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EVALUATION OF A SCREENING TOOL TO IDENTIFY RISK FOR SUBCLINICAL INTERSTICIAL LUNG DISEASE IN A COHORT OF PATIENTS WITH RHEUMATOID ARTHRITIS AND TARGETED THERAPIES

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BACKGROUND

- Interstitial lung disease (ILD) is the second leading cause of mortality in rheumatoid arthritis (RA).
- However, is frequently underrecognized as presents a highly variable clinical course.
- RA-ILD may have a substantial impact on prognosis
- In a combined effort by expert rheumatologists and pulmonologists, a screening tool based on risk factors for RA-ILD have been recently proposed.

OBJECTIVES

To evaluate risk factors for ILD and treatment patterns in a cohort of RA patients with targeted therapies and to examine different cut-off points for the screening tool to identify patients at risk to develop ILD.

METHODS

- Cohort study from a single academic center of RA patients undergoing targeted therapies.
- Risk factors associated with the development of ILD and current treatment were compared between RA-ILD and RA-noILD patients.
- The proposed risk score based on sex, age, smoking status, RA duration, rheumatoid factor and anti–cyclic citrullinated protein antibodies was calculated and different cut-off values were explored to identify patients at risk for ILD on the basis of the best trade-off values between sensitivity and specificity from a ROC curve analysis

RESULTS

- 688 RA patients treated with targeted therapies were included in our cohort, 31 (4.5%) with RA-ILD.
- RA-ILD patients were elder at RA onset (54.9 vs 45.2, p<0.05) and more frequently smokers (48.4% vs 14%, p<0.05).
- More frequently prescribed treatments in RA-ILD were abatacept (32%) followed by tocilizumab (22%) and JAKi (19%).
- The area under the receiver operating characterize curve (AUC) with 95% confidence interval was 0.75 (0.67-0.84). Figure.

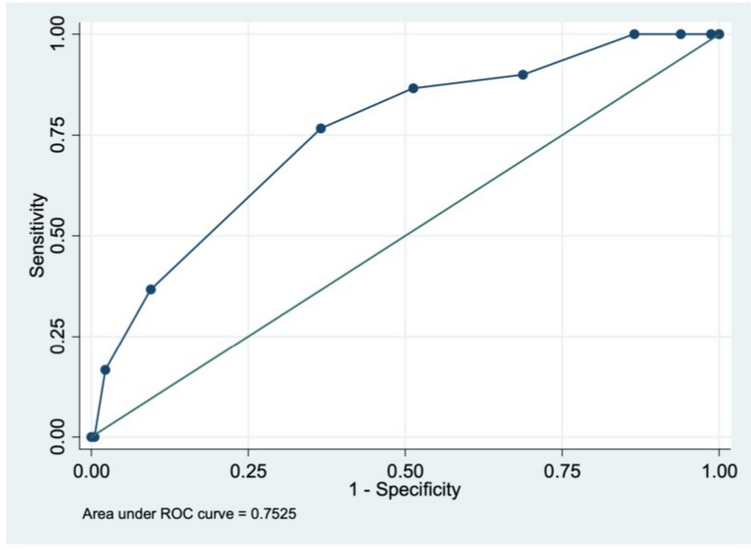
Table: Characteristics of patients with RA with and without ILD

	Overall RA N = 688	RA-no ILD N = 657	RA-ILD N = 31	p
Sex (female)	567 (82.4)	547 (83.3)	20 (64.5)	0.007
Age, mean (SD)	62.3 (13.9)	62.0 (14.1)	68.7 (9.0)	0.004
Age at RA onset, mean (SD)	45.6 (14.8)	45.2 (14.7)	54.9 (12.2)	<0.001
RA duration, median (IQR) years	15 (9-23)	15 (9-23)	11 (8-19)	0.05
ACPA positive high titer	354 (54)	334 (53.4)	20 (66.7)	0.68
RF positive	489 (73.2)	462 (72.4)	27 (90)	0.034
Ever smoker	107 (15.5)	92 (14.0)	15 (48.4)	<0.001
Treatment				
Methotrexate	254 (37)	247 (37)	7 (22)	<0.001
TNFi	379 (55)	375 (57)	4 (13)	<0.001
JAKi	104 (15)	98 (15)	6 (19)	
Tocilizumab	99 (14)	92 (14)	7 (23)	
Abatacept	56 (8)	46 (7)	10 (32)	
Rituximab	50 (7)	46 (7)	4 (13)	
Number of previous biologics	1 (1-3)	1 (1-3)	2 (1-3)	0.52
Risk score value, median (IQR)	5 (3-6)	5 (3-6)	6 (6-7)	<0.001

RESULTS

- Three different cut-off points for the risk score were evaluated:
  - 5 (Sens 86.7%, Spec 48.7% LR+1.7) 228 patients (36.5%)
  - 6 (Sens 76.7%, Spec 63.5% LH+ 2.1) 59 patients (9.5%)
  - 7 (Sens 36.7%, Spec 90.5% LH+ 3.9) 14 (2.2%)

Figure: Performance of the risk score for detection of RA-ILD



AUC: 0.75 95%CI (0.67-0.84)

CONCLUSIONS

- Prevalence of ILD in our cohort of patients with RA and targeted therapies was 4.5%.
- The risk score identified 36% patients at low risk, 9.5% at moderate risk, and 2.2% at high risk of subclinical RA-ILD.
- The use of screening tools could favor the early detection of subclinical ILD and assist rheumatologists in early intervention to improve the prognosis of RA-ILD.

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