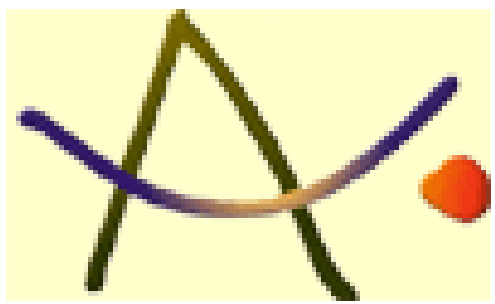
Update Demenz 2007/08

M. Gogol Klinik für Geriatrie

KRANKENHAUS LINDENBRUNN



Coppenbrügge

Prävalenz USA I

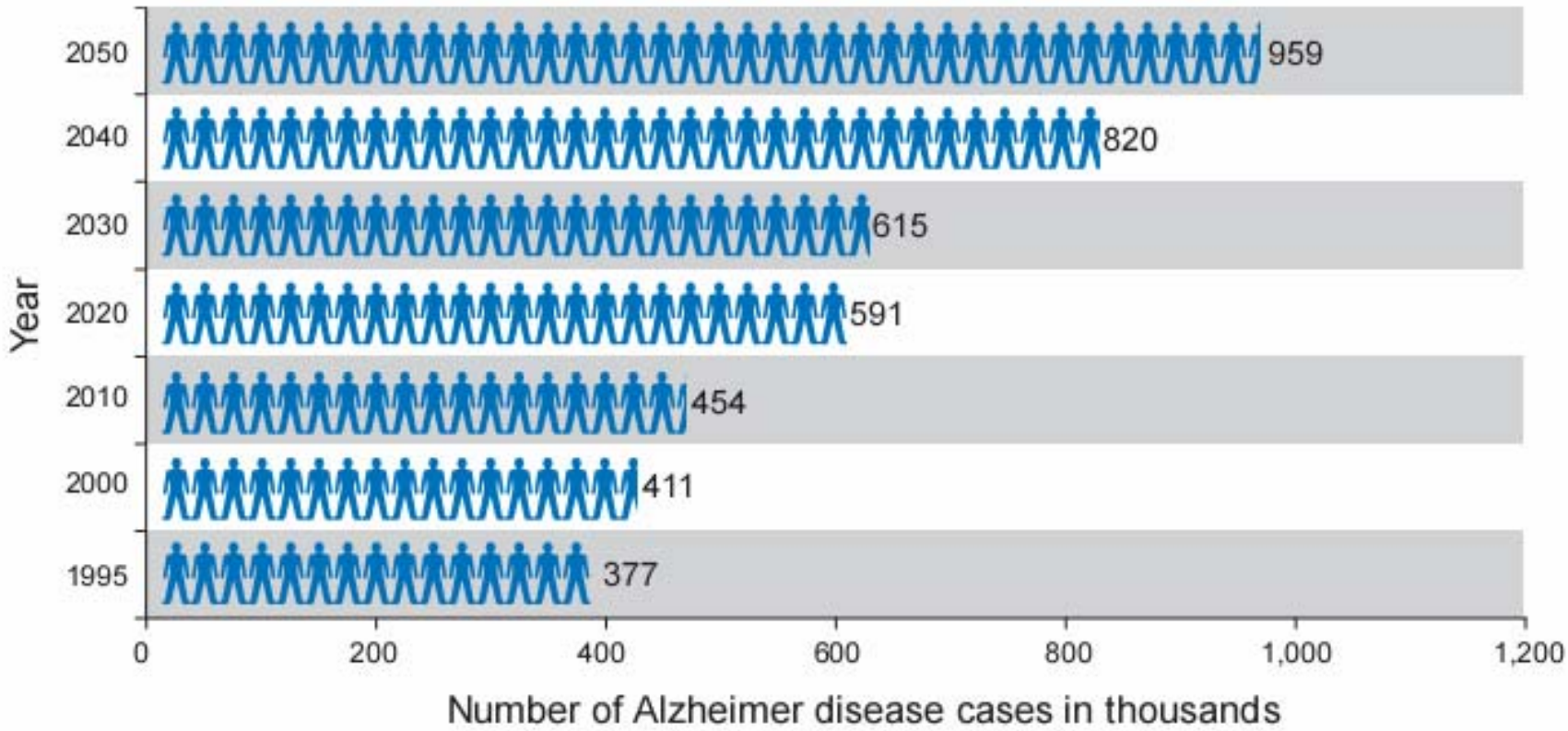


Figure 1 Actual and estimated number of new Alzheimer disease cases in the US through the year 2050 (ref. 2).

Mount C, Downton C. Alzheimer disease: progress or profit. Nature Med 2006;12(7):780-4

Prävalenz USA

Table 3. National estimates of the number of individuals with dementia or AD

Age	All dementia	AD
71–79 years	712,000 (375,000–1,050,000)	332,000 (181,000–483,000)
80–89 years	1,996,000 (1,590,000–2,401,000)	1,493,000 (1,111,000–1,875,000)
≥90 years	699,000 (476,000–922,000)	556,000 (348,000–763,000)
Total	3,407,000 (2,793,000–4,021,000)	2,381,000 (1,849,000–2,913,000)

95% CI in parentheses.

Plassmann BL et al. Prevalence of dementia,in the United States, the aging, demographics and memory study. Neuroepidemiology 2007;29:125-32

Does This Patient Have Dementia?

Tracey Holsinger, MD
Janie Deveau, MD
Malaz Boustani, MD, MPH
John W. Williams, Jr, MD, MHS

CLINICAL SCENARIO

Ms A, an 81-year-old retired nursing instructor who is recently widowed and lives alone, arrives in your office. She is accompanied by her daughter who decided to miss work and attend the appointment because she wanted you to know that her mother has become increasingly forgetful during the past 6 months. The patient is misplacing her glasses and keys more often, and she complains of difficulty sleeping and poor concentration. You must address whether the memory complaints are indicative of a dementia or if she has anxiety, depression, or is merely noting poorer recall associated with normal aging.

WHY IS THIS AN IMPORTANT QUESTION TO ANSWER WITH A CLINICAL EVALUATION?

Dementia is a prevalent problem. Depending on how cases are defined, es-

Context While as many as 5 million individuals in the United States have dementia, many others have memory complaints. Brief tests to screen for cognitive impairment could help guide dementia diagnosis.

Objective To review the literature concerning the practicality and accuracy of brief cognitive screening instruments in primary care.

Data Sources A search of MEDLINE (including data from AIDSLINE, BioethicsLine, and HealthSTAR) and psycINFO was conducted from January 2000 through April 2006 to update previous reviews.

Study Selection Studies of patients aged 60 years and older and use of an acceptable criterion standard to diagnose dementia were considered.

Data Extraction Studies were assessed by 2 independent reviewers for eligibility and quality. A third independent reviewer adjudicated disagreements. Data for likelihood ratios (LRs) were extracted.

