Neurology Unit, Department of Clinical and Experimental Sciences, University of Brescia, Brescia

Flash Poster #26

Diagnosis of Mild Cognitive Impairment due to Alzheimer's Disease with Transcranial Magnetic Stimulation

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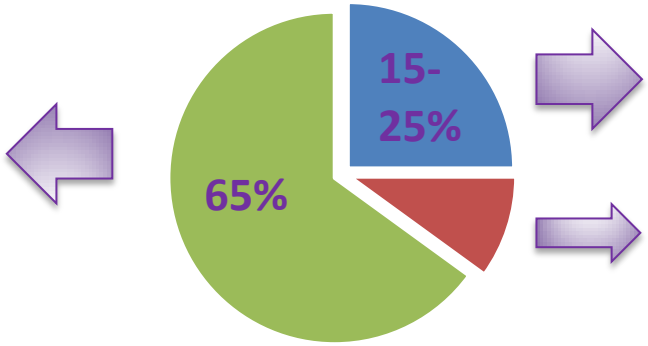
Introduction

Disease-modifying treatments must be administered **early** in AD.

Mild Cognitive Impairment

Underlying
Alzheimer's pathology



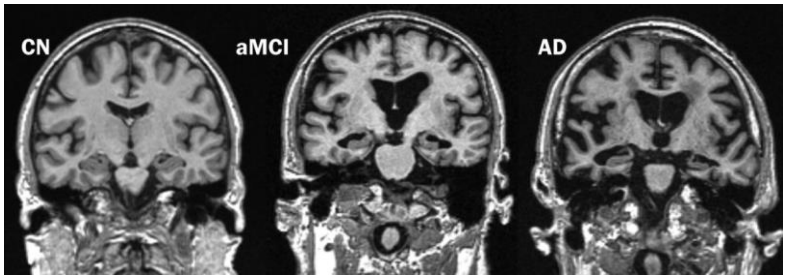
Neurodegenerative diseases **other** than AD

Normal age-related changes

Diagnostic Biomarkers:

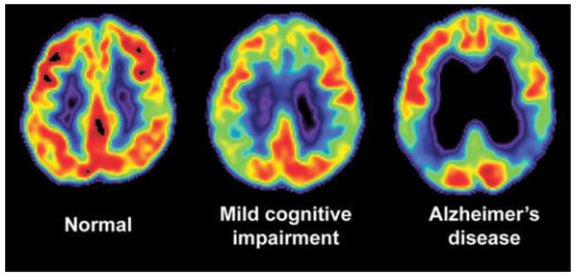
MRI imaging:

- Not specific for AD or FTD in single subject
- Not predictive in single subject



Cerebrospinal fluid, amyloid PET imaging:

- AD diagnosis, not FTD diagnosis
- Invasive procedure (CSF)
- Expensive and not always available (PET)



Methods

Partecipants included in the study (n=71)

Excluded for contrasting biomarkers (n=2)
+ amyloid PET, normal CSF Aβ1-42 (n=1)
- amyloid PET, decreased CSF Aβ1-42 (n=1)

AD MCI (n=36)
69.8 ± 7.3

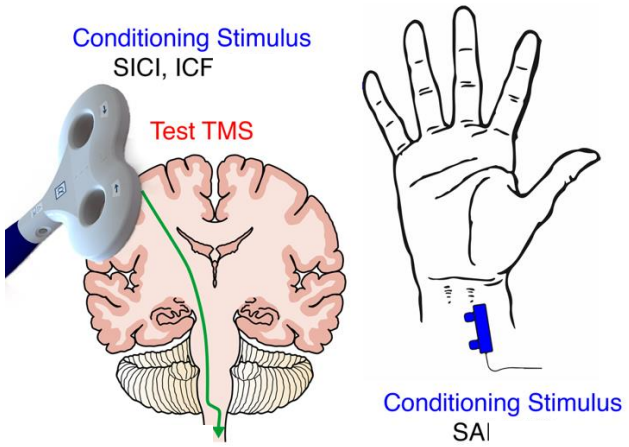
non-AD MCI (n=33)
67.3 ± 7.3

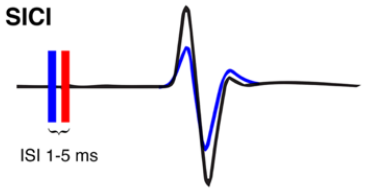
Underwent TMS (n=69)

