

PET Measured CSF Drainage in Aging and Alzheimer's Disease

Mony J. de Leon
Professor of Neuroscience in Radiology
Director Brain Health Imaging Institute
Weill Cornell Medicine, New York

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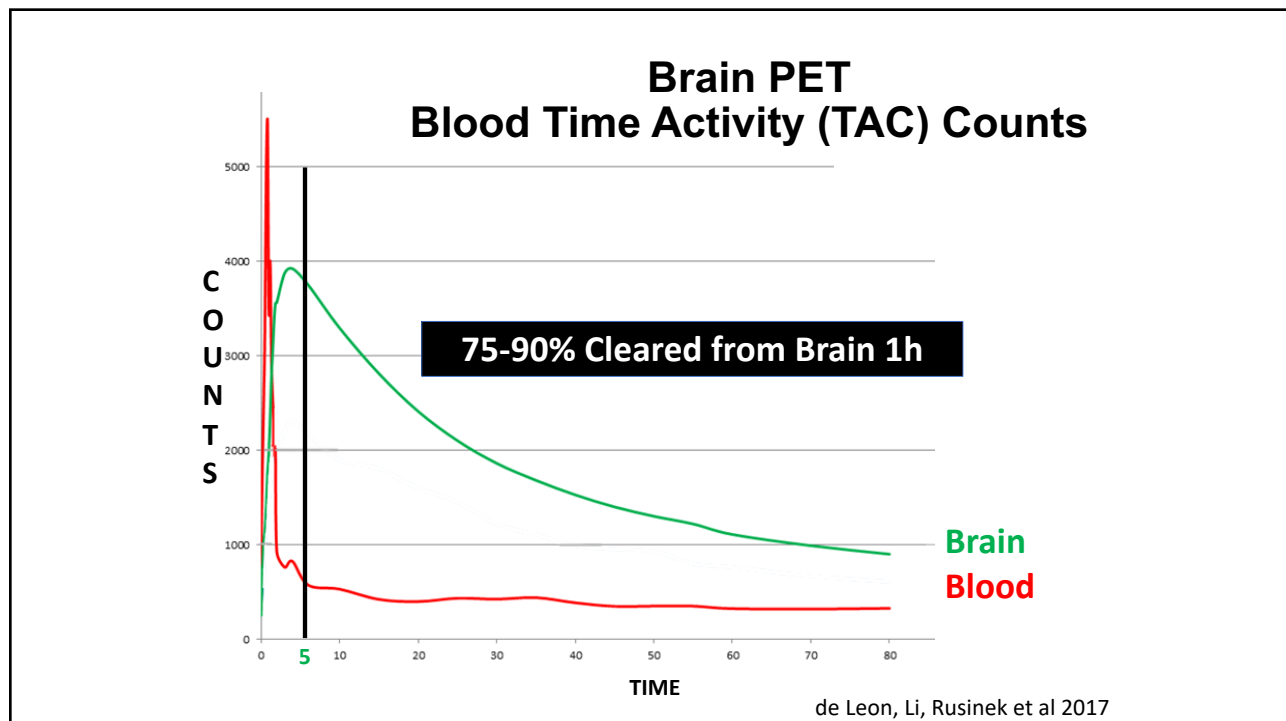
No Disclosures

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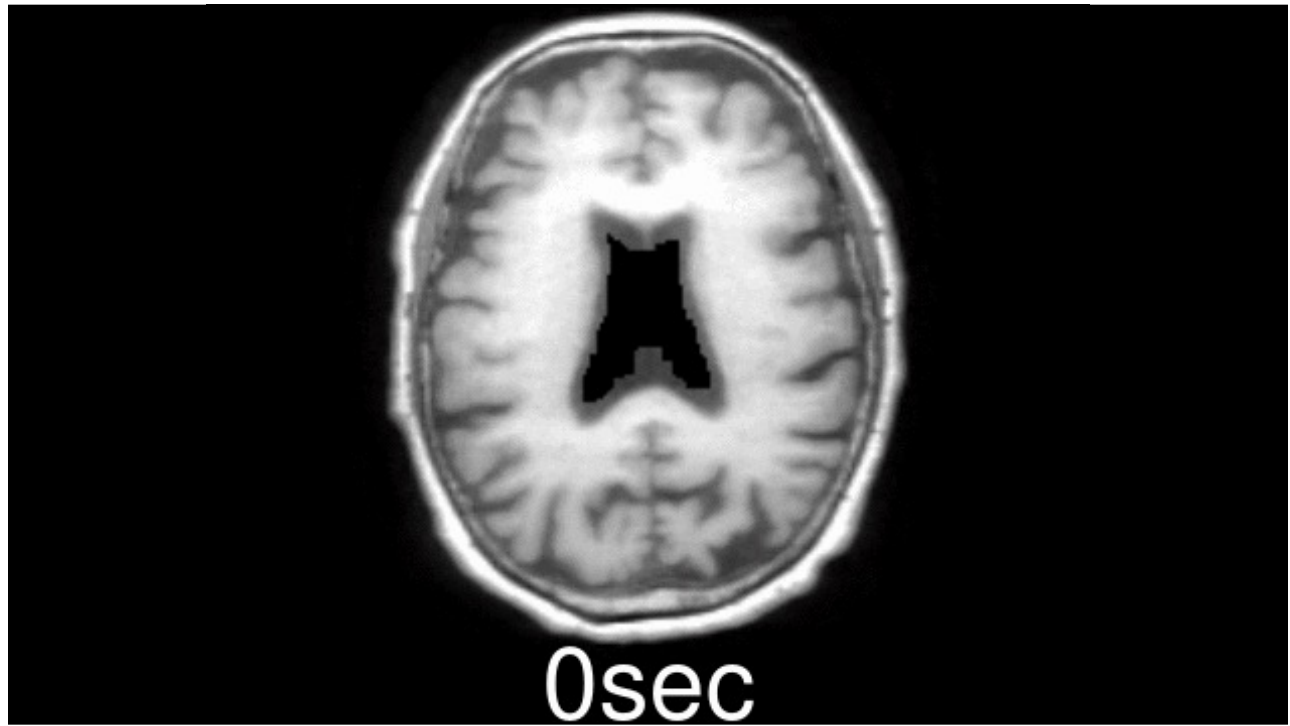
Objectives