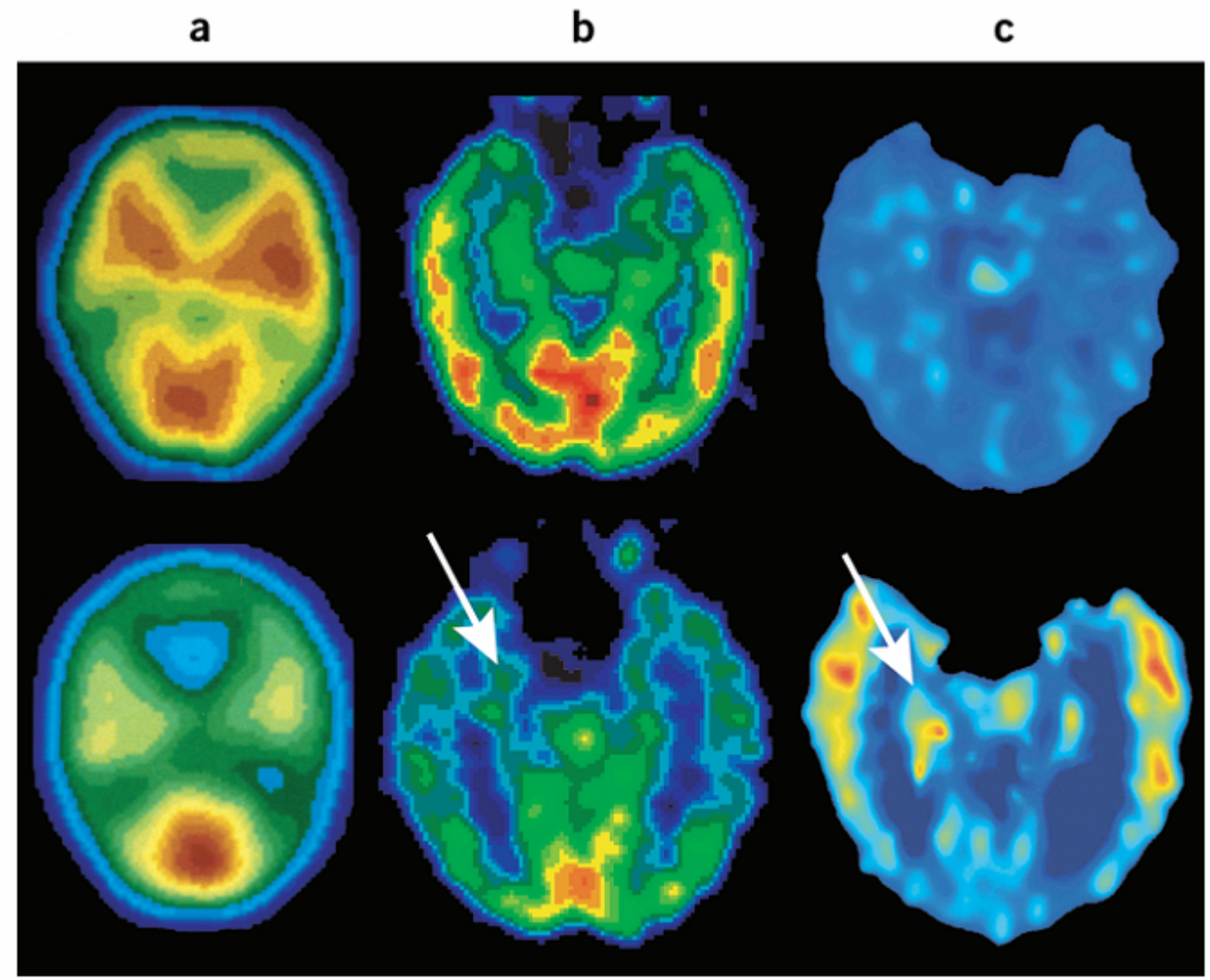
Data Synthesis Twenty-nine studies using 25 different screening instruments met inclusion criteria; some studies evaluated several different instruments, thus, information could be examined for 38 unique instrument/study combinations.

Results For the commonly used Mini-Mental State Examination, the median LR for a positive result was 6.3 (95% confidence interval [CI], 3.4-47.0) and the median LR for a negative result was 0.19 (95% CI, 0.06-0.37). Briefer approaches are available but have not been studied as frequently. Reports from an informant that the patient has memory loss yields an LR of 6.5 (95% CI, 4.4-9.6) for dementia. The Memory Impairment Screen takes 4 minutes to ask 4 items and has an LR for a positive result of 33 (95% CI, 15.0-72.0) and an LR for a negative result is 0.08 (95% CI, 0.02-0.3). Clock drawings are helpful in 1- to 3-minute forms, but must be scored appropriately and sensitivity to mild forms of impairment can be low.

Conclusions Clinicians should select 1 primary tool based on (1) the population receiving care; (2) an awareness of the effects of educational level, race, and age on scoring; and (3) consideration of adding 1 or 2 other tools for special situations as needed.

