

# The Hidden Link Between Onset Time and Difficult-to-Treat Rheumatoid Arthritis Development: Should it be Included in the EULAR definition?

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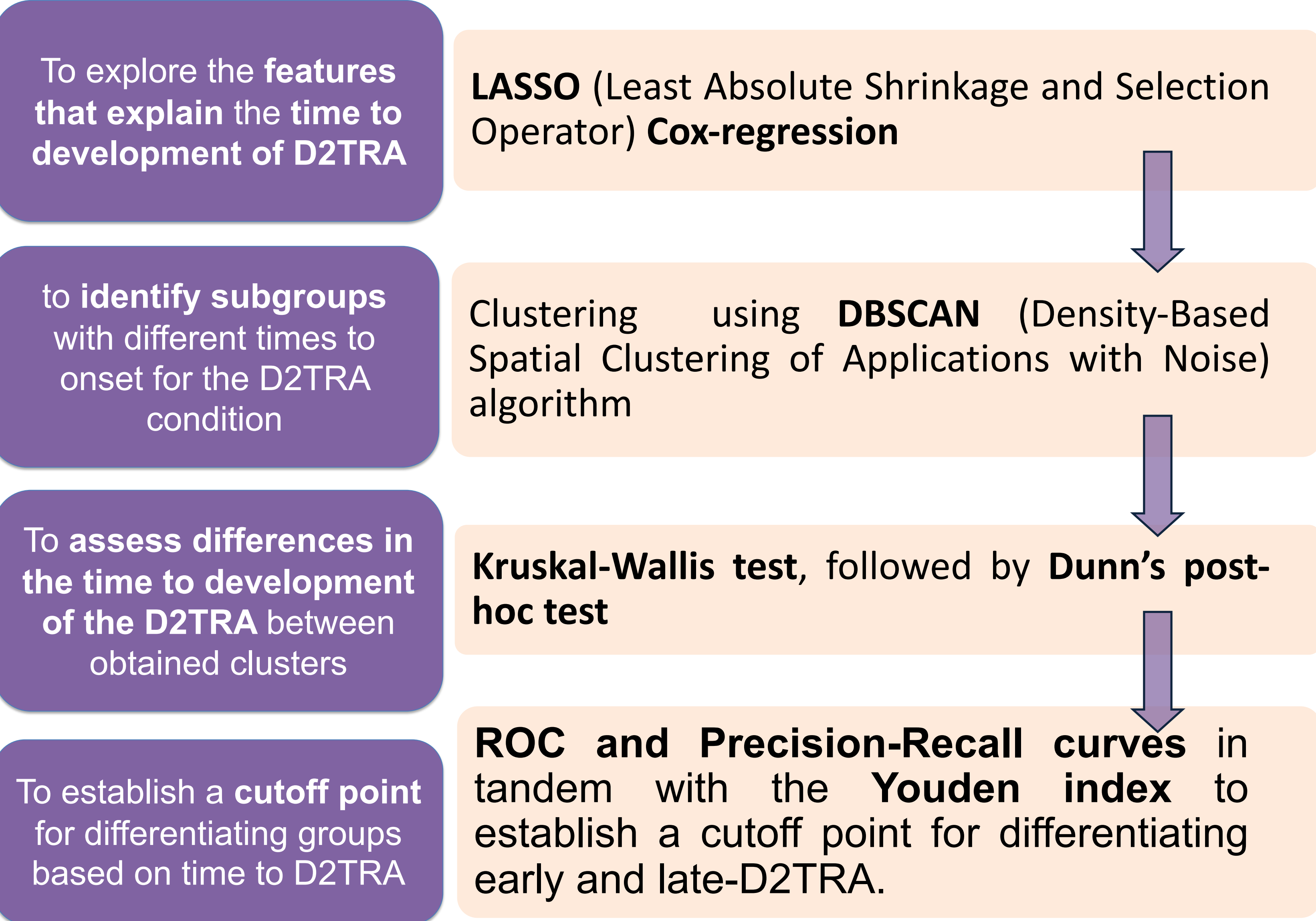
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## Introducción