- Demonstrate PET measured CSF clearance reductions in Alzheimer's Disease
- Anatomical correlations between dynamic PET and GADO MR (Gold Standard)
- Test CSF clearance reductions with aging

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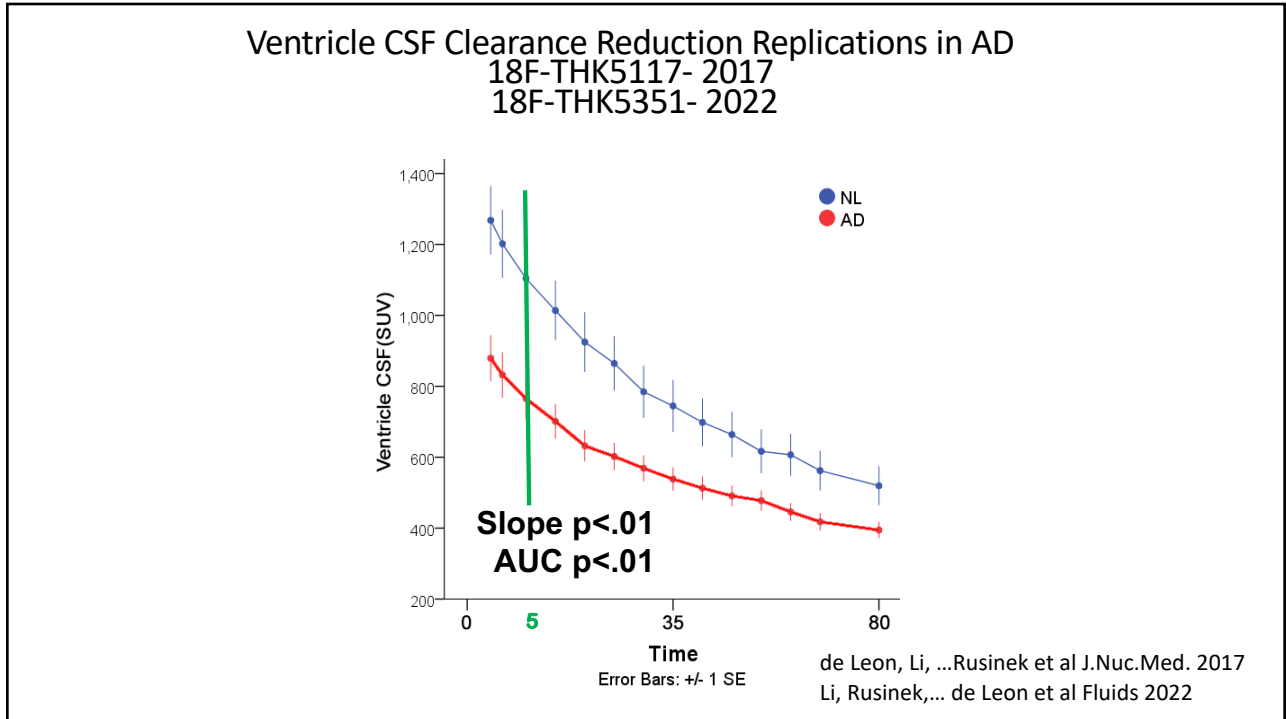
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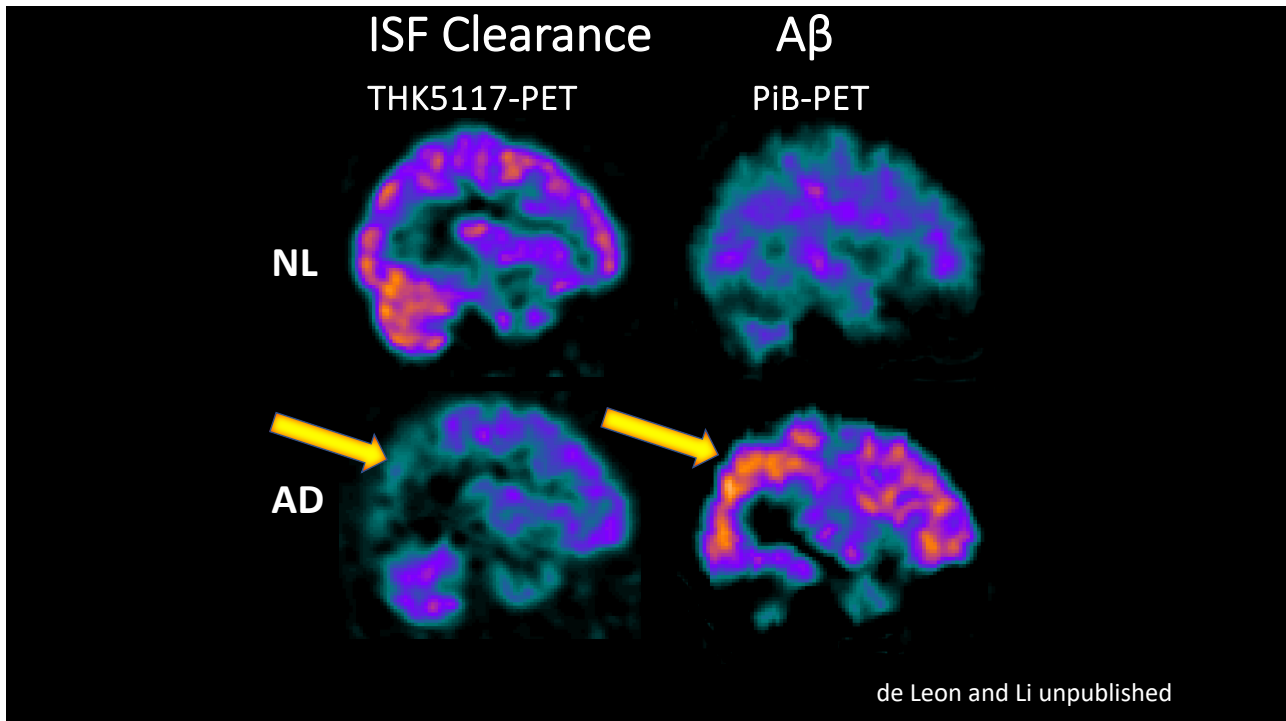
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AD Diagnosis