JAMA. 2007;297:2391-2404 www.jama.com

Diagnostik mit PET Positronen-Emissions Tomograhie



a
Low resolution

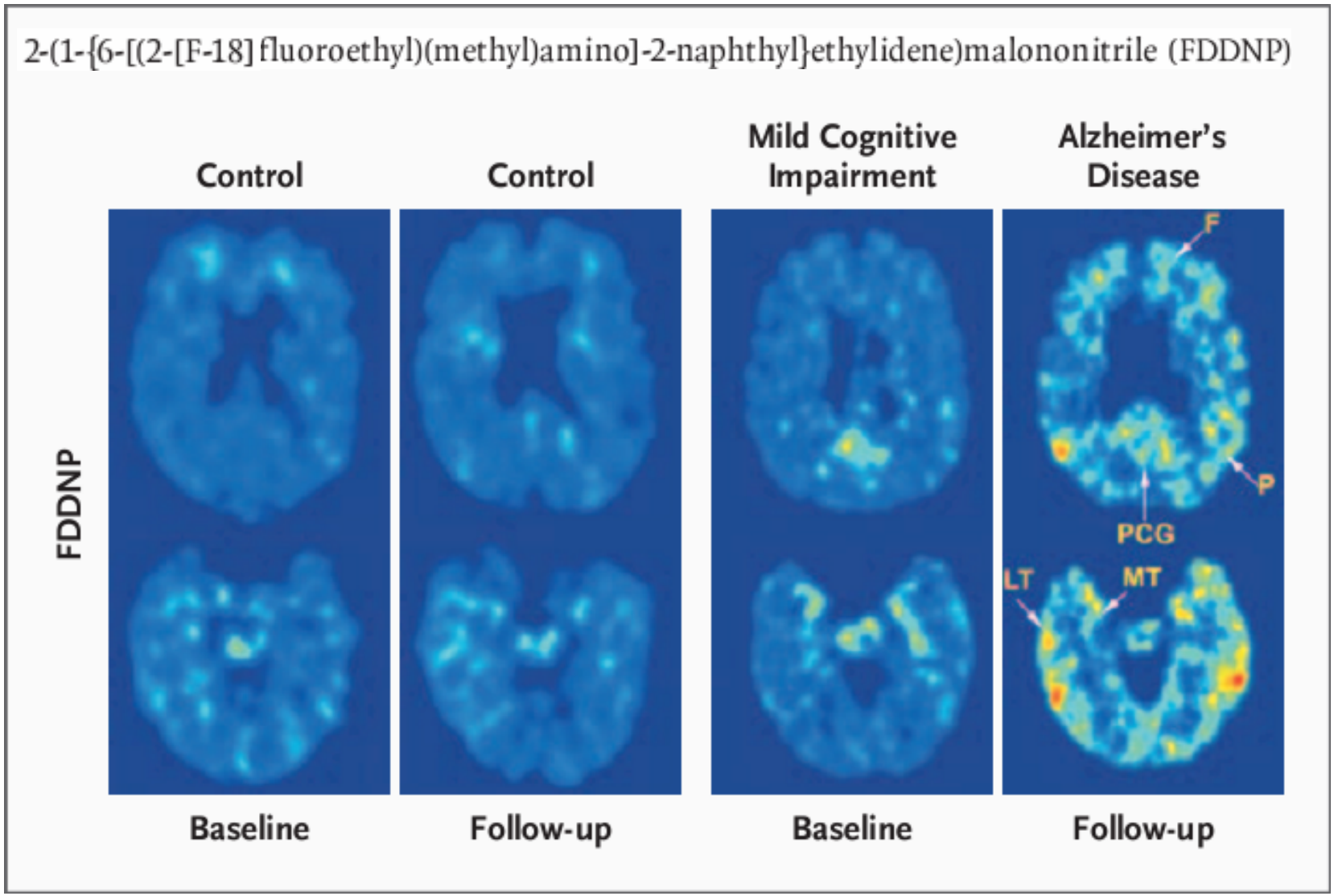
b
High resolution

c
[F-18]FDDNP-PET

↘
Hippocampus

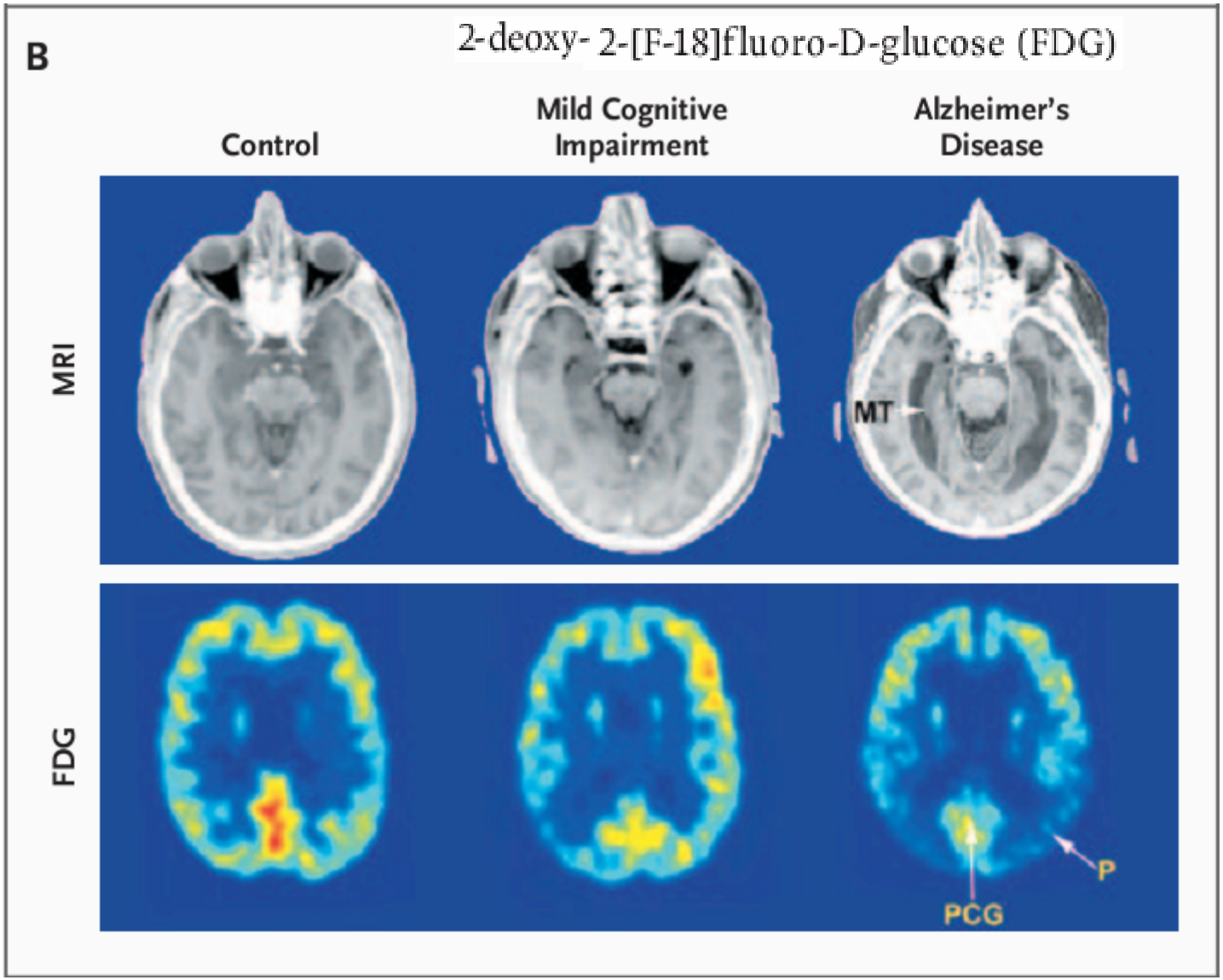
De Leon MJ, Mosconi L, Logan J. Seeing what Alzheimer saw. Nature Med 2007;13(2):219-31

FDDNP-PET



Small GW et al. PET of brain amyloid and tau in mild cognitive impairment. NEJM 2006;355(25):2652-63

