Disparities in Targeted Immune Modulating (TIM) Treatment for Elderly Compared to Younger Patients with Psoriatic Arthritis (PSA)

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1. BACKGROUND AND AIM

Targeted immunomodulating (TIM) therapies (JAK inhibitors and biologics) are as effective in the elderly as in younger patients with PsA. However, balancing the greater comorbidity burden associated with aging may influence prescribing patterns as clinicians seek to avoid serious adverse events in the ≥65-year-old population. Here, we examine associations between age and TIM treatment patterns in a large US community rheumatology practice registry.

2. METHODS

The American Rheumatology Network (ARN)-TRIO Rheumatology registry consists of EMR (fielded and open text), lab, procedure, infusion, medical claims, and specialty pharmacy data generated in care of >75,000 patients by ARN, a network of independent practices with >200 rheumatologists across the US. This study analyzed patients diagnosed with PsA and who initiated care with conventional synthetic DMARD (csDMARD) monotherapy between Jan 2014 to Nov 2019 with follow-up of ≥6 months. Disease Activity Scores (DAS) were calculated using CDAI or RAPID-3, with priority given to CDAI. Differences in time to initiation of TIM containing regimens were analyzed with KM curves and associated Log-Rank Test for difference in hazard. Analysis performed on unmatched cohort and matched cohort, generated through 2:1 matching through propensity scores with 0.1 max caliper. Patients were matched on gender, race, and ethnicity.

3. RESULTS

524 patients met all inclusion criteria. Age groups <65y (387, 74%) and ≥65y (137, 26%) were not significantly different by gender, race, ethnicity, hypertension, or baseline DAS. [Table 1] Diabetes and osteoporosis were significantly higher in the ≥65y group among unmatched comparisons, with osteoporosis persisting in matched comparisons. [Table 1] 495 (94%) of patients initiated TIM therapy within 2 years of first csDMARD regimen. No differences in time to initiation of TIM were observed by baseline DAS (p = 0.11) or payer type (p = 0.29). [not shown] Via KM Curves, patients in the older cohort remained on csDMARD regimens significantly longer than younger patients, 6.8 vs. 4.0 months [p=0.019] .[Figure 1] Upon treatment with TIM therapies, patients ≥65y were more likely to receive infused therapy +/- csDMARDS (22% ≥65y vs 12% <65y, p<0.01). [Table 2]

4. CONCLUSION

Overall, comorbidity burden is an important consideration in timing and choice of targeted therapies. These data suggest that differences in treatment exist between age groups even when comorbidity differences are minimized and raise the possibility to age bias may influence care for ≥65y population.

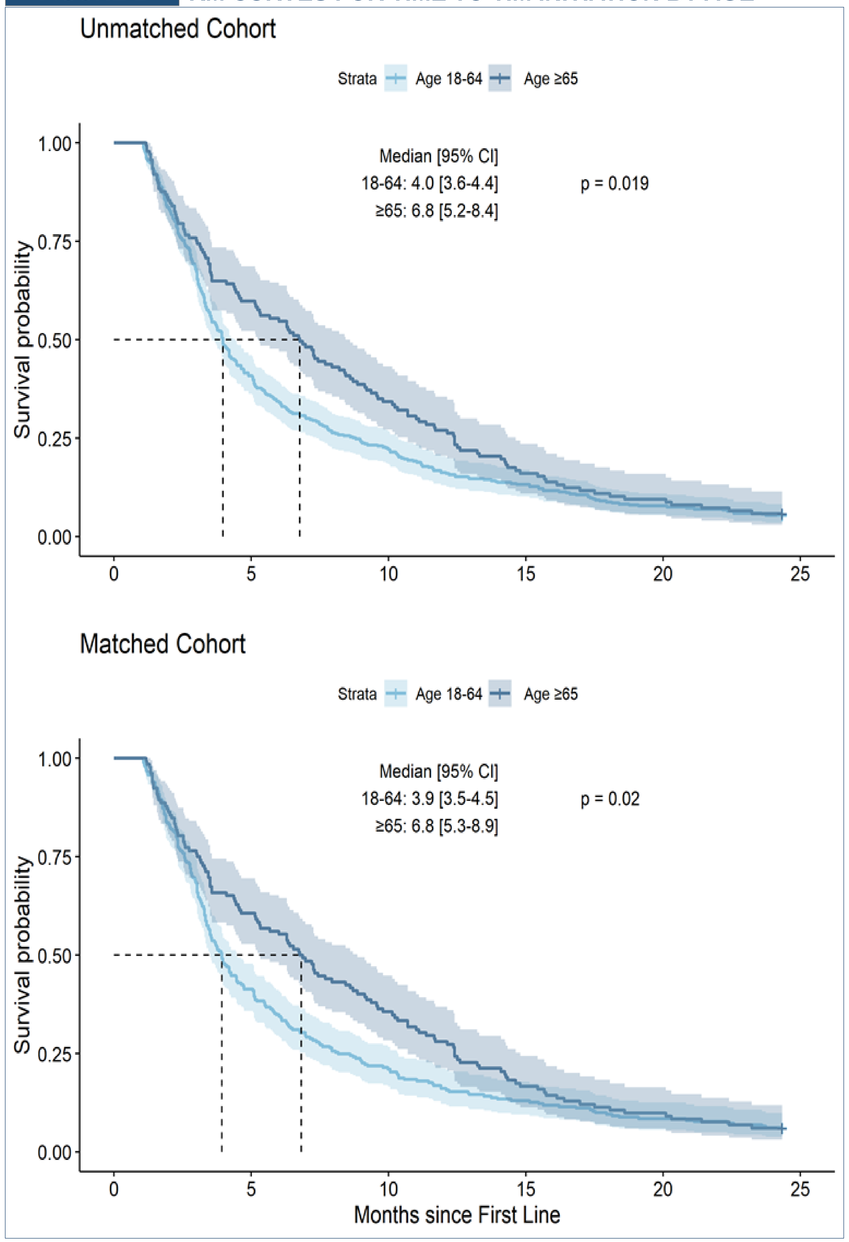
TABLE 1 PATIENT DEMOGRAPHICS AT ENROLLMENT