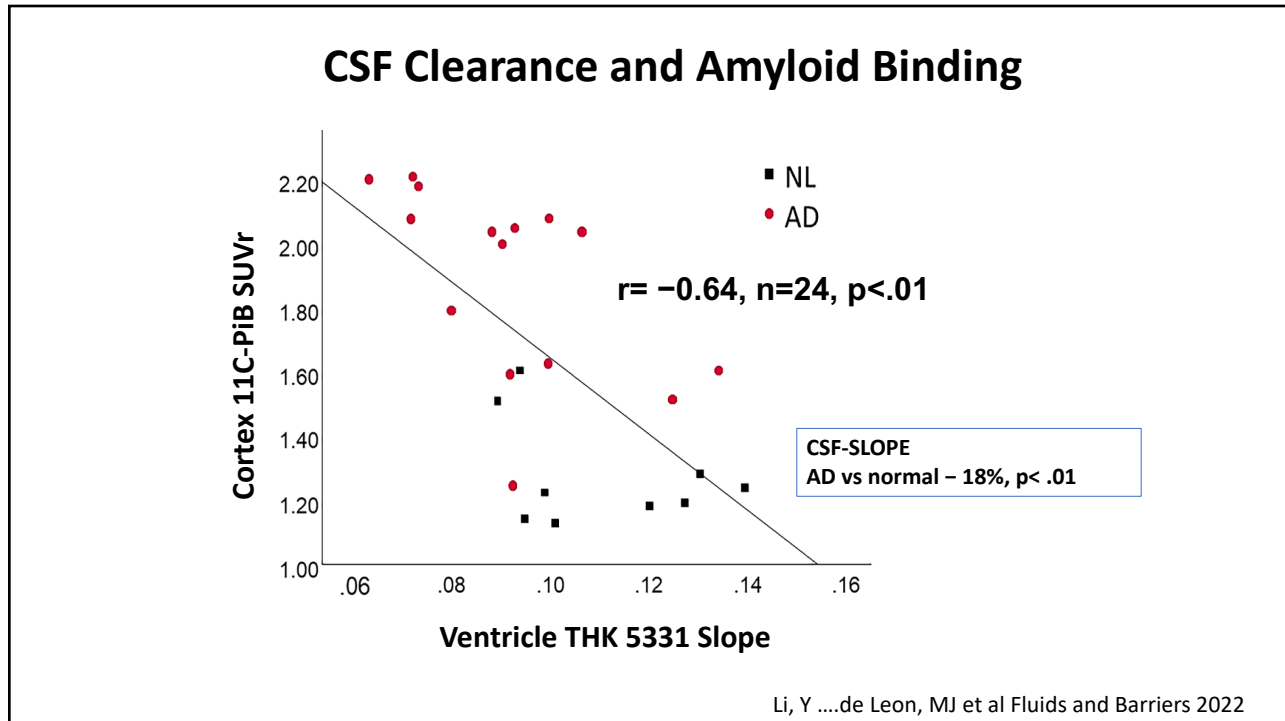
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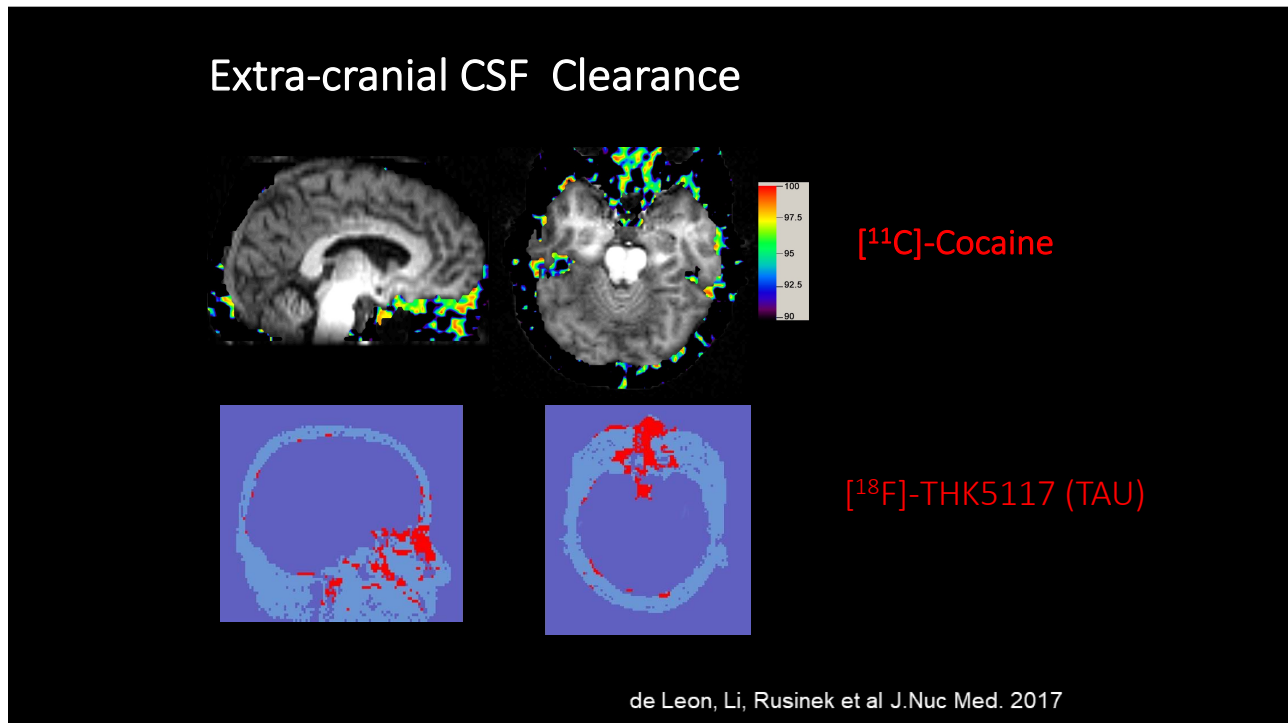