MRI und FDG-PET I



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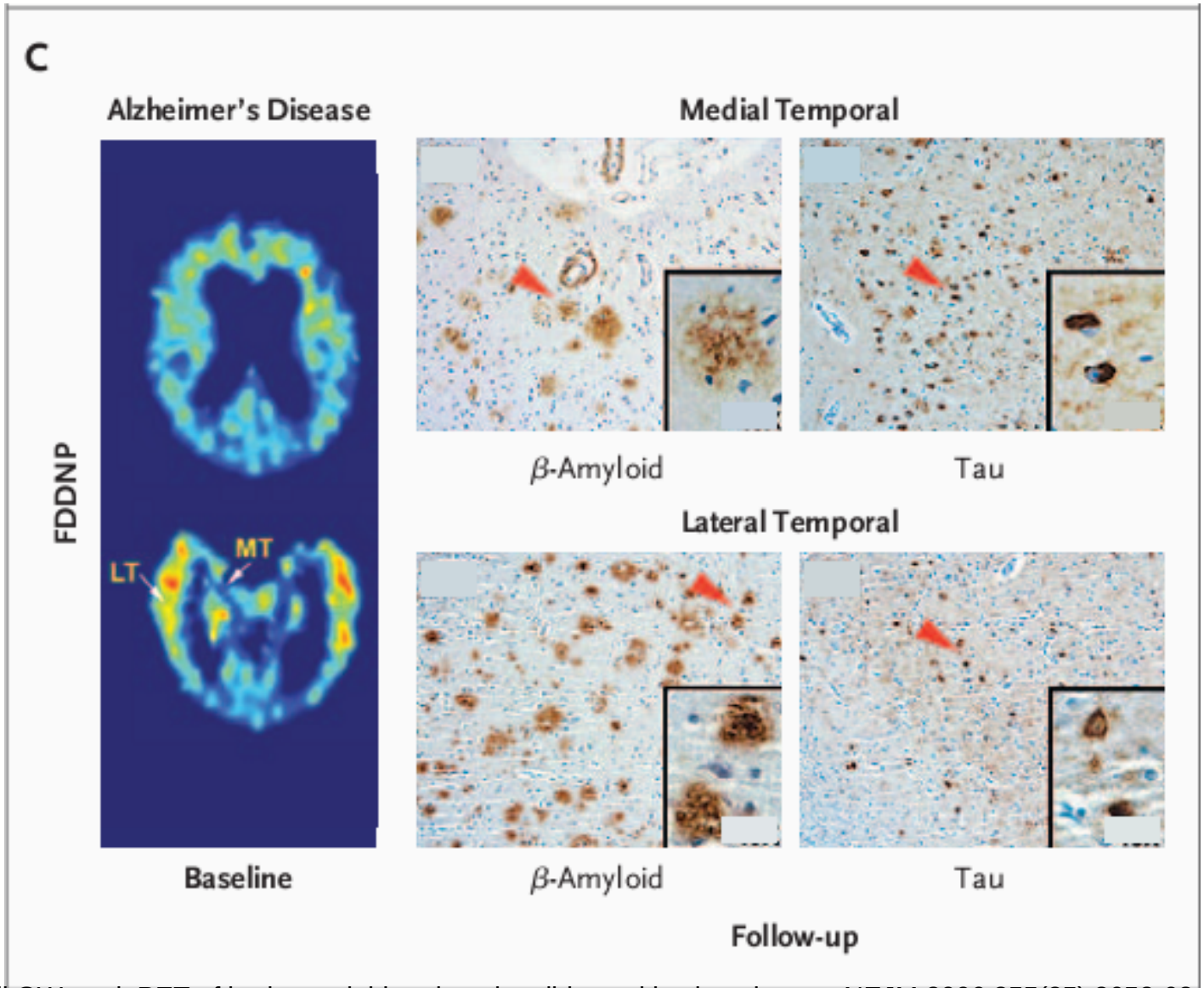
MRI und FDG-PET II



Small GW et al. PET of brain amyloid and tau in mild cognitive impairment. NEJM 2006;355(25):2652-63

MCI und cerebrale Durchblutung I

Table 1 Demographic and neuropsychological data referencing who successfully completed the ASL-MRI scans

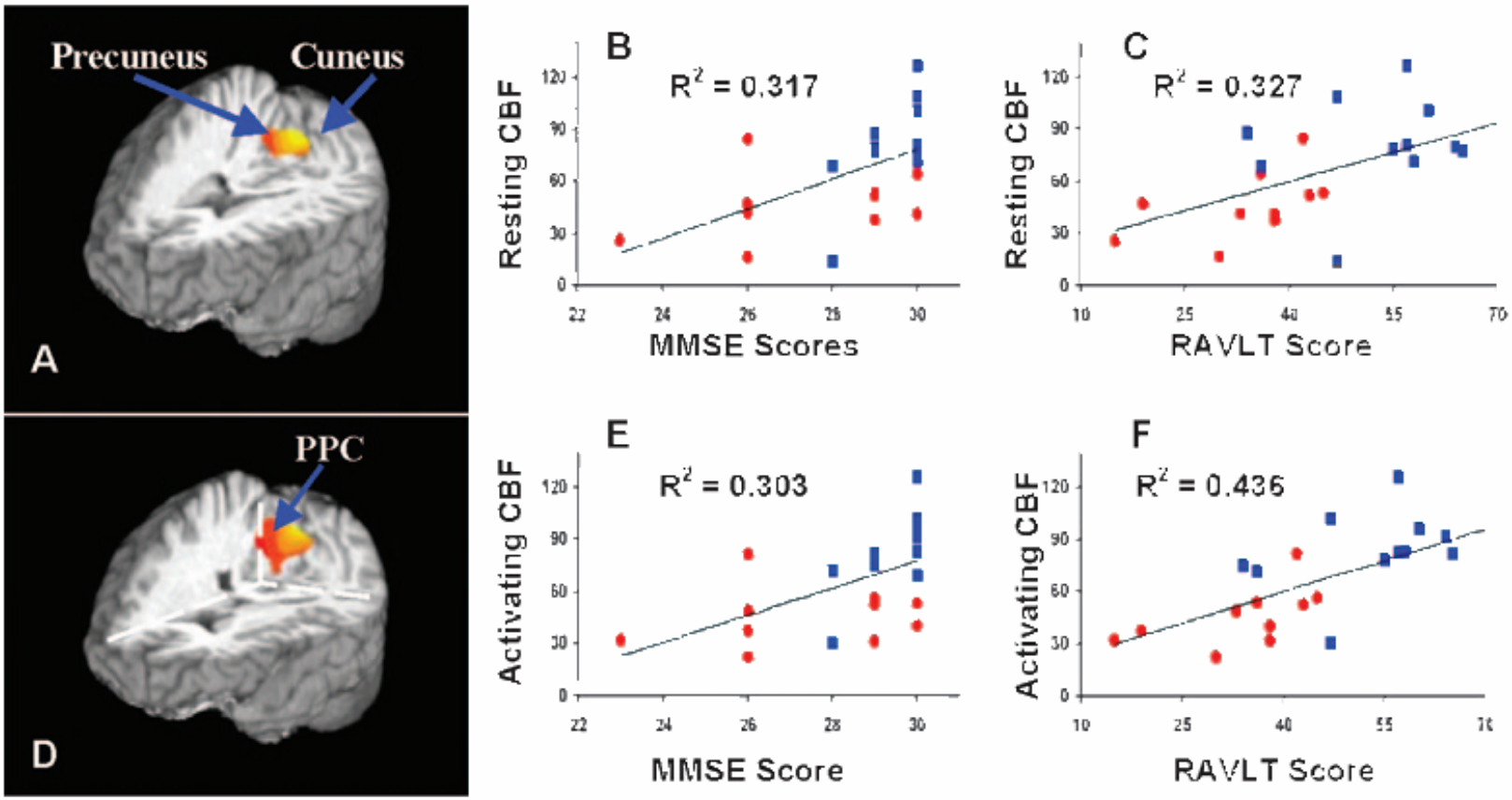
Characteristic	aMCI (n = 10), average ± SD	Controls (n =12), average ± SD
Age, y	77 ± 4.47	70 ± 3.90*
Education, y	13.7 ± 2.72	15.6 ± 2.07
Male/female	5/5	7/5
CDR	0.5	0
MMSE	27.8 ± 1.50	29.6 ± 0.79
Boston Naming Test (raw score)	14 ± 1.04	14.8 ± 0.40
RAVLT raw total (trial 1–5, raw score)	33 ± 8.62*	51 ± 8.45*
Memory recognition test accuracy (%)	69.3 ± 11.1%*	80.4 ± 12.9%*

Significance between aMCI and control groups withtwo-tailed group *t* test: $^{*}p < 0.05$; $^{*}p < 0.01$.
ASL-MRI = arterial spin-labeling perfusion MRI; aMCI = mild cognitive impairment; CDR = Clinical Dementia Rating; MMSE = Mini-Mental State Examination; RAVLT = Rey Auditory Verbal Learning Test.

