

Rapidly Progressive Dementia in Emergency Neurology: Frequency and STAM3P Performance at a Tertiary Center in Mexico

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INTRODUCTION

Rapidly progressive dementia (RPD) comprises a heterogeneous group of disorders characterized by cognitive decline over weeks to months. Its epidemiology is poorly defined due to the absence of a standardized definition and its relative rarity. Although prion disease is the classical prototype, RPD may result from different etiologies, several of which are potentially reversible if identified promptly. Etiologic distributions vary according to the population and level of care. The STAM3P scale was recently proposed to identify potentially reversible causes of RPD using common clinical and paraclinical features; however, its real-world performance in Latin American emergency neurology settings remains unknown.

METHODS

We conducted a retrospective study using the REDCap database of the Neurological Emergency Department at the National Institute of Neurology in Mexico City. Patients fulfilling clinical criteria for RPD from January 2025 up to May 2026 were identified. Clinical and paraclinical data were collected. Incidence was calculated using the total number of emergency neurology consultations as the denominator. The diagnostic performance of STAM3P for identifying reversible causes was assessed using sensitivity, specificity and ROC analysis. Exact (Clopper–Pearson) 95% confidence intervals were calculated, and associations were evaluated using Fisher’s exact test.

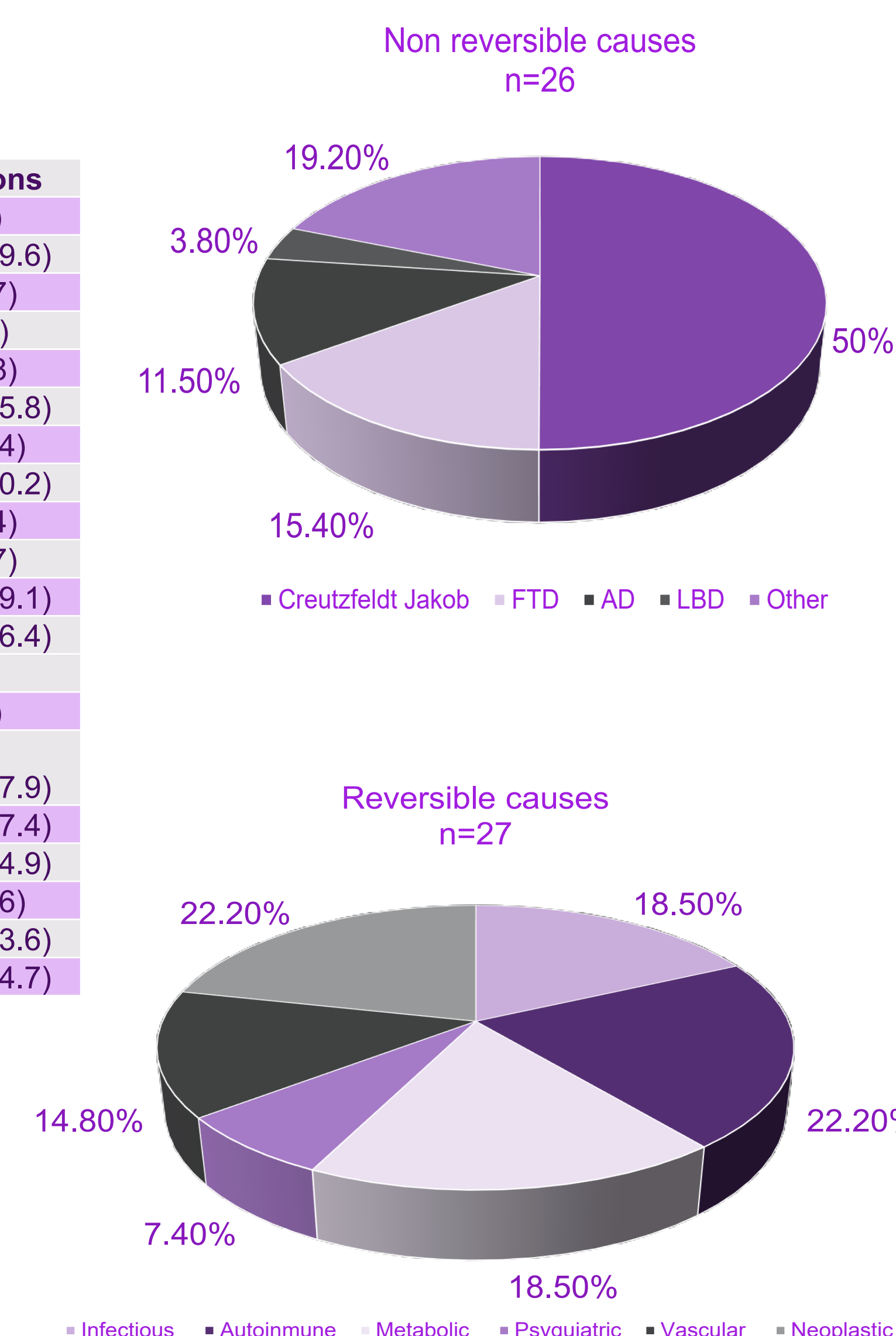
RESULTS