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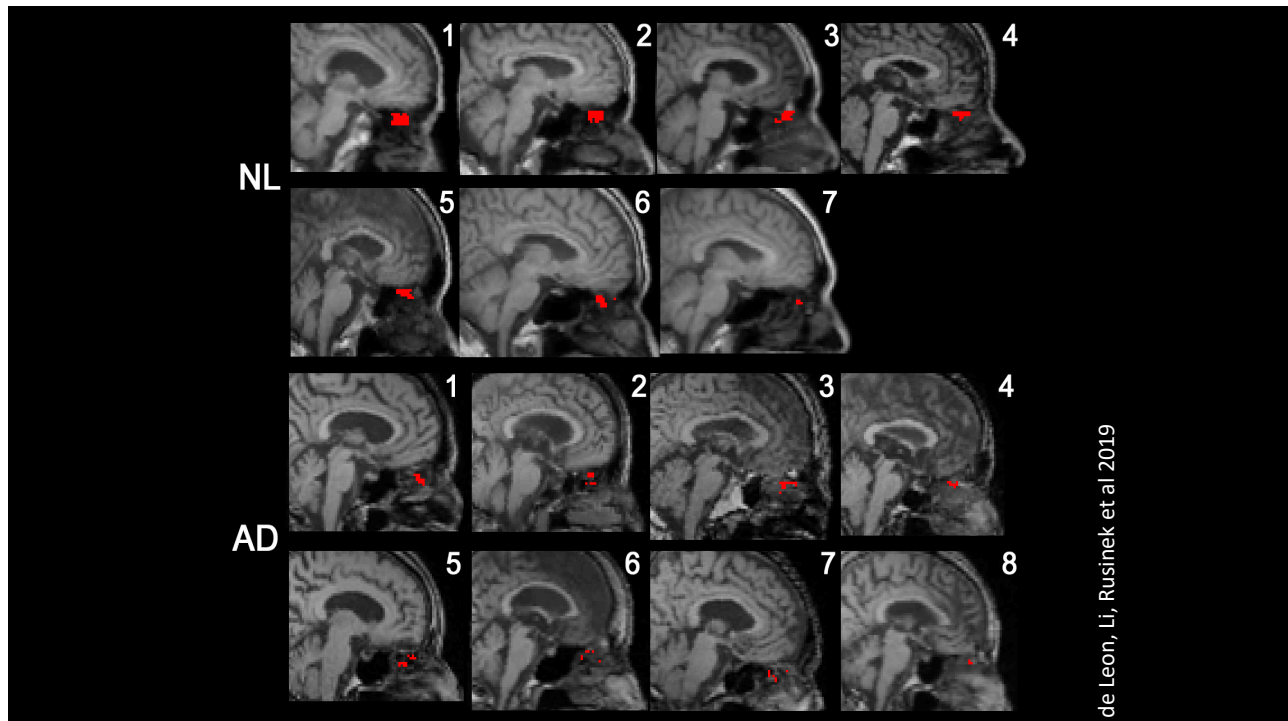
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Anatomical Studies

