

UTILITY OF THE CLOCK DRAWING TEST AS COGNITIVE SCREENING IN PATIENTS WITH ARTERIAL HYPERTENSION

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Background

Numerous papers support the relationship between Hypertension (HTN) and cognition.

HTN it's cause of vascular brain injury characterized by white matter lesión (WML) and its "burden" is the most important risk factor for cognitive impairment (CI).

The subcortical desmielinization disconnect the pre-frontal cortex and affected of the executive function the more common cognitive domain affected in vascular patients.

Detection of the executive dysfunction in patients with HTN is imperative because, between 20% to 25% of the patients they will suffered dementia within 3 or 5 years.

Objectives

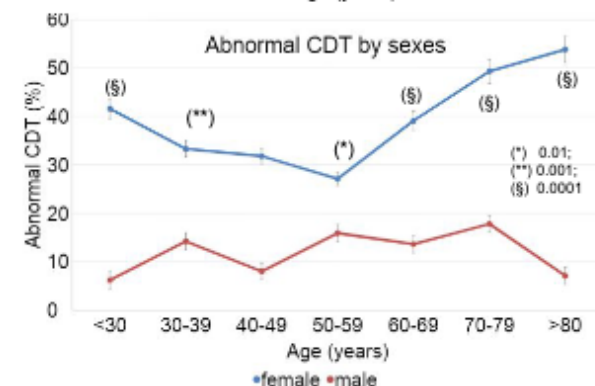
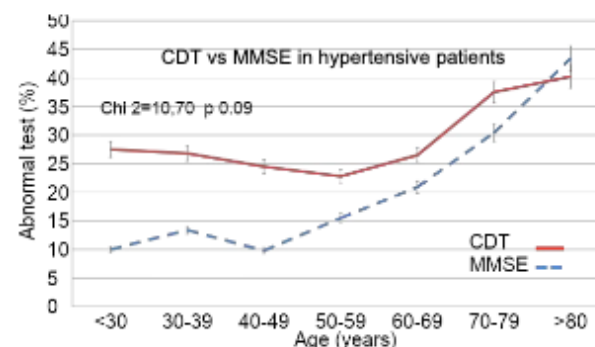
- 1) To know the prevalence of the global cognitive impairment and executive dysfunction
- 2) To compare the utility of the CDT over MMSE
- 3) And its association with different variables of hypertensive disease (treatment and control, education level and all cognitive proof of the MMSE).

Methods

A multicenter, cross sectional and observational study (18 cardiology centers of Argentina) that included hypertensive patients (both sexes, ≥ 18 years). The patients were divided according to: 1) treatment and control condition (treated/controlled; treated and uncontrolled and no treated) and 2) education level (≤ 7 yrs., 8-11 yrs. and ≥ 12 yrs.). The MMSE and CDT were applied for cognitive assessment (CDT cut-off: 5 on 7, and MMSE according to age and education).

Results

Cognitive test	Total	Female	Male	P value
n	1414	882	533	
MMSE (media \pm SD)	26.7 \pm 3.5	26.6 \pm 3.5	26.7 \pm 3.5	ns
MMSE \leq 24 (%)	20.7	20.9	20.2	ns
CDT (media \pm SD)	5.5 \pm 1.7	5.7 \pm 1.7	5.4 \pm 1.7	0.001
CDT \leq 5 (%)	35.3	37.8	31.1	0.01
CDT (dichotomic)(%)	58.4	61.3	53.4	0.004



Results

Demographic Characteristics	Total	Female	Male	P value
n	1414	882 (62%)	533	
Age (years) (*)	59.7 \pm 13.8	59.6 \pm 13.8	60 \pm 13.8	ns
Education (years) (*)	9.9 \pm 5.1	8.8 \pm 4.3	9.9 \pm 4.3	ns
≤ 7 years (#)	659 (46.6)	452 (51.2)	207 (38.8)	0.000
8 to 11 years	439 (31)	259 (29.3)	180 (33.7)	ns
≥ 12 years	317 (22.4)	171 (19.3)	146 (27.3)	0.000
Blood Pressure and treated controlled condition				
SBP (mm Hg)	143.6 \pm 21.2	143.3 \pm 21.2	144.2 \pm 21.2	ns
DBP	83.6 \pm 12.3	82.9 \pm 12.3	84.6 \pm 12.3	0.01
Treated/Controlled (#)	546 (38.6%)	359 (40.7%)	187 (35.0%)	0.03
Treated/Uncontrolled	544 (38.4%)	338 (38.2%)	206 (38.6%)	ns
No Treated	325 (22.9%)	185 (22.5%)	140 (26.2%)	0.02

Data: (*) media \pm SD, (#) cases/%; SBP/DBP: Systolic and diastolic blood pressure.

Conclusions

- 1) The CDT is more useful than MMSE in the cognitive screening of hypertension patients.
- 2) The 30% of hypertensive patients with normal MMSE had abnormal CDT.
- 3) The CDT was associated inversely with the educational level and positive way with the attention and visual-construction proofs of the MMSE.

References

- (1) AHA/ASA Scientific Statement 2011.
- (2) AHA Scientific Statement 2016.
- (3) Hypertension 2012;60:260-8
- (4) Hypertension 2014;63:894-903.

DISCLOSURE OF INTEREST:
We have nothing to declare.