family history, n (%)	12 (33.3)	58 (26.5)	0.39

6 patients with uveitis received anti-TNF therapy and suffered from 7 episodes of uveitis after 5.6±4 years of treatment, meanwhile only 1 out of the 3 patients who were treated with anti IL-17 did a single episode of uveitis after 4.2±1.9 of follow-up. Patients treated with secukinumab developed 2.72 episodes of uveitis/100 patients/year, meanwhile those who received monoclonal anti TNF presented 2.53 episodes/100 patients / year.

Conclusion: The most frequent clinical pattern of uveitis was acute unilateral anterior. Almost all of them were HLA B27 positive. No differences were found in cumulative incidence between secukinumab and monoclonal anti-TNF.

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THU0389

OBESITY IS A STRONG PREDICTOR OF WORSE CLINICAL OUTCOMES AND TREATMENT RESPONSES TO BIOLOGICS IN PATIENTS WITH ANKYLOSING SPONDYLITIS

L. Hu¹, X. Ji¹, F. Huang¹. ¹Chinese PLA General Hospital, Beijing, China

Background: Obesity population are rising rapidly and have become a major health issue. Studies have shown that obesity is a low-grade inflammatory status characterized by increase in proinflammatory cytokines.

Objectives: To examine the impact of overweight or obesity on disease activity and treatment responses to biologics in patients with ankylosing spondylitis (AS) in a real-world setting.

Methods: Body mass index (BMI) is available in 1013 patients from the Chinese Ankylosing Spondylitis Imaging Cohort (CASPIC). Differences in clinical outcomes (such as BASDAI, ASDAS, BASFI, and ASAS HI) and treatment responses to biologics (Δ BASDAI and Δ ASDAS) over 3, 6, 9, and 12 months are assessed between BMI categories (normal weight BMI <24 kg/m²; overweight BMI=24-28 kg/m²; obesity BMI $\geq$ 28 kg/m²) using Kruskal-Wallis test. The association between BMI and clinical characteristics and treatment responses to biologics was determined, and multivariate median regression analyses were conducted to adjust for confounders (such as age, gender, smoke, and HLA-B27).

Results: Among 1013 patients with AS, overweight accounts for 33%, while obesity for 12.4%. There were significant differences between patients who were obese or overweight and those with a normal weight regarding clinical outcomes (BASDAI: 2.90/2.56 vs 2.21; ASDAS-CRP: 2.20/1.99 vs 1.81; BASFI:

2.13/1.69 vs 1.38; ASAS HI: 6.87/5.29 vs 5.12 and BASMI: 2.35/1.76 vs 1.62; all $P < 0.05$). After adjusting for age, gender, smoke, and HLA-B27, obesity remained associated with higher disease activity (BASDAI: $\beta = 0.55$, $P = 0.005$; ASDAS-CRP: $\beta = 0.40$, $P < 0.001$), poorer functional capacity (BASFI: $\beta = 0.58$, $P = 0.001$), worse health index (ASAS HI: $\beta = 1.92$, $P < 0.001$) and metrology index (BASMI: $\beta = 0.71$, $P = 0.013$). For TNFi users, BMI was found to be negatively correlated with changes in disease activity (Δ BASDAI and Δ ASDAS) in the multivariate regression model (all $P < 0.05$), and overweight and obese patients showed an unsatisfactory reduction in disease activity during 3-month, 6-month, 9-month, and 12-month follow-up period, compared to normal weight patients (all $P < 0.05$).

Conclusion: Overweight or obesity impacts greatly on clinical outcomes and treatment responses to biologics in patients with ankylosing spondylitis, which argues strongly for obesity management to become central to prevention and treatment strategies in patients with AS.

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THU0390

THE INFLUENCE OF OBESITY ON RETENTION AND TREATMENT RESPONSE OF SECUKINUMAB IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS: REAL LIFE DATA FROM THE TURKBIO REGISTRY

A. Karakas¹, S. Gulle¹, T. Yüce Inel¹, S. Uslu², A. Köken Avşar¹, S. B. Kocaer¹, Y. Erez¹, G. Can¹, M. Birlik¹, A. Yazici³, A. Tufan⁴, E. Dalkılıç⁵, S. S. Koca⁶, N. Akkoc⁷, S. Akar⁸, İ. Sarı¹, F. Onen¹ on behalf of Turkbio Registry Group.

