LIPOPROTEIN(A), COGNITIVE PERFORMANCE AND BRAIN CHANGES IN ELDERLY PATIENTS WITH ATRIAL FIBRILLATION ON ANTICOAGULANT THERAPY: DATA FROM THE STRAT-AF2 STUDY

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INTRODUCTION

High serum lipoprotein (a) [Lp(a)] levels have been associated with an increased risk of vascular disease, and preliminary studies indicate that Lp(a) may be a factor associated with dementia, particularly vascular dementia. The relationship between Lp(a) and cognitive impairment has not yet been sufficiently explored.
Considering that cardiac and cerebrovascular diseases are known risk factors for dementia, and since stroke is a known risk factor for dementia and elevated Lp(a) levels are an independent risk factor for stroke, the study of Lp(a) in relation to cognitive function and brain changes appears worthy of further investigation.

AIMS

In a cohort of elderly patients with AF on anticoagulant therapy in primary or secondary prevention for stroke, our objectives were:

- to describe the relationship between Lp(a) levels and cognitive performance
- to evaluate the association between Lp(a) levels and the presence of lesions detected through neuroimaging.

METHODS

CLINICAL AND NEUROLOGICAL EVALUATION

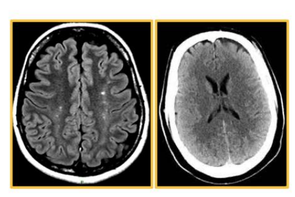
- Personal and clinical history
- Functional status (ADL, IADL)
- Mood (GDS-15)
- Quality of life (QoL)
- Cognitive assessment (MoCA and second-level neuropsychological tests)
- Motor skills (SPPB)

EVALUATION OF CIRCULATING BIOMARKERS

Lp(a) assay by immunoturbidimetric test on a Cobas C-311 analyzer (Roche)

CARDIOLOGICAL EVALUATION

- ECG
- TT echocardiogram



NEURORADIOLOGY EVALUATION

RM cohort
- Fazekas
- Lacunar infarct
- Cortical Atrophy
- SVD total score
- Embolic infarctions
- MTA
- Scheltens
- Microbleeds
- EPVS

TC cohort
- Van Swieten
- Lacunar infarct
- Cortical Atrophy
- SVD total score
- Embolic infarctions
- MTA

RESULTS

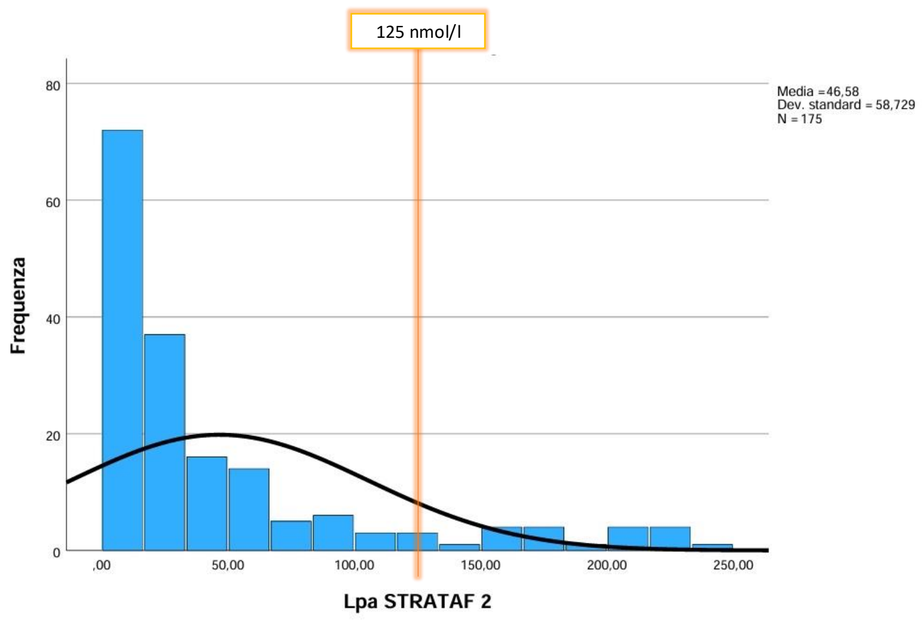
In our cohort, no significant differences were found between groups with Lp(a) <125 vs ≥125 nmol/l, nor correlations with clinical characteristics.
Neuropsychological analyses showed no associations for attention, executive functions, language, or overall memory, but **verbal memory (15-word Rey test)** revealed significant negative correlations for immediate (p = .031) and delayed recall (p = .019).
No significant associations were observed between Lp(a) levels and neuroimaging data, either in the total or MRI cohort.

Lp(a) <125 vs ≥125 nmol/l
- No significant differences

Clinical characteristics
- No correlations

Neuropsychology
- Attention, executive functions, language, overall memory -> no associations
- Verbal memory (Rey 15-word test):
  - Immediate recall -> negative correlation (p= .031
  - Delayed recall -> negative correlation (p= .019

Neuroimaging (MRI and total cohort)
- No significant associations



	n	Lp(a) <125 nmol/l n= 154	Lp(a) ≥ 125 nmol/l n= 21	p
Age	171	78.9±6.8	77.7±6.2	.452
Gender (M)	171	105 (58%)	39 (49%)	.987
Years of education	171	10.2±4.5	10.1±4.7	.977
Activities of Daily Living (ADL) preserved	171	5.5 ±1.0	5.7±0.6	.287
Instrumental Activities of Daily Living (IADL) lost	171	1.0±2.0	0.5±1.2	.254

CONCLUSIONS

Our data indicate that elevated Lp(a) levels do not appear to be associated with cognitive performance in elderly patients with atrial fibrillation on anticoagulant therapy.
Furthermore, CT and MRI investigations did not reveal significant brain changes associated with higher Lp(a) levels.

PROSPECTS