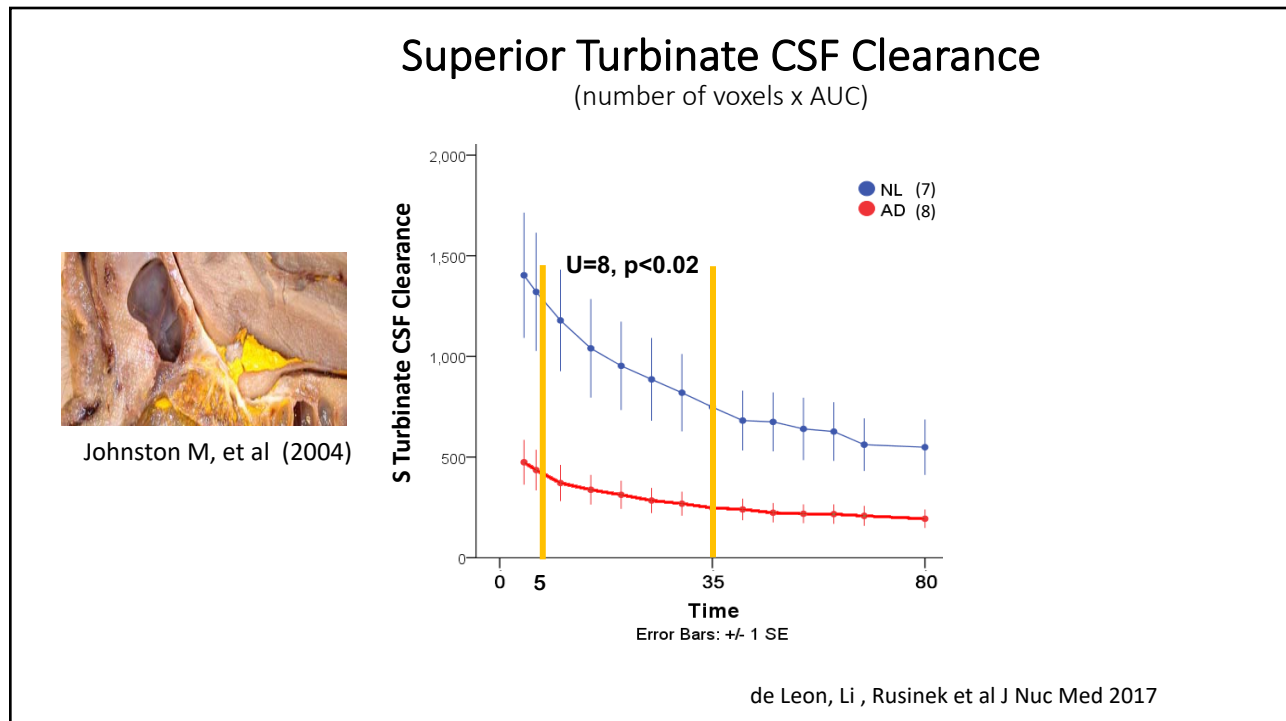
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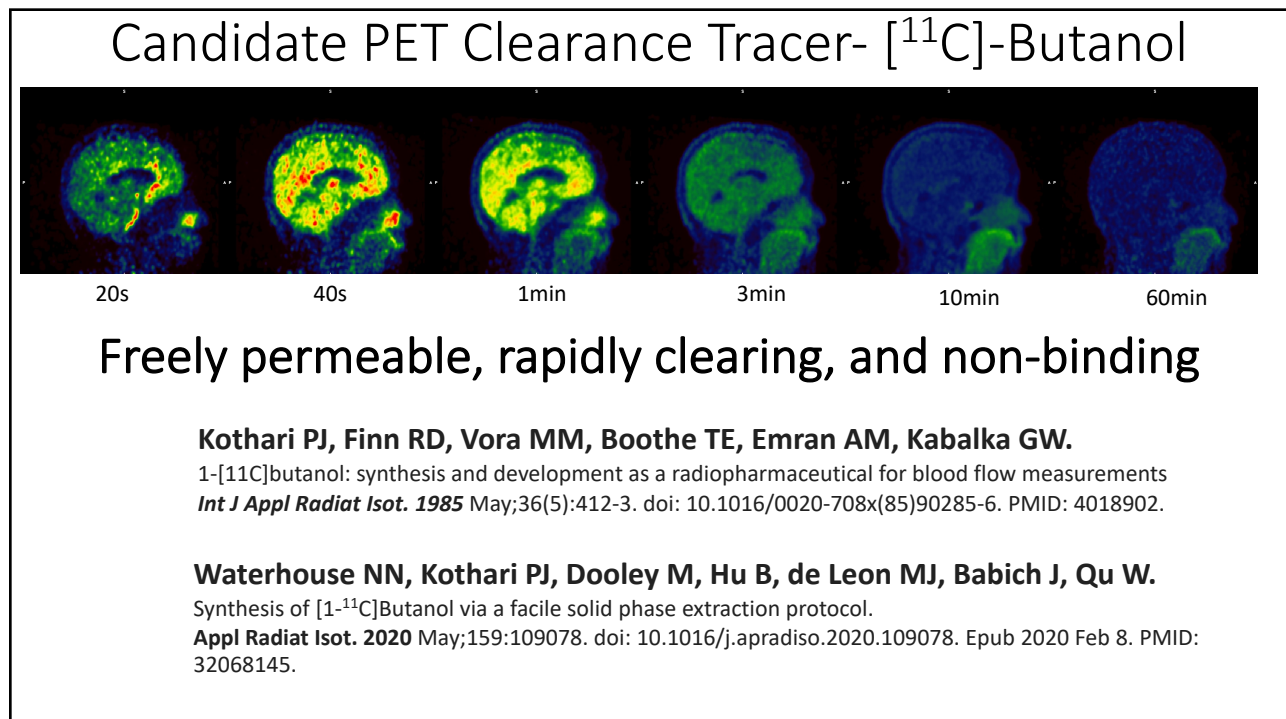
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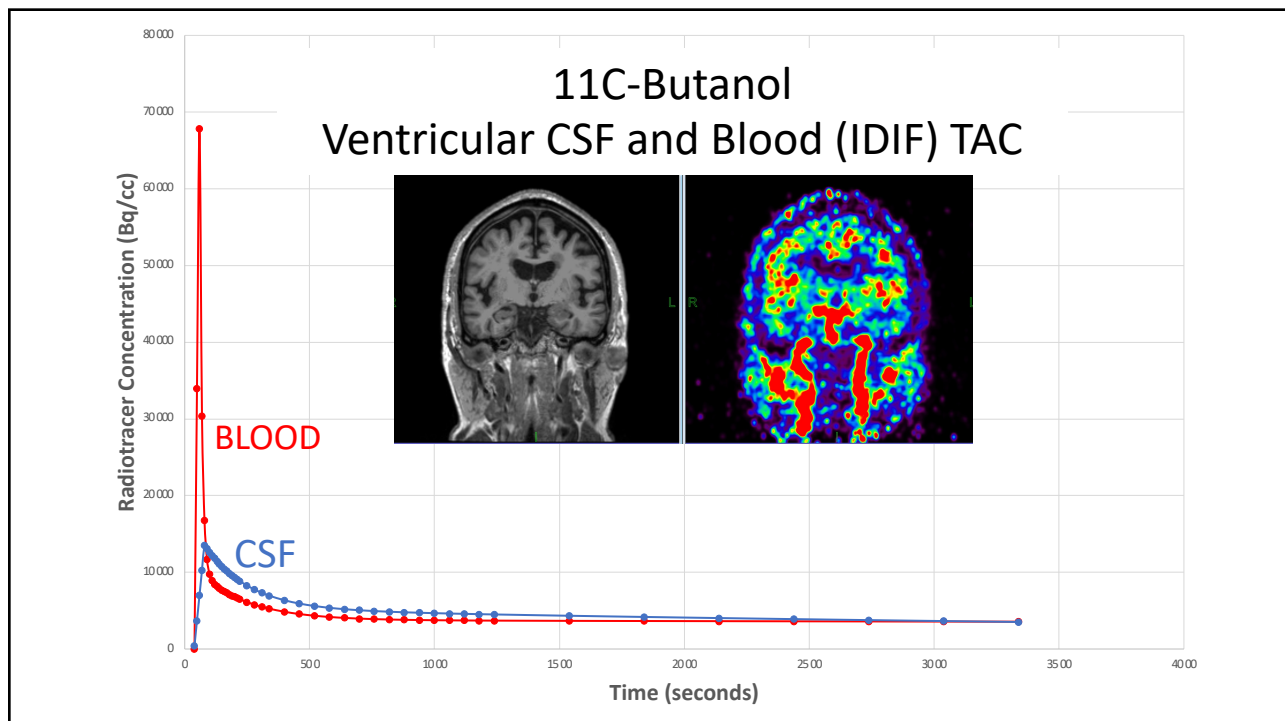
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