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SAT0128

ARE THERE ANY DIFFERENCES BETWEEN ADULT-ONSET RHEUMATOID ARTHRITIS PATIENTS AND LATE-ONSET RHEUMATOID ARTHRITIS PATIENTS IN TERMS OF USE OF BIOLOGICAL DRUGS AND DRUG RETENTION RATE? RESULTS FROM THE TURKBIO REGISTRY

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Background: Rheumatoid arthritis (RA) is one of the most frequent rheumatic disease, and the age of onset is between 30-50 years old. Late-onset RA (LORA) is usually defined as RA with onset at age 60 or over.

Objectives: To investigate the choice, effectiveness and the retention rate of biological drugs in LORA patients.

Methods: TURKBIO registry is the Turkish version of Danish DANBIO rheumatological database which has been established in 2011. We studied RA patients in TURKBIO registry cohort between the dates of 2011 and 2020. All patients fulfilled the American College of Rheumatology criteria for RA and were classified into two groups based on their age at symptom onset: adult-onset RA (>18- <60 years; AORA) and LORA (≥60 years). In both groups, demographical, clinical and laboratory variables; disease activity, current and previous treatment were compared.

Results: From 10 centers, 2111 RA patients recruited, and 8.8% of them was LORA patients. In LORA, the frequency of female was less than AORA. While, there was no difference between LORA and AORA in terms of erosion presence and RF positivity, antiCCP positivity was more frequent in LORA group. The use of antiTNF was lower, and the use of rituximab was more frequent in LORA. At 12 months after bDMARDs therapy, serum CRP and ESR levels and DAS28-CRP showed higher changes compared to baseline values in LORA. Although the mortality rate was higher in LORA, the adverse reactions were reported to be higher in AORA, and most common adverse reaction was infections in both groups (Table). The longest survival was observed in infliximab and rituximab (median 22 and 20 months) in LORA, in rituximab and golimumab (median 16 and 12 months) in AORA.

Table. Comparison of demographic, laboratory findings and biological treatment

(median;25-75) n(%)	AORA (<60) (n:1925)	LORA (≥60) (n:186)	p
Age (year)	54 (43-61)	71 (68-74)	<0.001
Disease duration (year)	11.4 (7-18)	6 (4-9)	<0.001
Gender (Female)	1562 (81)	124 (67)	<0.001
Anti-CCP positivity	747 (62)	65 (72)	0.044
RF positivity	721 (61)	63 (70)	0.085
Erosion presence	486 (56)	41 (62)	0.955
Drug survival (months)	18 (6-44)	18 (4-31)	0.046
Concomitant csDMARDs			
MTX	629 (34)	39 (22)	0.001
SZP	146 (8)	13 (7)	0.781
LEF	501 (27)	35 (20)	0.032
bDMARDs			
AntiTNF	1068 (56)	73 (39)	<0.001
TCZ	304 (16)	20 (11)	0.069
TOFA	294 (15)	27 (15)	0.784
RTX	439 (23)	57 (31)	0.016
ABA	298 (16)	34 (18)	0.317
Response ΔESH (12 months) ΔCRP	-6 (-21-4)	-18 (-36--3)	0.016
ΔDAS28-CRP	-2 (-12-0.6)	-9.3 (-28--0.1)	0.014
ΔHAQ	-1.3 (-3--0.1)	-2.2 (-3--1)	0.023
Adverse effects	-0.3 (-0.8-0)	-0.4 (-0.8--0.1)	0.114
Malignancy	440 (23)	32 (17)	0.077
Infection	9 (0.5)	3 (1.6)	0.082
Allergy	192 (10)	10 (5)	0.042
Dermatitis	63 (3)	4 (2)	0.404
Death	62 (3)	1 (0.5)	0.040
Other	18 (0.9)	7 (4)	0.004
	136 (7)	11 (6)	0.556

Conclusion: The frequency of LORA who uses bDMARDs was 8.8% in our database. In the elderly patient population, there are some reservations about the use of biological drugs in general due to several co-morbidities and concomitant drug used. Although data on this issue are limited, appropriate biological use can be effective and reliable in required patients.

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SAT0129

ROLE OF SHARED EPITOPE ON THE EFFECTIVENESS OF TNFi TREATMENT FOR PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) has been shown a strong genetic association with particular *HLA-DRB1* alleles containing shared epitope (SE). However, whether SE is clinically useful in treatment choices is insufficiently investigated¹ and previous studies have presented mixed findings in the role of SE in the response of TNFi therapies^{2,3}.

Objectives: To assess the role of SE in response to TNFi treatment in real-world RA patients (pts).

Methods: Pts enrolled in a large RA registry, Brigham and Women's Hospital RA Sequential Study, with known SE and received TNFi therapies were included for the analysis. TNFi pts were identified by the first-time use of the drugs between March 2003 to June 2018. For this analysis, all pts were followed up to 1 year. Summary statistics are reported for demographics, serostatus and disease activity (DA) at baseline and follow-up, stratified by SE status. Given the strong association of SE and anti-citrullinated protein antibody (ACPA), the analysis was further stratified by ACPA status. The effect of SE on change in DA was assessed using linear regression model with age, gender, RA disease duration, baseline DA, smoking status, SE, ACPA and ACPA-SE interaction as covariates.

Results: Of the 484 TNFi pts included in the study, 68.8% were SE+. SE+ pts (vs SE-) were more likely to be rheumatoid factor positive, have erosive

disease and a higher disease duration, irrespective of ACPA status. No difference in the change of DA was observed by SE. In SE- pts, ACPA+ pts had a greater reduction of DA than ACPA- pts (Table 1). After accounting for baseline differences, there was no significant effect of SE status on the mean change from baseline in any of the 3 DA measures.(Figure 1) The change in DA was not associated with ACPA but was significantly affected by disease duration and baseline DA.

