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THU0389

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

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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.

References:

[1] Maachi M, Pieroni L, Bruckert E, et al. Systemic low-grade inflammation is related to both circulating and adipose tissue TNF α , leptin and IL-6 levels in obese women. *Int J Obes Relat Metab Disord* 2004;28:993-7.

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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

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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

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.

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 $\ddagger$	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 $\ddagger$	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 $\ddagger$	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 $\ddagger$	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 $\ddagger$	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)

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