While risk factors for difficult-to-treat rheumatoid arthritis (D2TRA) have been studied in recent years, no studies have determined if there are differences between early and late developers of D2TRA. This study investigates whether patients can be classified by time to D2TRA development and examines risk factors for earlier onset. This study aimed to **determine if different subsets of patients could be identified based on the time to D2TRA and the potential risk factors for earlier development.**

## Methods

A cohort of patients from La Paz University Hospital and Clinic Hospital in Spain, whose reason for switching b/tsDMARD therapy was inefficacy (D2TRA-Inefficacy), was analysed. Statistical analysis followed the next step-wise process:

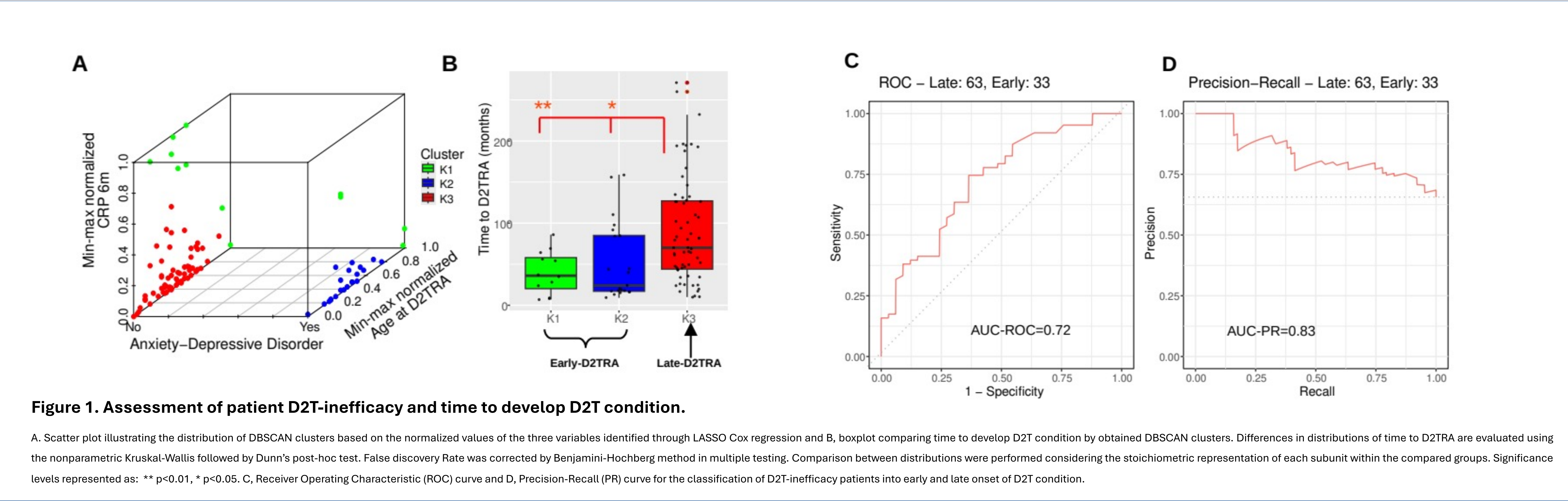


## Results

Among 132 patients with D2TRA, 97 (73.4%) were classified as D2TRA-inefficacy. After applying LASSO Cox regression for feature selection, **anxiety depressive syndrome (ADS) diagnosis at first b/tsDMARD initiation, CRP at 6 months after the first b/tsDMARD, and age at disease diagnosis** were selected (see Table 1). The best lambda model for Cox-regression obtained was  $\lambda=0.1809$ . The cohort was divided into **early and late developers** with a **cutoff point of 44.5 months** based on ROC curves (Figure 1).

Feature	Score
ADS	0.2416
CRP at 6m	0.0093
Age at diagnosis	0.0095

Table 1. Features Selected by LASSO Cox-regression, showing shrunk scores.



## Conclusions

- In our cohort, the cut-off time for defining early developers of D2TRA-inefficacy was **44.5 months.**
- The presence of **ADS diagnosis, a higher CRP 6 months after the first b/tsDMARD, and being older at diagnosis** were predictors of early development of D2TRA