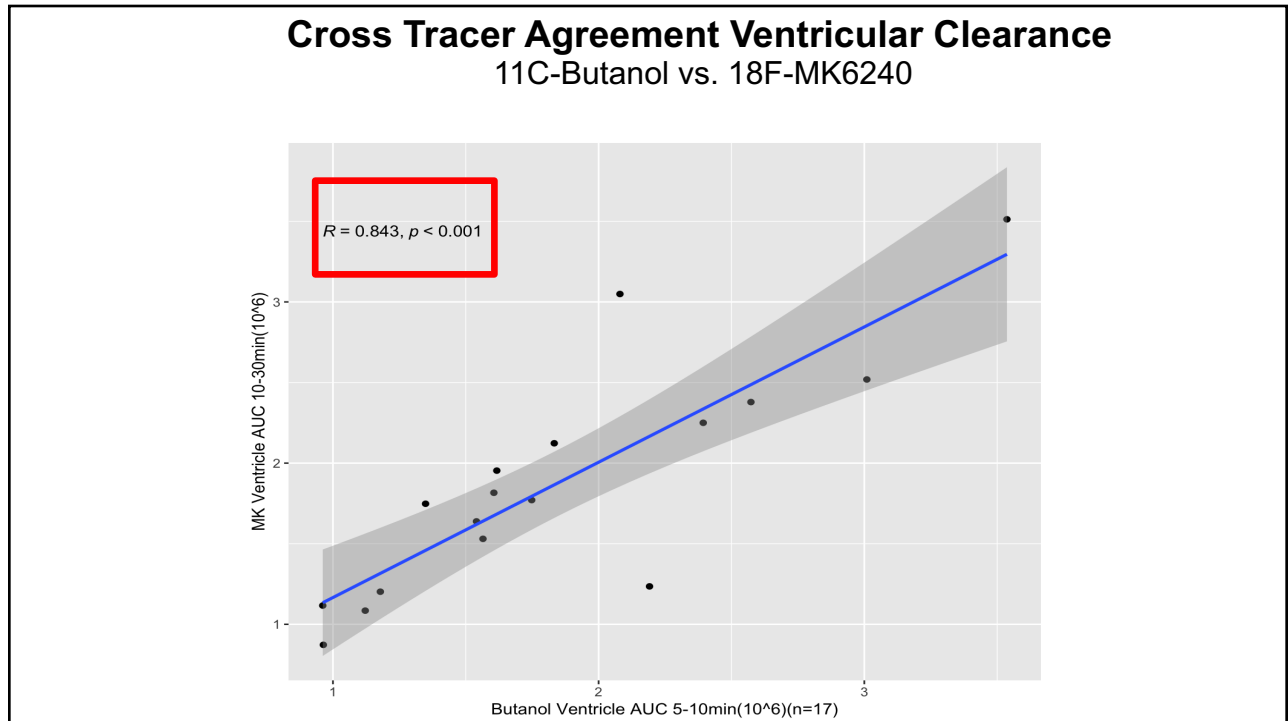
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Demographics ^{11}C -Butanol	
Normal Subjects	35
Age	64 +/- 17 ; range: (23 - 86)
Female	66%
Ventricle Volume	
Young (23-67y) n= 15	18 cm ³
Old (68-86y) n= 20	37 cm ³