Among 13,081 emergency neurology consultations in 2025 and up to May 2026, 53 patients met criteria for RPD (incidence of 0.41%). Mean age was 57.08 ± 10.97 years, and 56.6% were female. Reversible etiologies were identified in 27 patients (50.9%), most commonly neoplastic and autoimmune causes (11.3% of total each). Non-reversible causes accounted for 49.1%, with sporadic Creutzfeldt–Jakob disease being the most frequent (24.5% of total). Using a STAM3P cutoff ≥ 3 , sensitivity was 29.6% and specificity 96.2%. STAM3P positivity was significantly associated with reversible etiologies ($p = 0.024$).

Demographic		
Gender	Female n (%)	Male n (%)
	30 (56.6)	23 (43.4)
Occupation	Employed n (%)	Unemployed n (%)
	12 (22.6)	41 (77.4)
Family history	Yes n (%)	No n (%)
	19 (35.8)	34 (64.2)
Age	Mean (years)	SD
	57.08	10.97
Onset	Time (Months)	SD
	8.45	7.25

STAM3P	Mean score ≈ 1.57
Sensitivity	29.6
Specificity	96.2
PPV	88.9
NPV	56.8
OR	10.5
p value	0.024
AUC	0.64

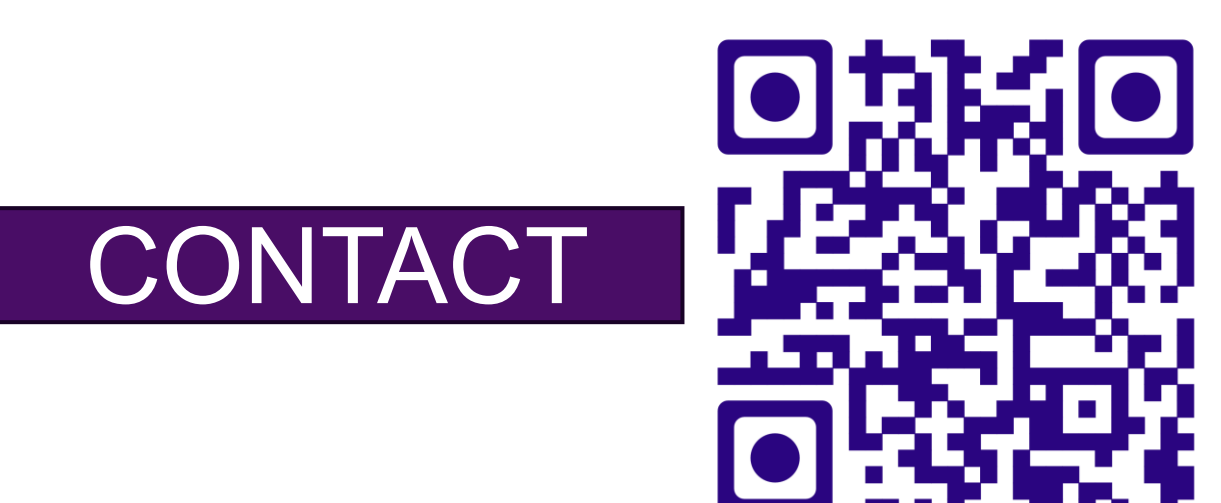
Neurological alterations	
	n (%)
Pyramidal	21 (39.6)
Dystonia	3 (5.7)
Myoclonus	9 (17)
Chorea	2 (3.8)
Parkinsonism	19 (35.8)
Ataxia	18 (34)
Tremor	16 (30.2)
Catatonia	5 (9.4)
Stereotypies	3 (5.7)
Neuropsychiatric	26 (49.1)
Seizures	14 (26.4)
Cognitive alterations	
Altered domain	n (%)
Executive function	36 (67.9)
Language	41 (77.4)
Memory	45 (84.9)
Visuo-spatial	35 (66)
Orientation	39 (73.6)
Social cognition	29 (54.7)



RPD represented an uncommon but clinically relevant diagnosis in the emergency neurology setting. Nearly half of cases were potentially reversible. In this real-world cohort, STAM3P demonstrated high specificity but limited sensitivity, supporting its role as a rule-in tool for reversible causes rather than a screening instrument.



REFERENCES



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