Xu G et al. Perfusion fMRI dtects deficits in regional CBF during memory-encoding tasks in MCI subjcts. Neurology 2007;69:1650-6.

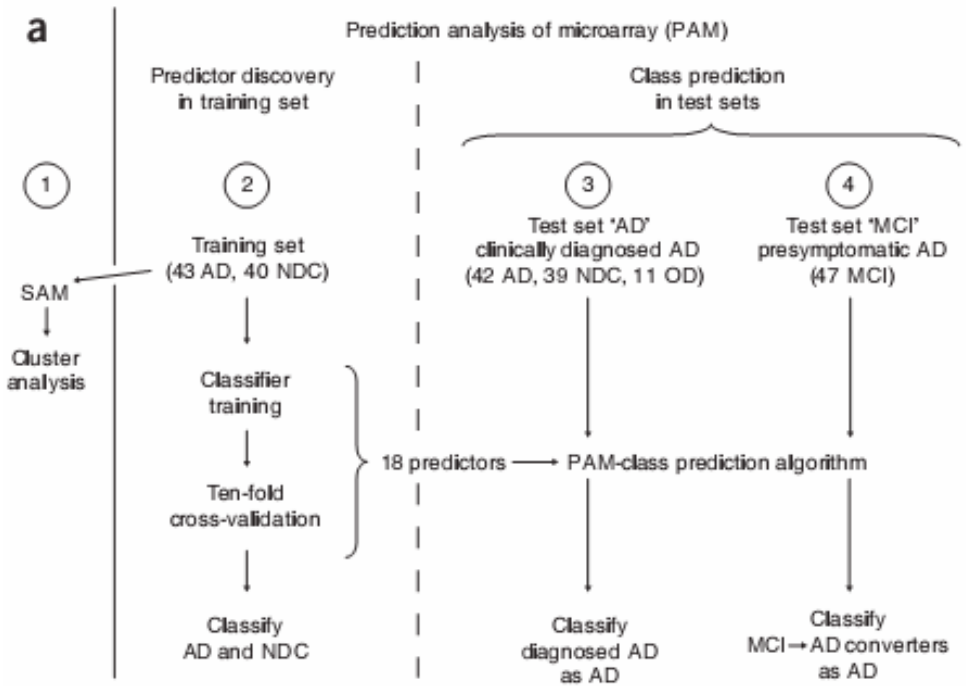
MCI und cerebrale Durchblutung II

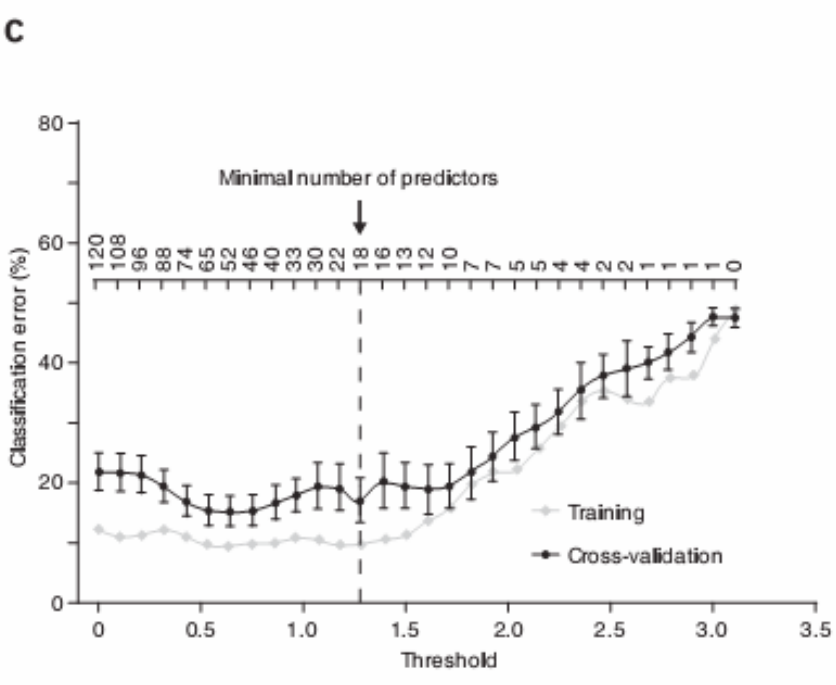
Figure 2 Comparison of group baseline cerebral blood flow (CBF) images between the amnestic mild cognitive impairment (aMCI) and cognitively normal (CN) groups



Xu G et al. Perfusion fMRI dtects deficits in regional CBF during memory-encoding tasks in MCI subjcts. Neurology 2007;69:1650-6.