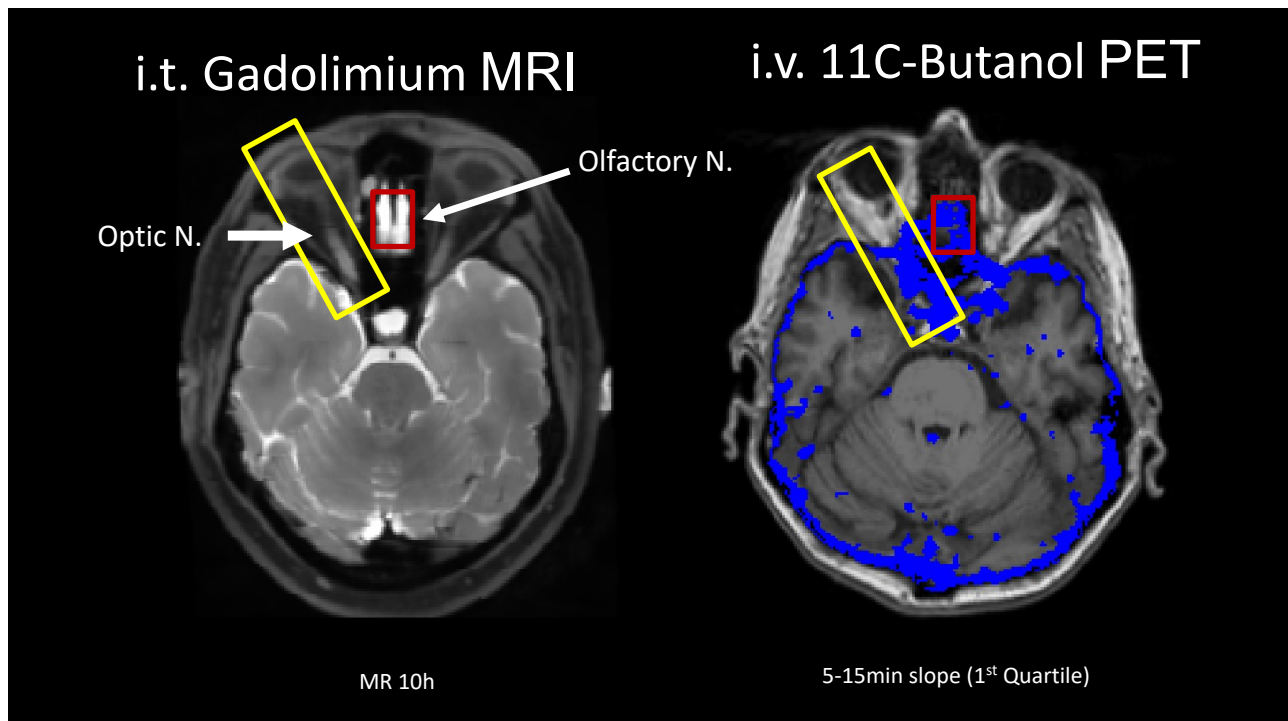
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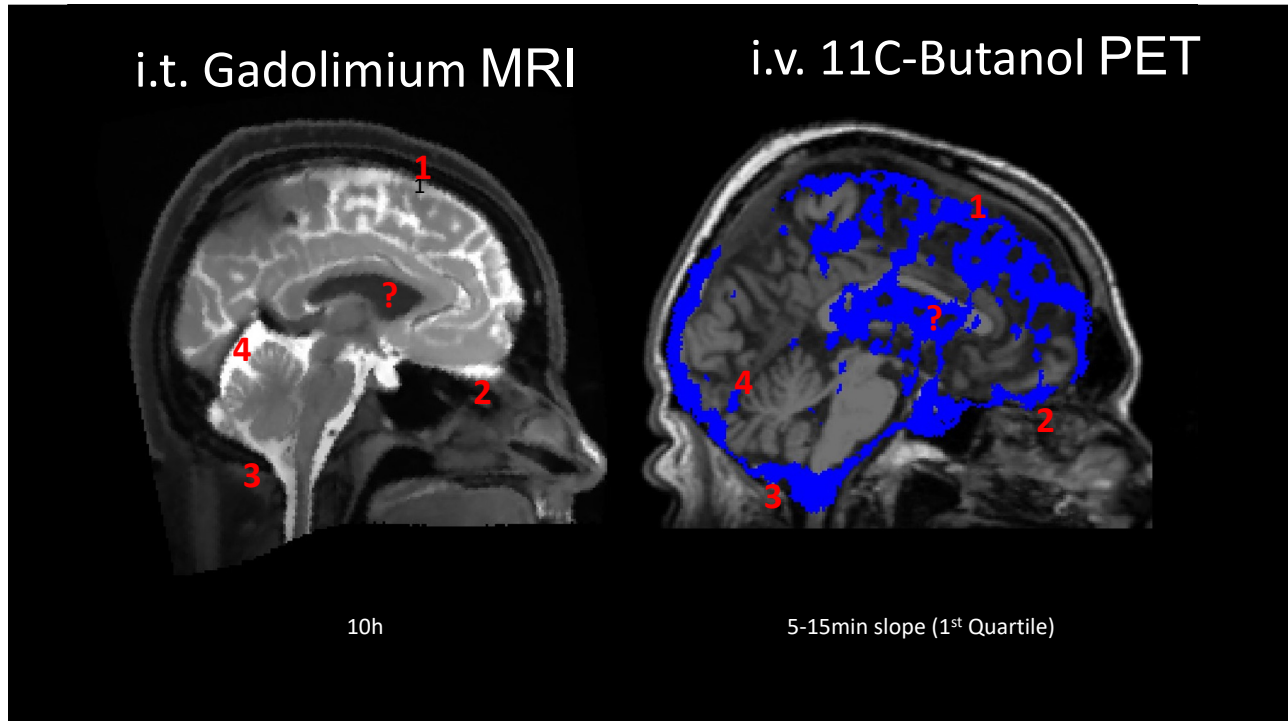
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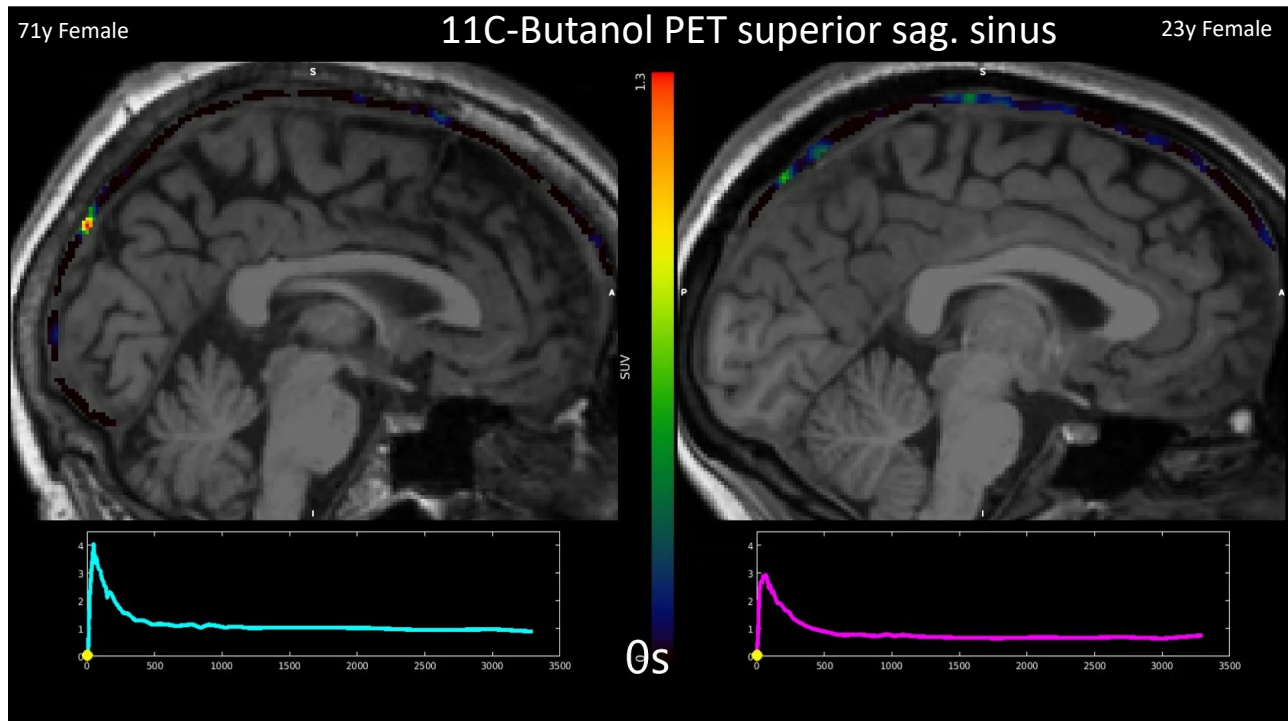
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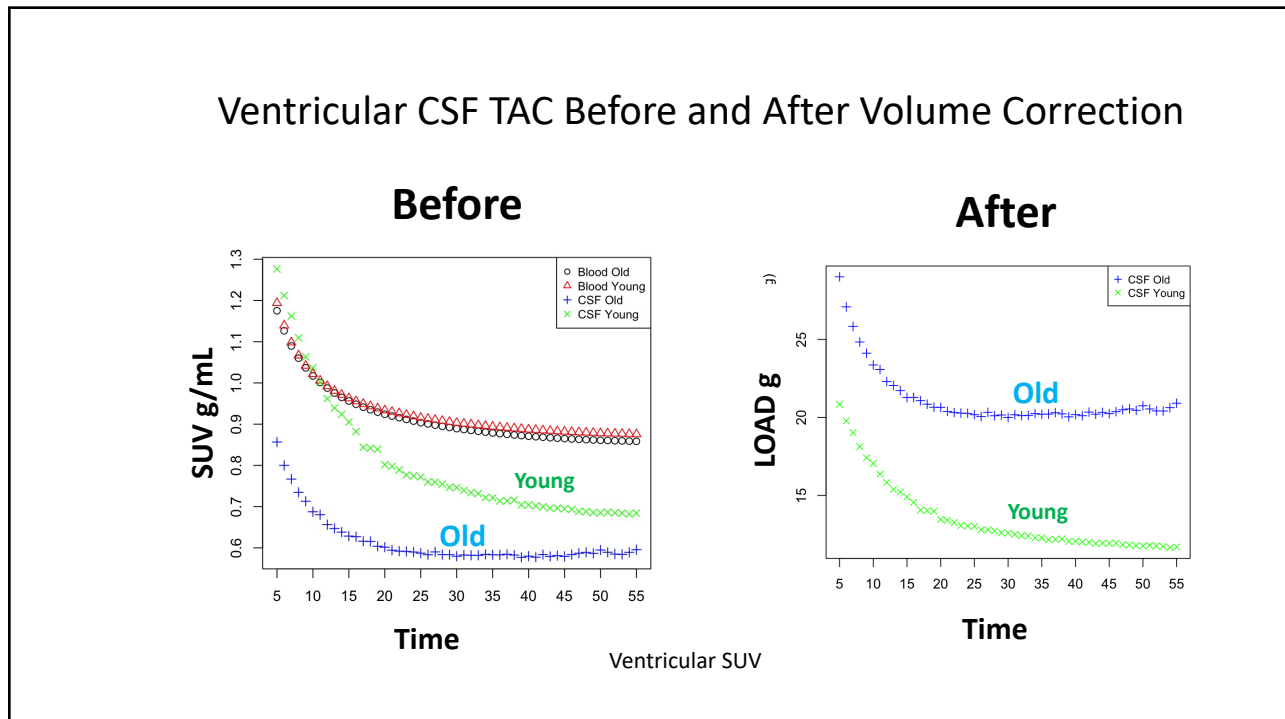