SICI-ICF

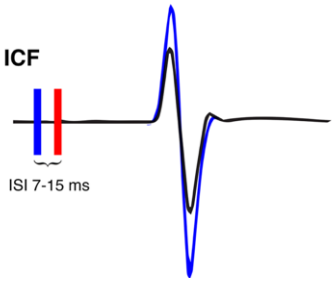
SAI

SICI-ICF/SAI

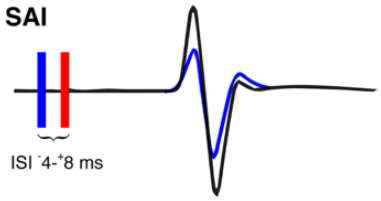




GABAergic

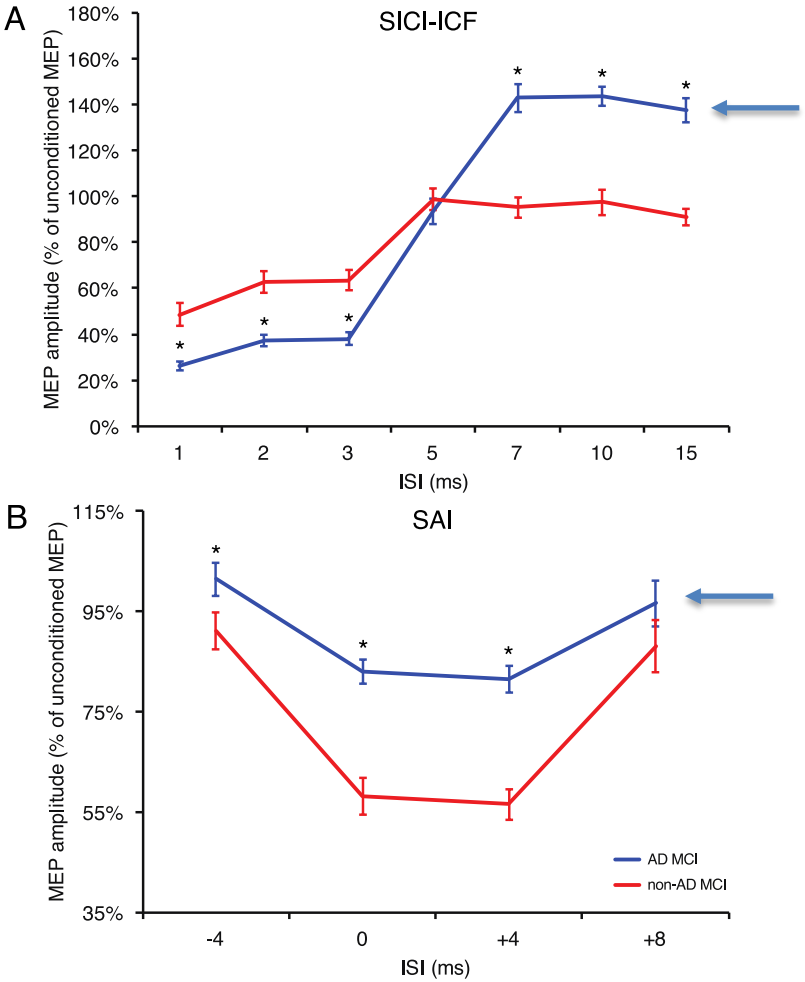


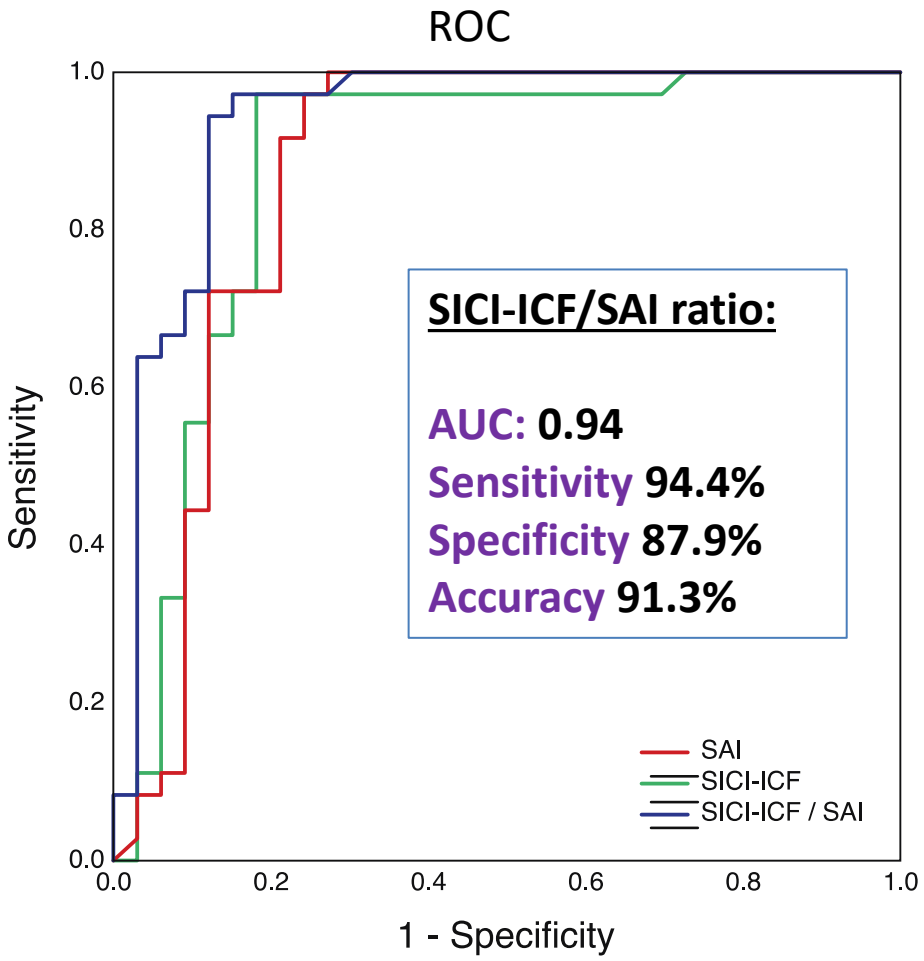
glutamatergic



cholinergic

Results / Conclusions





- TMS measures reflect **AD pathophysiology** and correctly identify **preclinical phases** of disease.
- **High sensitivity** (94%) → selecting candidate patients for further testing

Thank you for your attention

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