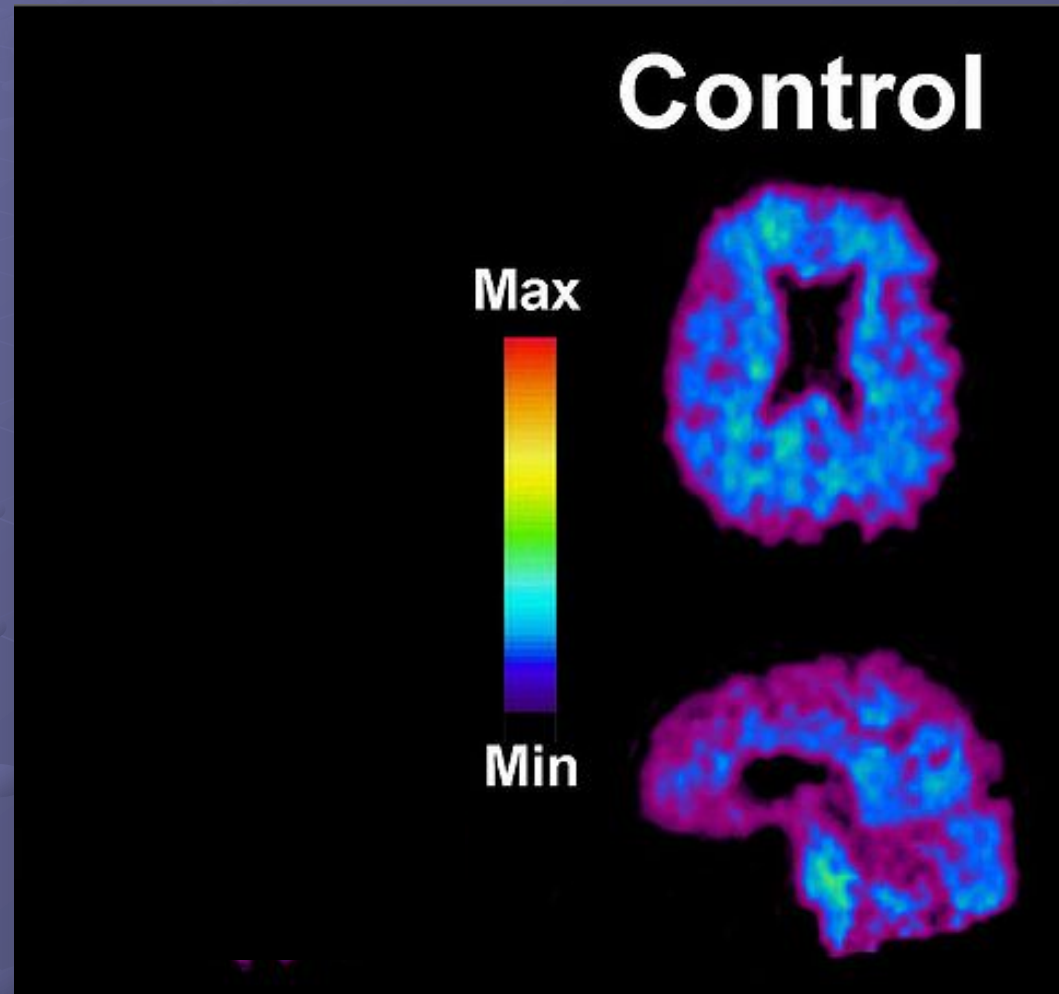


*Traccianti diretti su
proteine di accumulo
in PET*

Traccianti PET per la β -amiloide

- *^{11}C -PiB (Pittsburgh compound B)*
- *^{18}F -Florbetaben (NeuraCeqTM)*
- *^{18}F -Florbetapir (AmyvidTM)*
- *^{18}F -Flutemetamol (VizamylTM)*