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Age Statistics Whole Brain Normalized

	<u>Cribriform Plate</u>	<u>Optic Nerve Sheath</u>	<u>SSS</u>
Avg. AUC 5-60m	NS	NS	Old+11%, p<.05
Slope 5-15m	r= .35, p<.05	NS	r=.55, p<.05

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Volume Adjusted Ventricular CSF AUC 5-60min by Age Group

	O-Y/Y	P Value
CSF AUC *1000	-21%	<.001
V. Volume cm ³	+106%	<.001
CSF AUC* V. Vol (*1000)	+59%	<.001

Ventricular CSF tracer (load) elevated in old 1.6X

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Conclusions

PET measures of CSF drainage reduced and have diagnostic value

¹¹C-Butanol a novel radiotracer to explore CSF egress pathways

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Project Contributors

Young Investigators

Weill Cornell Medicine	U. Michigan	Southampton UK	HSS	NYU SOM
Hugh Wang	Edward Spector	Roxana Carare	J. Levi Chazen	Henry Rusinek Co-PI
Ke Xi				
Emily Tanzi				
Phelipe N. Shuck				
Liangdong Zhou				
Sadek A. Neme				
Les A Saint-Louis				
Ed Fung				
Tracy Butler				
Lidia Glodzik				
Sara Strauss				
Jana Ivanidze				
Anna Nordvig				
P. David Mozley				
John Babich				
Gloria Chiang				
Jonathan Dyke				
Yi Li Co-PI				

Post docs welcome