	Unmatched				Matched			
Characteristic	**Total**	**<65**	**≥65**	**p**	**Total**	**<65**	**≥65**	**p**
N	524	387	137		393	261	132	
Female	324 (61.8)	237 (61.2)	87 (63.5)	0.683	248 (63.1)	165 (63.2)	83 (62.9)	>0.99
Race								
White	343/357 (96.1)	249/260 (95.8)	94/97 (96.9)	0.888	261/270 (96.7)	171/177 (96.6)	90/93 (96.8)	>0.99
Black	10/357 (2.8)	8/260 (3.1)	2/97 (2.1)		7/270 (2.6)	5/177 (2.8)	2/93 (2.2)	
Other Race	4/357 (1.1)	3/260 (1.2)	1/97 (1.0)		2/270 (0.7)	1/177 (0.6)	1/93 (1.1)	
Hispanic or Latino	10/271 (3.7)	9/192 (4.7)	1/79 (1.3)	0.29	7/205 (3.4)	6/130 (4.6)	1/75 (1.3)	0.426
Age Group								
(18,50)	180 (34.4)	180 (46.5)			123 (31.3)	123 (47.1)		
(50,65)	207 (39.5)	207 (53.5)			138 (35.1)	138 (52.9)		
(65,100)	137 (26.1)		137 (100.0)		132 (33.6)		132 (100.0)	
Payer Type								
Commercial	362 (69.1)	327 (84.5)	35 (25.5)	<0.001	257 (65.4)	222 (85.1)	35 (26.5)	<0.001
Medicare	93 (17.7)	16 (4.1)	77 (56.2)		84 (21.4)	12 (4.6)	72 (54.5)	
Medicare Advantage	36 (6.9)	13 (3.4)	23 (16.8)		30 (7.6)	7 (2.7)	23 (17.4)	
Other	33 (6.3)	31 (8.0)	2 (1.5)		22 (5.6)	20 (7.7)	2 (1.5)	
Disease Assessment Score								
Near Remission	19/175 (10.9)	12/128 (9.4)	7/47 (14.9)	0.711	16/125 (12.8)	9/80 (11.2)	7/45 (15.6)	0.872
Low	27/175 (15.4)	21/128 (16.4)	6/47 (12.8)		20/125 (16.0)	14/80 (17.5)	6/45 (13.3)	
Moderate	59/175 (33.7)	44/128 (34.4)	15/47 (31.9)		38/125 (30.4)	24/80 (30.0)	14/45 (31.1)	
Severe	70/175 (40.0)	51/128 (39.8)	19/47 (40.4)		51/125 (40.8)	33/80 (41.2)	18/45 (40.0)	
Osteoporosis BL	26 (5.0)	12 (3.1)	14 (10.2)	0.002	21 (5.3)	9 (3.4)	12 (9.1)	0.03
Depression BL	11 (2.1)	7 (1.8)	4 (2.9)	0.489	6 (1.5)	3 (1.1)	3 (2.3)	0.408
Diabetes BL	13 (2.5)	5 (1.3)	8 (5.8)	0.007	6 (1.5)	3 (1.1)	3 (2.3)	0.408
Hypertension BL	78 (14.9)	57 (14.7)	21 (15.3)	0.889	46 (11.7)	30 (11.5)	16 (12.1)	0.869

TABLE 2 REGIMEN DISTRIBUTION AT TIM INITIATION

Regimen Combination	**Total**	**<65**	**≥65**
TIM	129/524 (24.6)	92/387 (23.8)	37/137 (27.0)
csDMARD + TIM	388/524 (74.4)	292/387 (75.5)	98/137 (71.5)
CS DMARD + TIM + TIM	4/524 (0.8)	3/387 (0.8)	1/137 (0.7)
TIM + TIM	1/524 (0.2)	-	1/137 (0.7)
Regimens containing Infused TIM	-	45/387 (11.6)	30/137 (21.9)

FIGURE 1 KM CURVES FOR TIME TO TIM INITIATION BY AGE



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