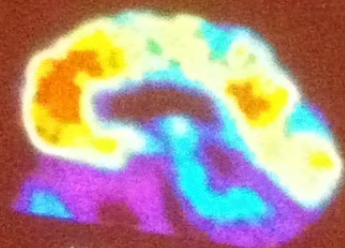
^{11}C -PiB



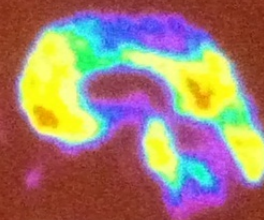
Uppsala University - Sweden - 02/2002



Beta-Amyloid Plaque Imaging with PET



^{11}C -PiB



^{18}F -Florbetaben

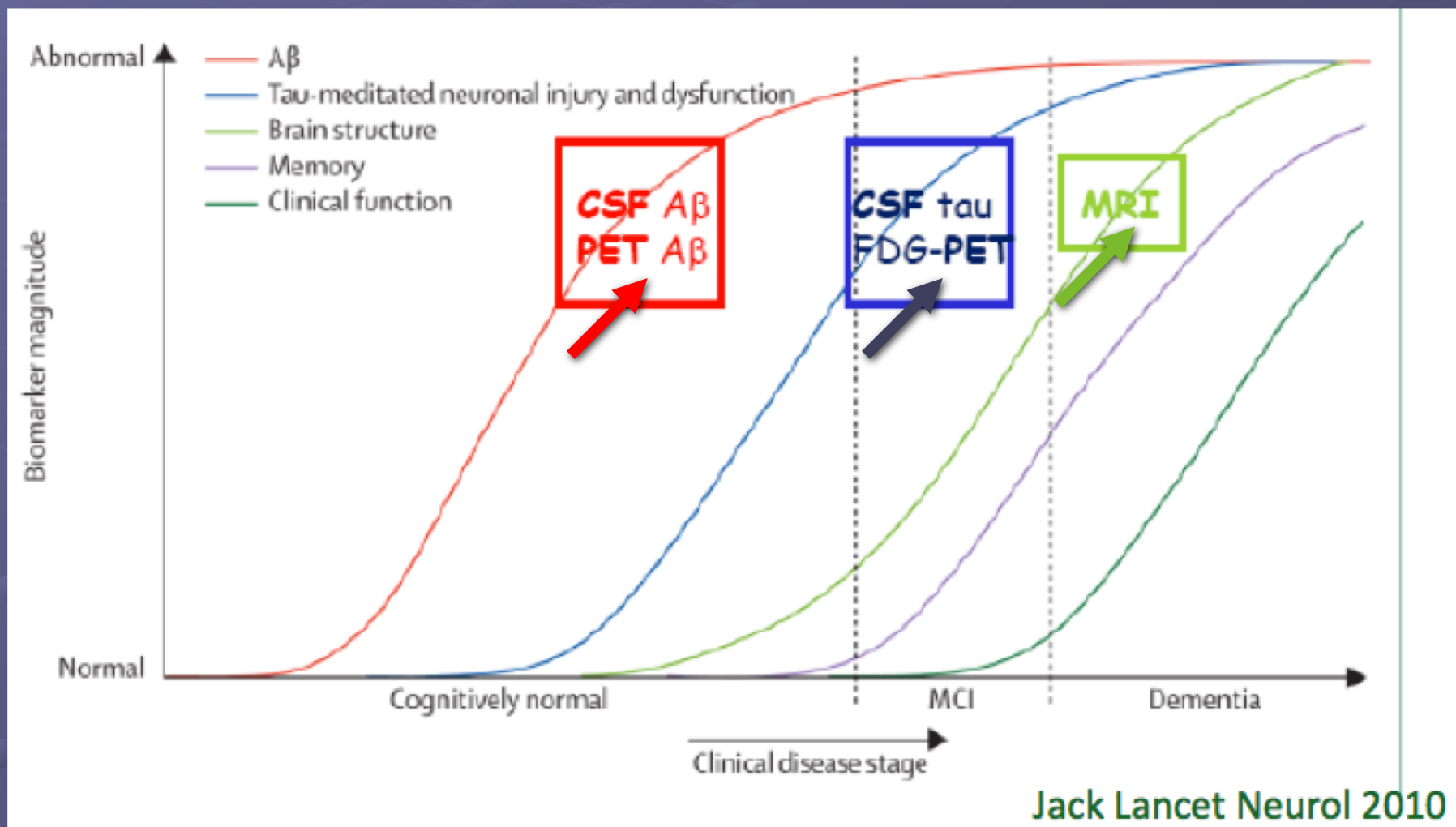


^{18}F -Flutemetamol



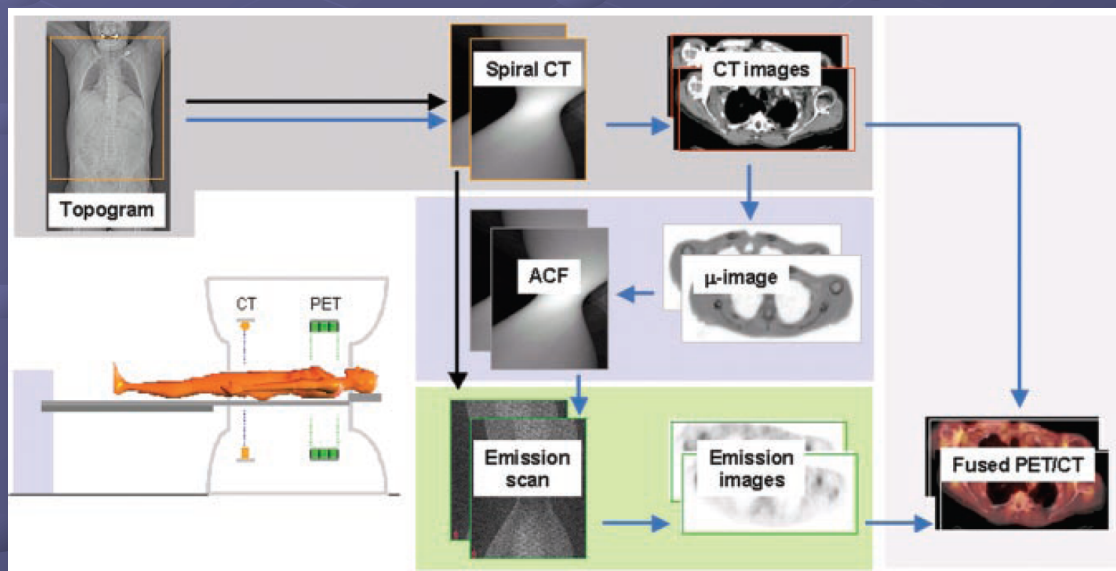
^{18}F -Florbetapir

Malattia di Alzheimer