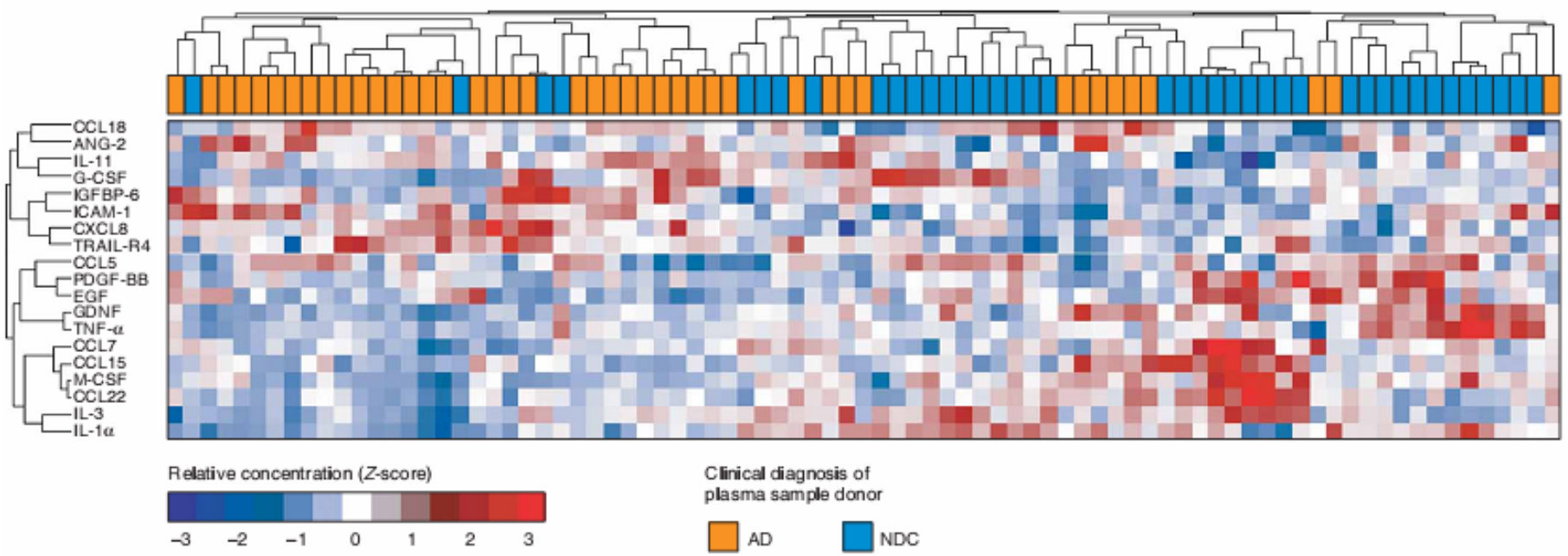
Plasmaproteine I



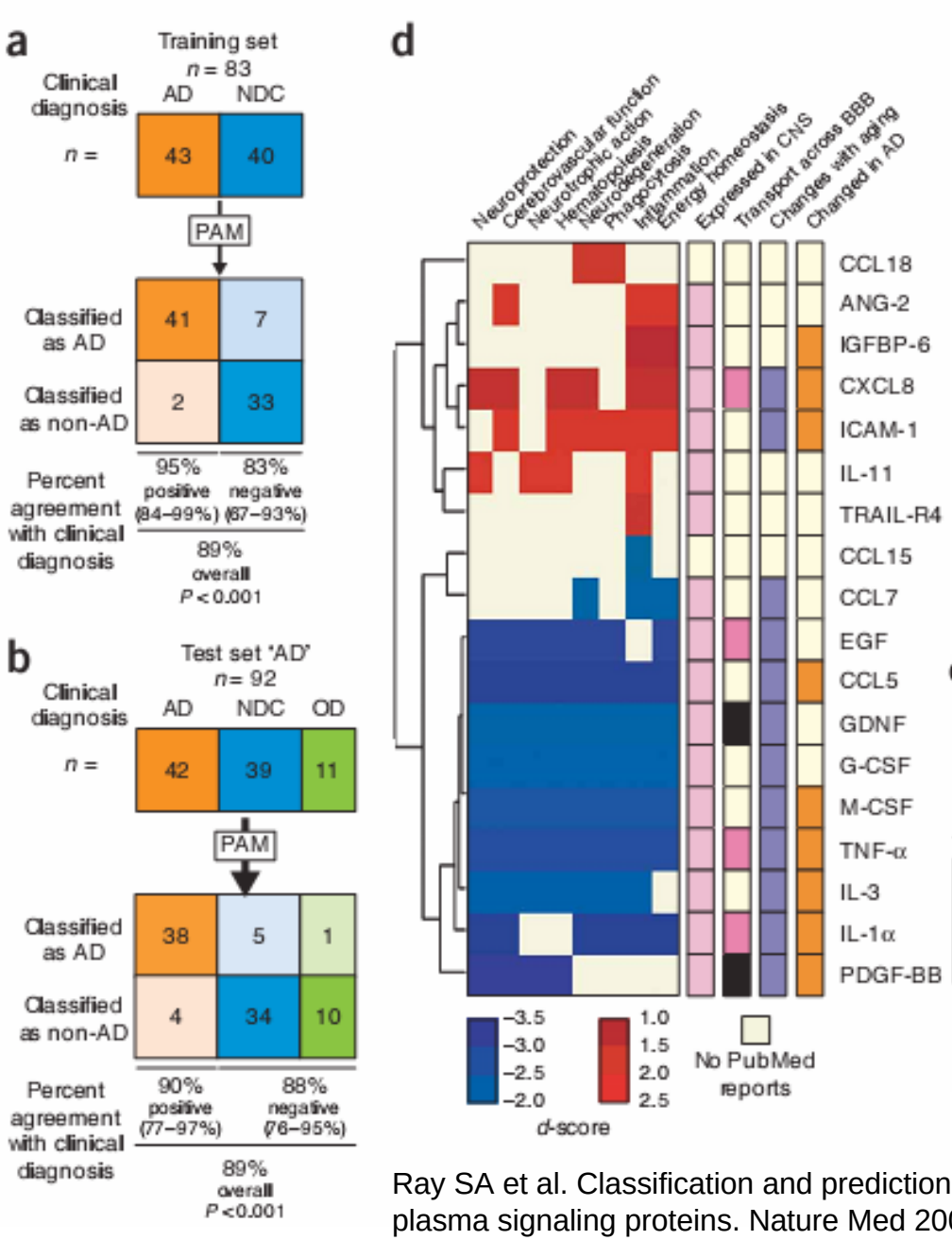


Ray SA et al. Classification and prediction of clinical Alzheimer´s diagnosis based on plasma signaling proteins. Nature Med 2007;13(11):1359-62

Plasmaproteine II



Ray SA et al. Classification and prediction of clinical Alzheimer´s diagnosis based on plasma signaling proteins. Nature Med 2007;13(11):1359-62



Ray SA et al. Classification and prediction of clinical Alzheimer´s diagnosis based on plasma signaling proteins. Nature Med 2007;13(11):1359-62

Table 1 Eighteen plasma signaling proteins that predict clinical Alzheimer's diagnosis

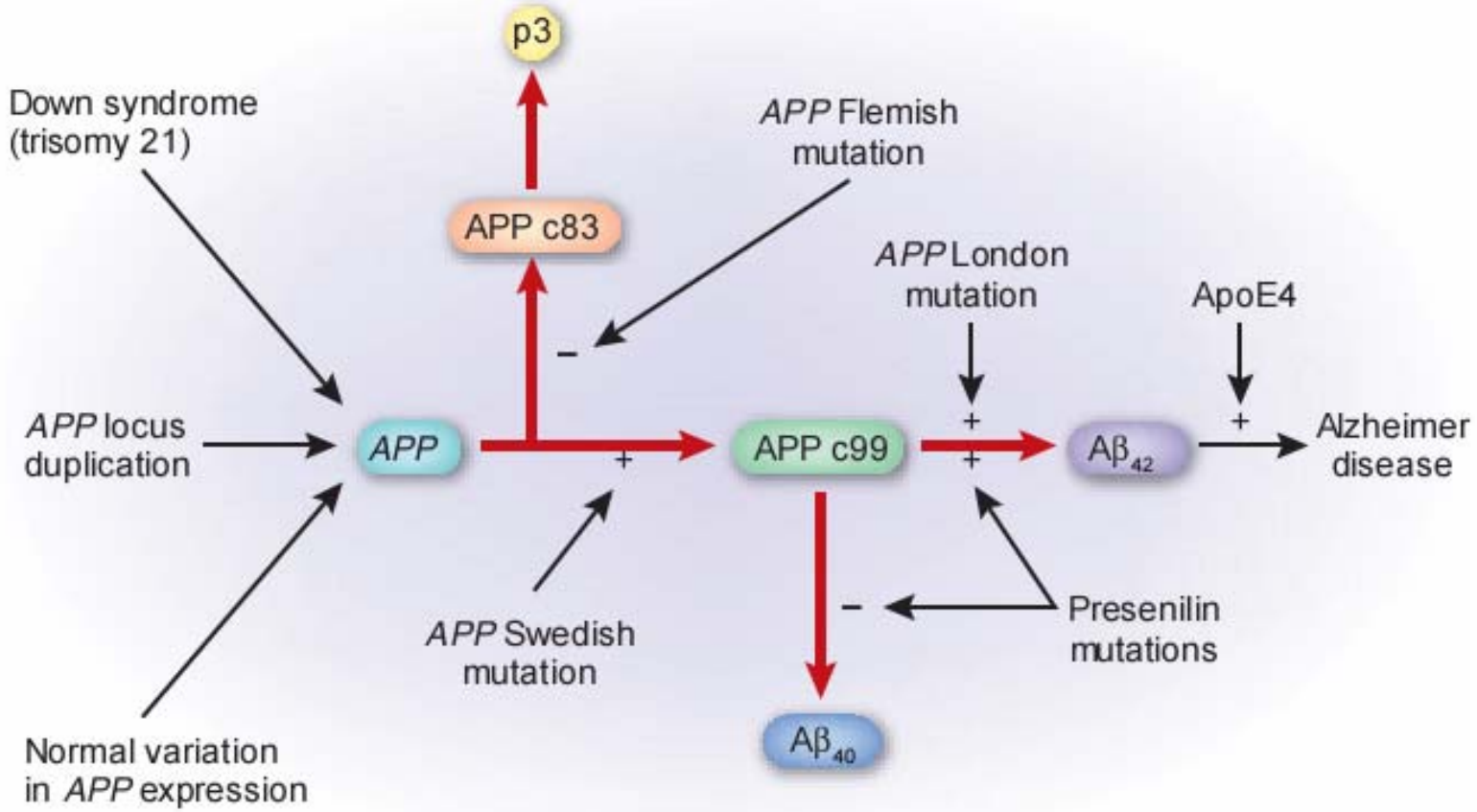
Predictors	*d*-score	*q*-value (%)
ANG-2	2.1	≤0.05
CCL5	–2.9	≤0.05
CCL7	–1.7	≤0.05
CCL15	–1.6	≤0.05
CCL18	1.9	3.1
CXCL8	1.7	3.1
EGF	–2.7	≤0.05
G-CSF	–1.9	≤0.05
GDNF	–1.8	≤0.05
ICAM-1	2.2	≤0.05
IGFBP-6	1.5	3.1
IL-1α	–2.9	≤0.05
IL-3	–2.0	≤0.05
IL-11	2.1	≤0.05
M-CSF	–2.4	≤0.05
PDGF-BB	–3.4	≤0.05
TNF-α	–2.6	≤0.05
TRAIL-R4	1.8	3.1

