



IMPROVING THE RACE SCALE BY ADDING PRE HOSPITAL CLINICAL FACTORS TO DISTINGUISH BETWEEN LARGE VESSEL OCCLUSION AND HEMORRHAGIC STROKE PATIENTS

Pérez de la Ossa N, Ramos A, Mora A, Gorchs M, López A, Vivanco R, Ribó M, Cardona P, Bonet S, Lara B, Jiménez X, Millán M, Abilleira S on behalf of the Catalan Stroke Code and Reperfusion Consortium (Cat-SCR)

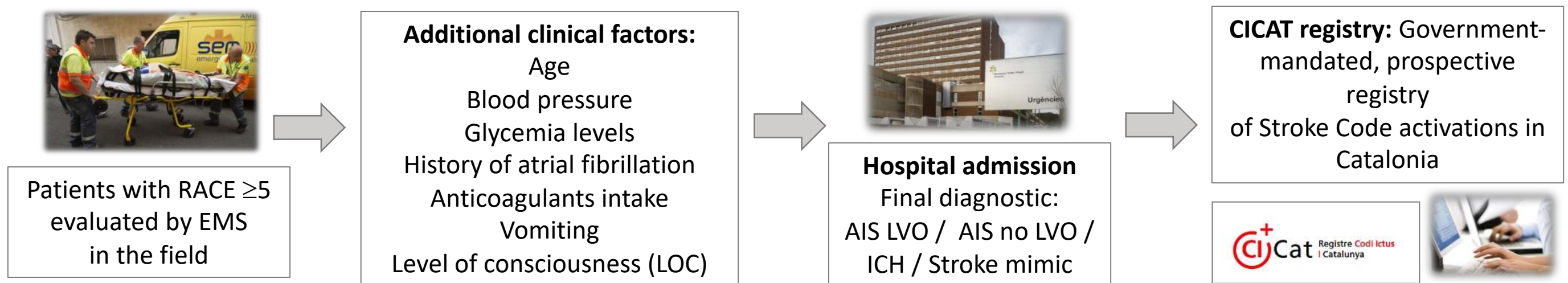
INTRODUCTION

Pre-hospital scales have limited accuracy for the diagnosis of acute stroke patients due to Large Vessel Occlusion (LVO). Their specificity and positive predictive value are low, including a high proportion of false positive patients.

From patients with a **RACE scale ≥ 5** , 45% have LVO, 29% intracranial hemorrhage and 18% ischemic stroke with no LVO and 8% stroke mimic (*Carrera et al, JNIS 2018*)

We aimed to **improve the predictive value of the RACE scale by adding clinical factors to distinguish between acute ischemic stroke with large vessel occlusion (LVO) and intracranial hemorrhage (ICH).**

METHODS



Factors independently associated with LVO were determined by a logistic regression analysis. PPV and proportion of patients with LVO or ICH were determined for different combinations of pre-hospital clinical factors.

RESULTS

A total of 731 patients were included (49% AIS with LVO, 21% AIS without LVO, 23% hemorrhage and 7% mimic).

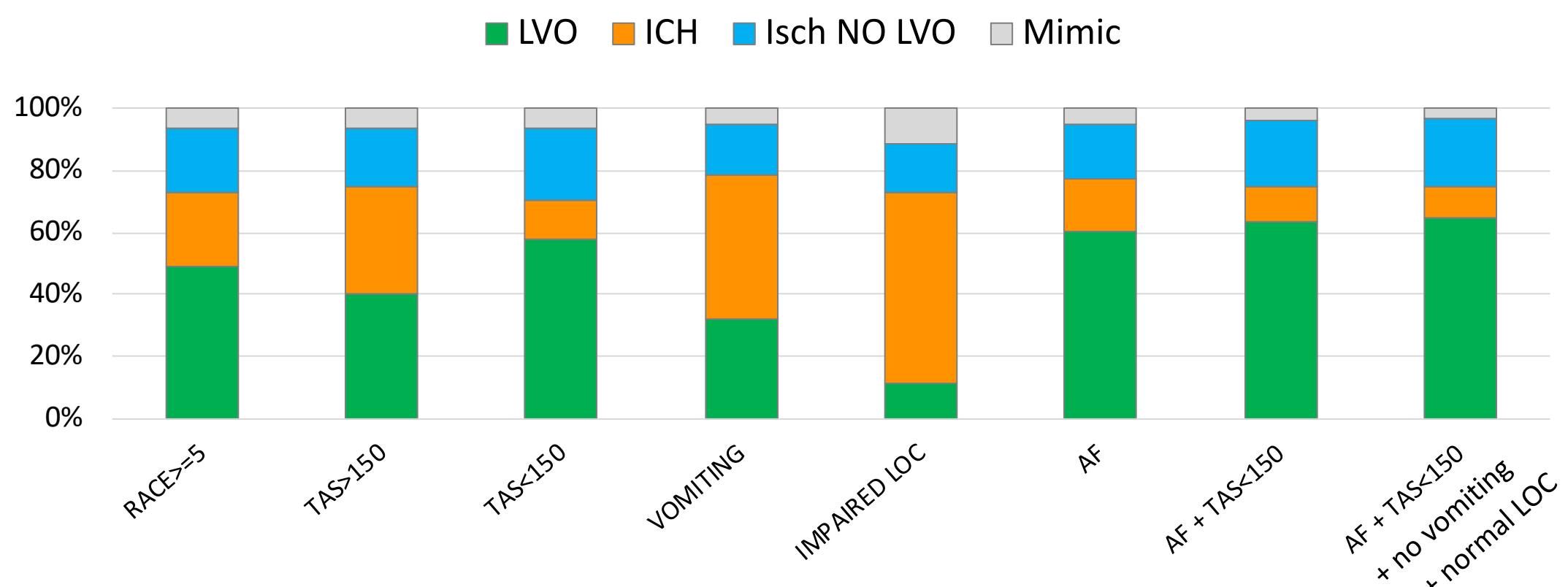
Factors associated with the presence of LVO

	OR	IC 95%	
Systolic blood pressure	0.9	0.98-0.99	<0.001
Absence of vomiting	2.1	0.96-4.63	0.062
Normal LOC	4.3	1.18-15.60	0.027
Atrial fibrillation	1.5	1.04-2.17	0.028

* Glycemia levels and diastolic blood pressure are not associated

Positive Predictive Value (PPV) for LVO

RACE ≥ 5	49.2
RACE ≥ 5 & no vomiting	50.1
RACE ≥ 5 & preserved LOC	50.6
RACE ≥ 5 & TAS < 150	57.9
RACE ≥ 5 & Atrial Fibrillation	60.1
RACE ≥ 5 & AF & TAS < 150	63.5
RACE ≥ 5 & AF & TAS < 150 & no vomiting & normal LOC	64.2



CONCLUSIONS

We identify some pre-hospital clinical factors that may increase the predictive value of the RACE scale to distinguish LVO and hemorrhagic stroke patients (blood pressure, atrial fibrillation, vomiting, level of consciousness).

We are developing predictive models to design triage algorithms combining this pre-hospital clinical variables.