¹Dokuz Eylül University Faculty of Medicine, Rheumatology, İzmir, Turkey; ²Bor Physical Medicine and Rehabilitation, Training and Research Hospital, Rheumatology, Niğde, Turkey; ³Kocaeli University, Rheumatology, Kocaeli, Turkey; ⁴Gazi University Faculty of Medicine, Rheumatology, Ankara, Turkey; ⁵Uludağ University Medical Faculty Hospital, Rheumatology, Bursa, Turkey; ⁶Firat University Faculty of Medicine, Rheumatology, Elazığ, Turkey; ⁷Hafsa Sultan Celal Bayar University Hospital, Rheumatology, Manisa, Turkey; ⁸İzmir Katip Çelebi University Faculty of Medicine, İzmir, Turkey

Background: Axial spondyloarthritis (axSpA) is a chronic, inflammatory disease that primarily affects the axial skeleton. Secukinumab is a human monoclonal antibody that binds to the protein interleukin (IL)-17A. Although some studies showed that obesity had a negative effect on the efficacy of tumor necrosis factor

Table 1

	(BMI <25) (n=33)	(BMI 25-30) (n=63)	(BMI $\geq$ 30) (n=39)	P	All patients (n=185)
Age (years)	40.2 $\pm$ 11.3	45.7 $\pm$ 11.7	50.0 $\pm$ 10.6	0.002 *	45.2 $\pm$ 11
Male Gender n (%)	25 (75.8)	34 (54.0)	16 (41.1)	0.012 **	104 (56.2)
HLA-B27 (+) n (%)	14 (73.6)	37 (84.0)	11 (44.0)	0.013 **	76 (64.3)
Prior Naive/1 $\geq$ 2 bDMARD n (%)	12 (36.3)/9 (27.3)/12 (36.3)	17 (26.9)/13 (20.6)/33 (52.4)	10 (25.6)/14 (35.8)/27 (69.2)	0.302	56 (30.3)/ 49 (26.5)/ 80 (43.2)
ASAS20 response¶	13 (61.9)/11 (57.9)/4 (57.1)	19 (48.7)/16 (59.3)/8 (42.1)	11 (40.7)/7 (29.1)/3 (50.0)	0.345/0.073/0.886	59 (518)/47 (49.5)/20 (42.6)
ASAS40 response¶	9 (42.9)/7 (36.8)/3 (42.9)	15 (39.5)/10 (37)/1 (5.3)	6 (24)/5 (20.8)/3 (50.0)	0.334/0.386/0.012	40 (35.0)/29 (30.5)/11 (23.4)
BASDAI50 response ¶	10 (47.6)/9 (47.4)/4 (57.1)	15 (39.5)/11 (40.5)/3 (15.8)	9 (34.6)/5 (21.7)/3 (50.0)	0.634/0.192/0.077	48 (42.1)/37 (38.9)/16 (34.0)
ASDAS-CII ¶	3 (14.3)/5 (26.3)/1 (14.3)	6 (17.6)/8 (30.8)/5 (27.8)	6 (23.1)/5 (21.7)/2 (33.3)	0.237/0.162/0.531	23 (21.4)/22 (23.6)/11 (23.9)
ASDAS-MI ¶	5 (23.8)/3 (15.8)/0 (0)	8 (23.5)/6 (23.1)/2 (11.1)	1 (3.8)/1 (4.3)/1 (16.7)	0.237/0.162/0.531	18 (16.8)/18 (19.3)/8 (17.4)

§: Mean $\pm$ SD. ¶: at 3/6/12 Months, n (%), *One-way ANOVA test, ** Pearson Chi-Square Test

Figure 1. Changes of disease activity for TNFi users during 3-, 6-, 9- and 12-month follow-up according to BMI categories. a: vs. normal weight, $P < 0.05$ in 3 months; b: vs. normal weight, $P < 0.05$ in 6 months; c: vs. normal weight, $P < 0.05$ in 9 months; d: vs. normal weight, $P < 0.05$ in 12 months.