Ray SA et al. Classification and prediction of clinical Alzheimer´s diagnosis based on plasma signaling proteins. Nature Med 2007;13(11):1359-62

Amyloid at the blood vessel wall

John Hardy & Karen Cullen

An APP gene duplication found in French families with β-amyloidopathy suggests a link between dementia and the vasculature.



Hardy J, Cullen K. Amyloid at the blood vessel wall. Nature Med 2006;12(7):756-7

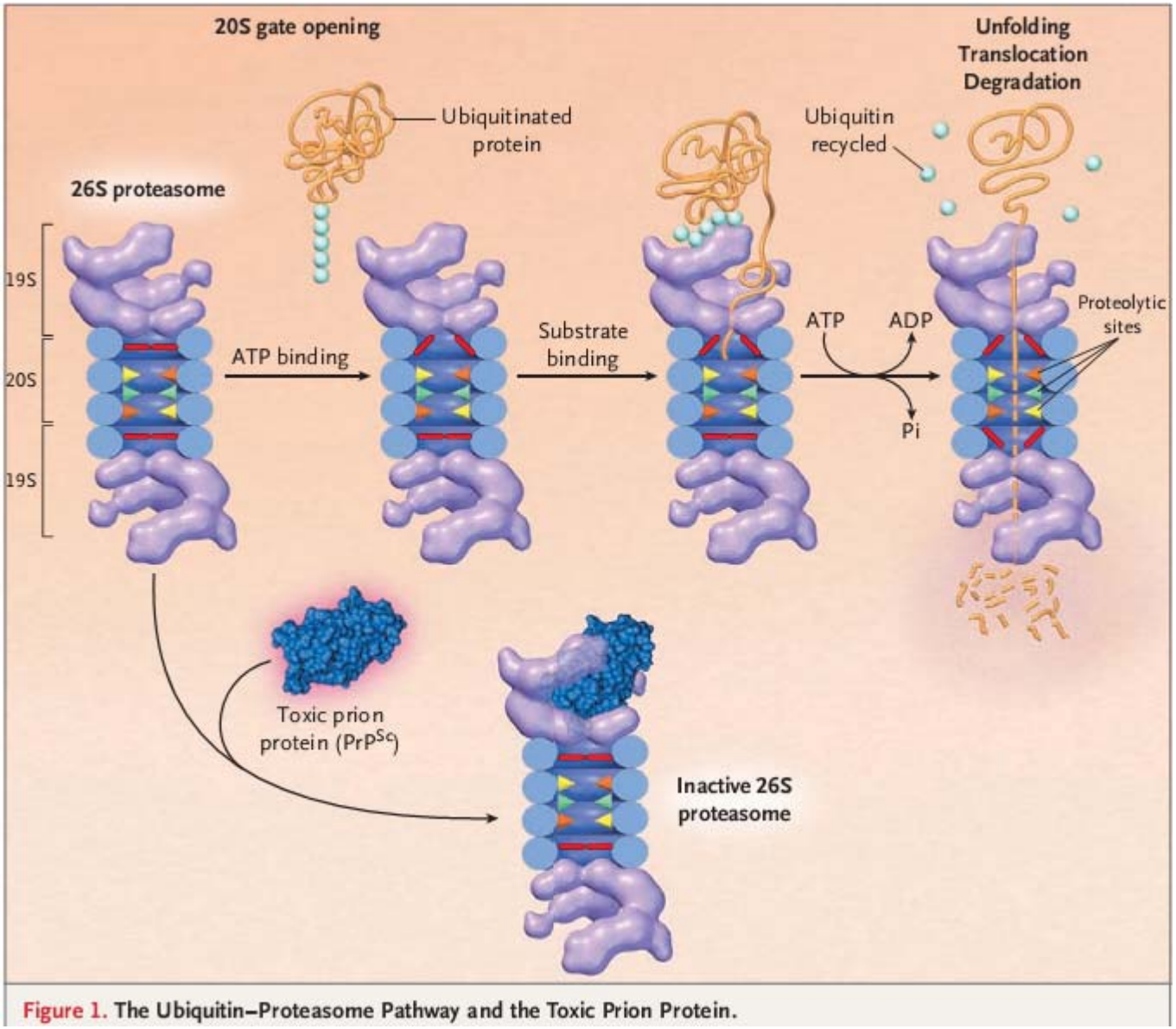
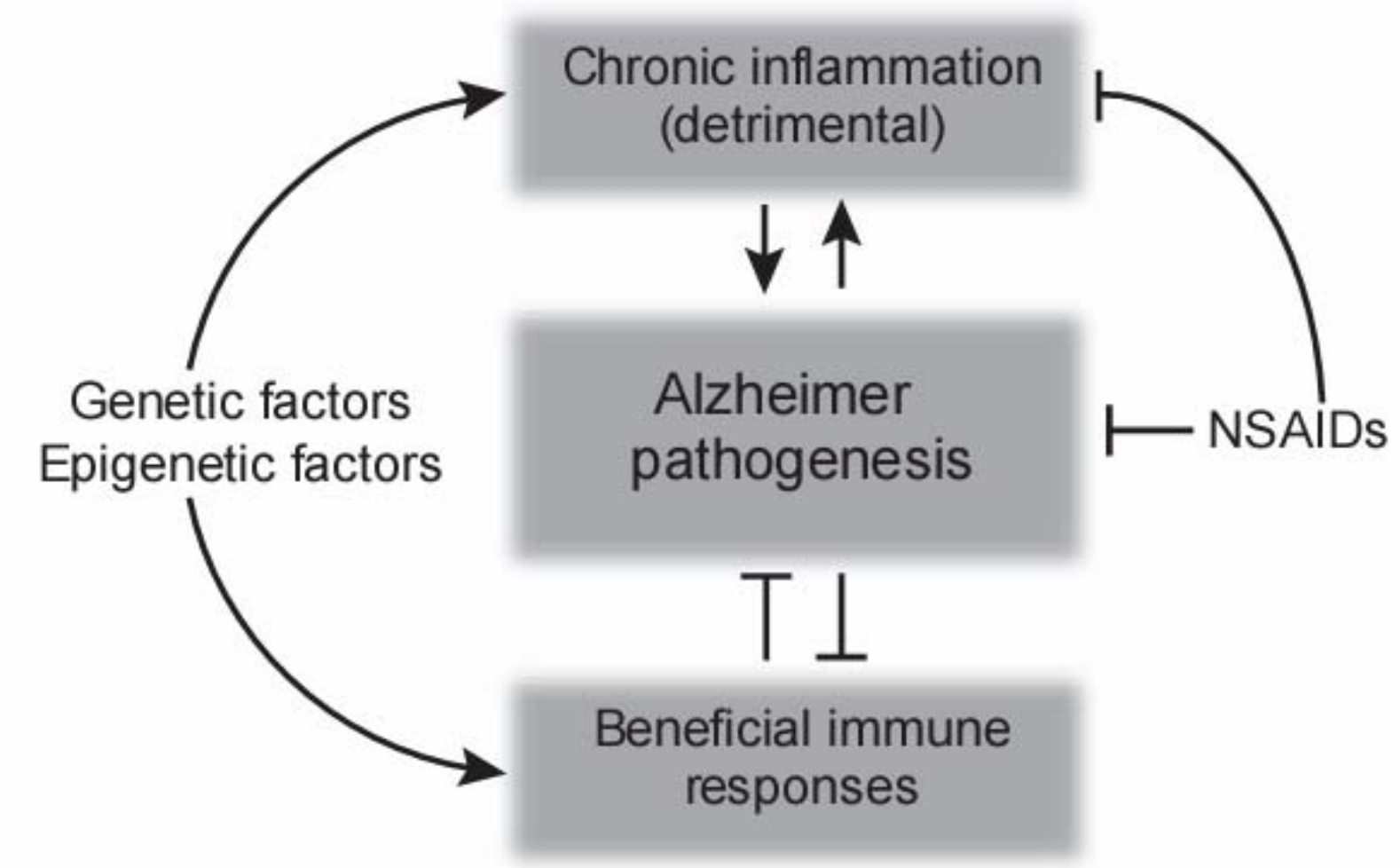