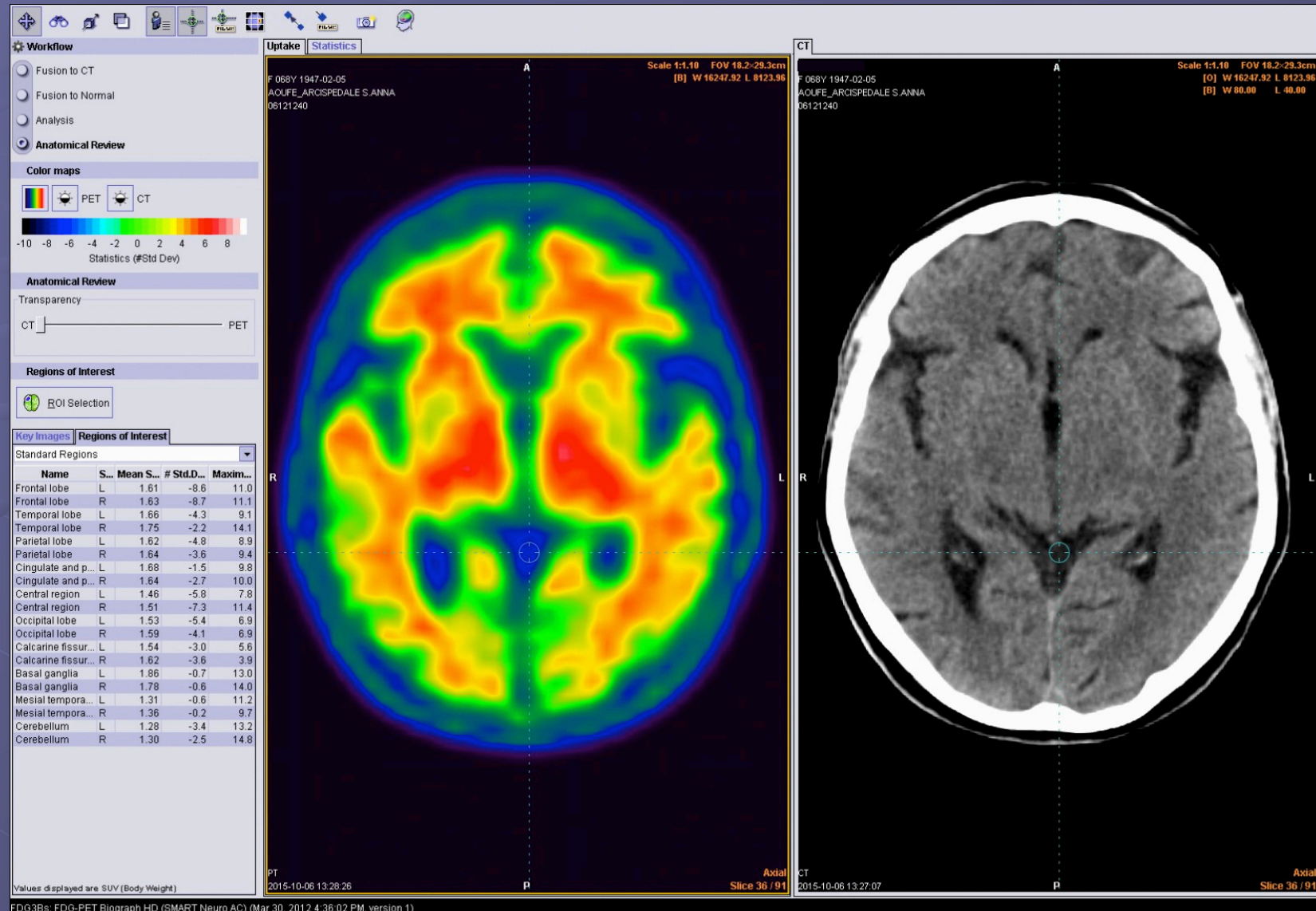
Modalità di esecuzione dell'indagine

- *controllo della glicemia ($<160\text{mg/dl}$);*
- *blanda idratazione (500ml di acqua per os);*
- *posizionamento agocannula (angiocath);*
- *10'-15' in stanza buia ed insonorizzata;*
- *somministrazione di 4-6MBq/Kg di $[^{18}\text{F}]$ -Florbetapir;*
- *30' -40' di attesa.*