Table 1. Disease Activity in TNFi Patients, Stratified by SE and ACPA Status

Parameter	SE+ (1 & 2 alleles, n=333)			SE- (n=151)		
	ACPA+ (n=264)	ACPA- (n=69)	Overall (n=333)	ACPA+ (n=90)	ACPA- (n=61)	Overall (n=151)
Baseline, Mean (SD)						
DAS28 CRP	3.94 (1.69)	3.57 (1.61)	3.86 (1.67)	3.85 (1.49)	3.45 (1.65)	3.69 (1.57)
CDAI	23.06 (18.13)	18.95 (15.96)	22.25 (17.78)	21.91 (15.96)	17.72 (17.06)	20.26 (16.48)
SDAI	24.08 (18.82)	19.96 (16.59)	22.27 (18.45)	22.58 (16.34)	18.55 (17.87)	20.99 (17.01)
Follow-up, Mean (SD)						
DAS28 CRP	3.42 (1.55)	2.69 (1.32)	3.27 (1.53)	3.19 (1.43)	3.11 (1.53)	3.16 (1.47)
CDAI	17.61 (15.53)	12.11 (12.65)	16.51 (15.14)	15.15 (13.35)	14.94 (14.73)	15.07 (13.84)
SDAI	18.35 (15.73)	12.45 (12.78)	17.15 (15.34)	15.31 (13.81)	15.71 (15.45)	15.46 (14.38)
Change, Mean (SD)						
DAS28 CRP	-0.48 (1.31)	-0.65 (1.53)	-0.52 (1.36)	-0.52 (1.50)	-0.24 (0.93)	-0.42 (1.34)
CDAI	-4.29 (13.16)	-4.79 (13.13)	-4.39 (13.12)	-6.45 (13.56)	-2.63 (9.58)	-4.99 (12.28)
SDAI	-4.74 (14.13)	-5.07 (13.90)	-4.80 (14.05)	-6.87 (14.21)	-2.97 (10.32)	-5.41 (12.98)

Figure 1. Linear Regression Model for Change in Disease Activity*Estimates, p-values are shown as data labels on the graphs;The above model is adjusted for age, gender, RA duration, smoking status, SE status, baseline DA, ACPA and ACPA*SE status

Conclusion: This real-world study validates the finding from previous studies conducted in clinical settings that SE does not differentiate treatment response for TNFi therapies.

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SATURDAY, 06 JUNE 2020

Rheumatoid arthritis - non biologic treatment and small molecules

SAT0130 TREAT-TO-TARGET STRATEGY OF >8.000 PATIENTS WITH EARLY RHEUMATOID ARTHRITIS: DOES SMOKING AFFECT ACHIEVEMENT OF REMISSION ON METHOTREXATE AND TIME TO START OF FIRST BIOLOGIC? RESULTS FROM THE NATIONWIDE DANISH DANBIO REGISTRY

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Background: Smoking is a known risk factor for rheumatoid arthritis (RA). It is largely unknown whether smoking has any impact on disease activity and treatment outcomes (e.g. achieving remission on methotrexate and time to first biological disease modifying anti-rheumatic treatments (bDMARD)) in early RA with a modern treat-to-target strategy.

Objectives: To explore if smoking was associated with treatment outcomes in newly diagnosed patients with RA starting first conventional synthetic (cs) DMARDs in routine care.

Methods: Observational cohort study. Adult patients with RA starting first csDMARD during year 2010-2018 were identified in the Danish nationwide quality registry, DANBIO. Smoking status (current/never/previous) upon start of csDMARD (=baseline), disease activity, 1-year treatment outcomes and bDMARD treatment were retrieved from DANBIO. Data were censored Oct 2019. Impact of smoking status was explored for the following outcomes: 1) median baseline disease activity baseline, 2) remission at 1-year (logistic regression analyses), 3) time to first bDMARD (Cox-regression analyses). Regression analyses were adjusted for gender and age.

Results: Among 9515 patients, 8647 (91%) had available smoking status (Current 23%/never 50%/previous 27%) and were included. Baseline disease activity was independent of smoking status (Table 1). First line csDMARD was methotrexate in 91% of patients. Compared to never smokers, the current smokers were more often men, younger and sero-positive for IgM-RF and anti-CCP.

Table 1. Patient characteristics and disease activity at baseline and 1 year stratified by smoking status. Numbers are medians (IQR) unless otherwise stated.

		Smoking status		
		Current	Never	Previous
Baseline	Patient numbers, N	2007	4308	2332
	Age, yrs	58 (49-66)	61 (48-71)	62 (52-70)
	Female, %	62	71	63
	IgM-RF positive, %	71	54	65
	Anti-CCP positive, %	71	53	65
1 year	DAS28	4.4 (3.4-5.3)	4.4 (3.4-5.3)	4.3 (3.3-5.3)
	CDAI	18.7 (11.7-27.3)	18.4 (10.9-27.4)	18.5 (10.4-27.6)
	VAS patient global, mm	60 (35-81)	55 (30-77)	55 (31-78)
	Patient number, N	1793	3837	2053
	DAS28	2.6 (1.9-3.7)	2.3 (1.7-3.4)	2.5 (1.8-3.4)
	CDAI	6.4 (2.8-12.5)	4.9 (1.8-10.3)	5.4 (2-10.8)
	DAS28-remission, %	49	57	53
	CDAI-remission, %	27	35	33
	VAS patient global, mm	37 (14-67)	29 (10-57)	30 (11-58)

DAS28-response: DAS28(CRP)≤2.6; CDAI-remission: CDAI≤2.8