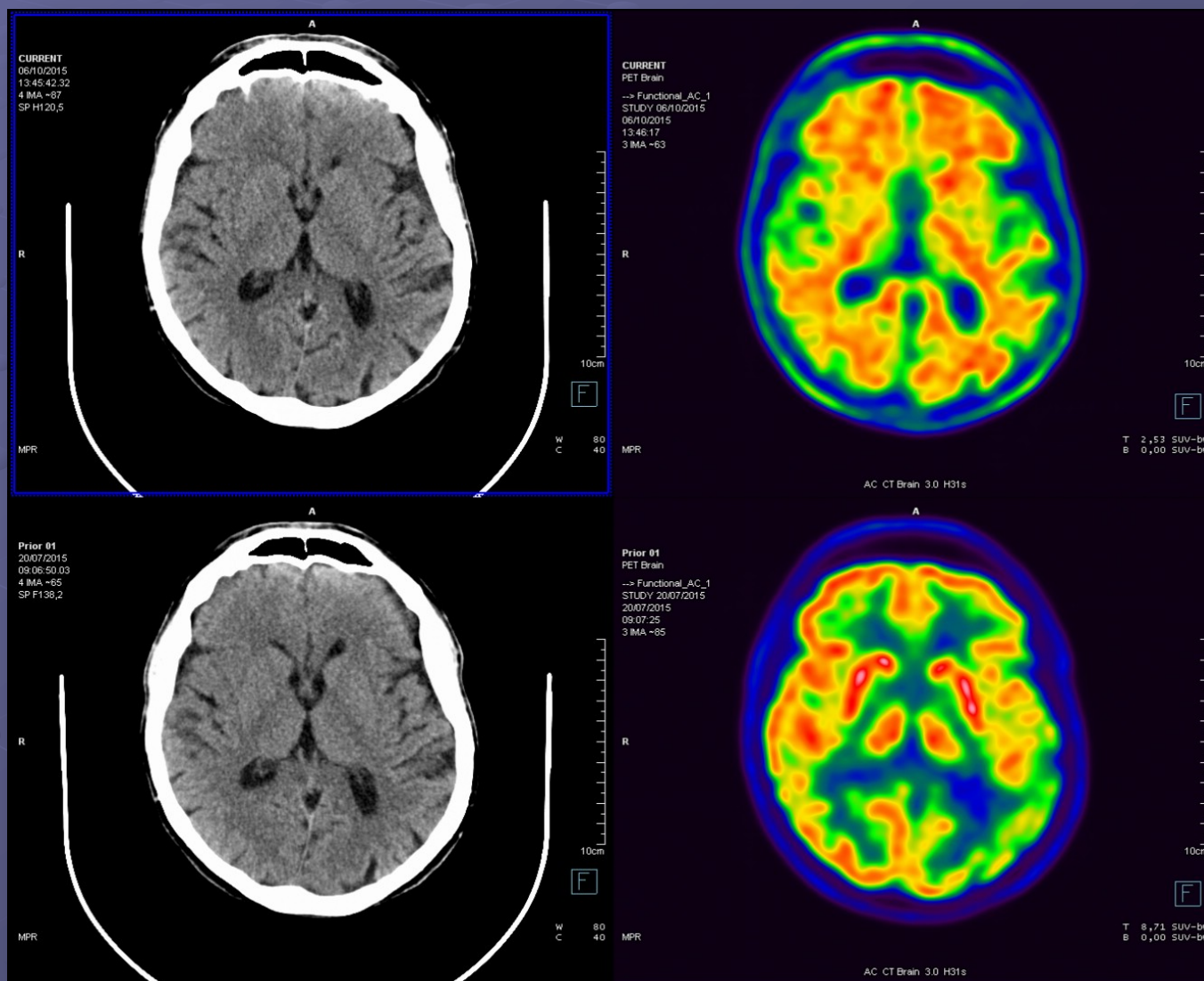


*durata
esame
10'-20'*

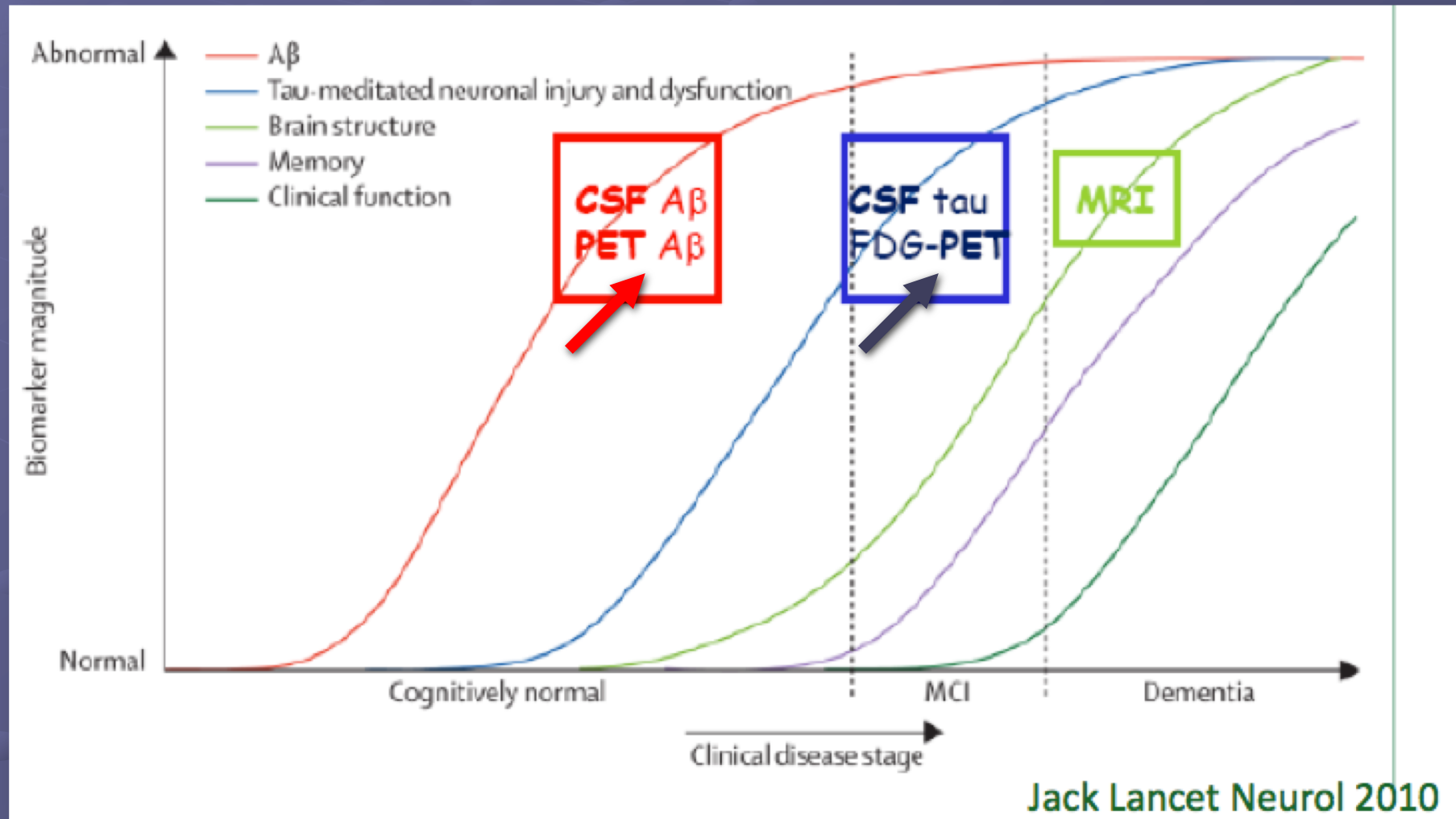
PET-CT con tracciante per l'amiloide



PET di metabolismo vs PET con tracciante per l'amiloide

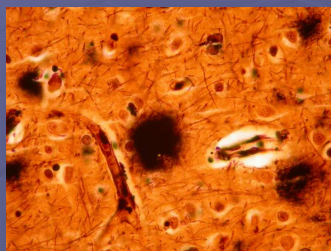


Malattia di Alzheimer

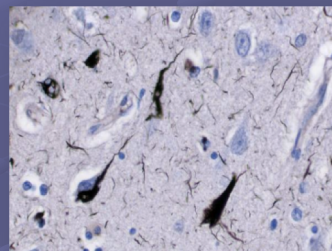


Specificità "orizzontale" tra differenti proteine depositate

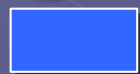
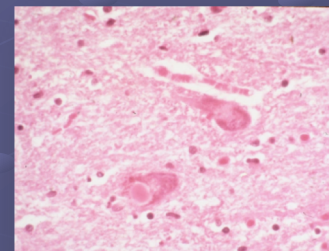
patologia amiloide



grovigli
neurofibrillari



corpi di Lewy



binding

^{11}C -PiB

Tab. II. Classificazione neuropatologica delle demenze (Malattie da Accumulo).

- Amiloidopatie:
 - Malattia di Alzheimer (M_{dA})
 - Malattie da Prioni (CJD, GSS, FI, vCJD, kuru)
- Sinucleinopatie:
 - Demenza a corpi di Lewy (LBD)
 - Demenza associata alla malattia di Parkinson (PDD)
- Taupatie:
 - Demenza di Pick
 - Demenza fronto-temporale con parkinsonismo legata al cromosoma 17 (FTDP-17)
 - Paralisi sopranucleare progressiva (PSP)
 - Degenerazione corticobasale (CBGD)

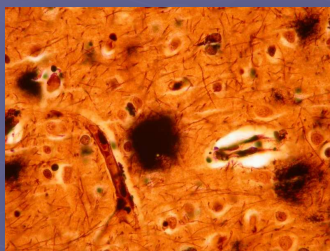
Rowe et al., Lockhart et al. 2007

Specificità "verticale"

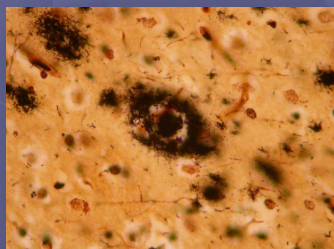
tra differenti tipi di β -amilode depositati

Patologia Amiloidea

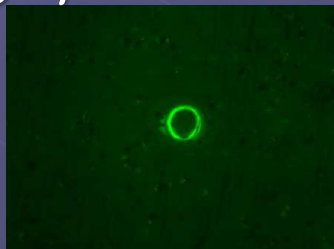
placche neuritiche



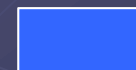
placche diffuse



angiopatia amiloide



^{11}C -PiB



binding

Armstrong et al. 1998, Lockhart et al. 2007

Imaging PET della β -amiloide

- *Un risultato "positivo" non è diagnostico per malattia di Alzheimer ma indica che nel cervello è presente un significativo carico di amiloide:*
 - *placche neuritiche;*
 - *placche diffuse;*
 - *angiopatia amiloide.*
- *Un esame "negativo" - che indica placche amiloidi scarse o assenti - è incompatibile con una diagnosi neuropatologica di malattia di Alzheimer.*