Figure 1. The Ubiquitin–Proteasome Pathway and the Toxic Prion Protein.

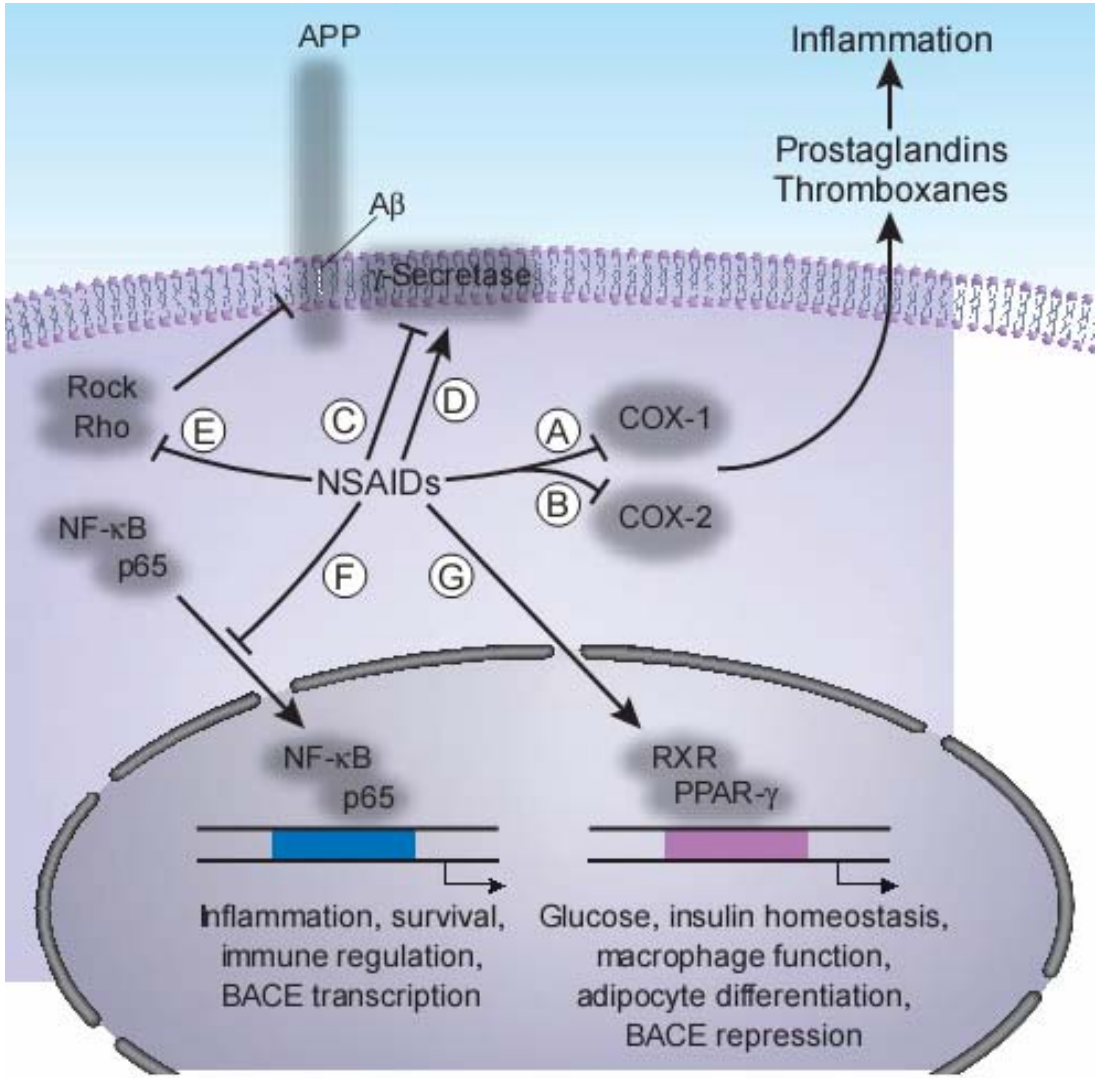
Goldberg AL. On prions, proteasomes and, and mad cows. NEJM 2007;357(11):1150-2

Entzündung und Alzheimer-Demenz I



Wyss-Coray T. Inflammation in Alzheimer disease: driving force, bystander or beneficial response. Nature Med 2006;12(9):1005-15

Entzündung und Alzheimer-Demenz II



Wyss-Coray T. Inflammation in Alzheimer disease: driving force, bystander or beneficial response. Nature Med 2006;12(9):1005-15

Presenilin (γ-secretase)

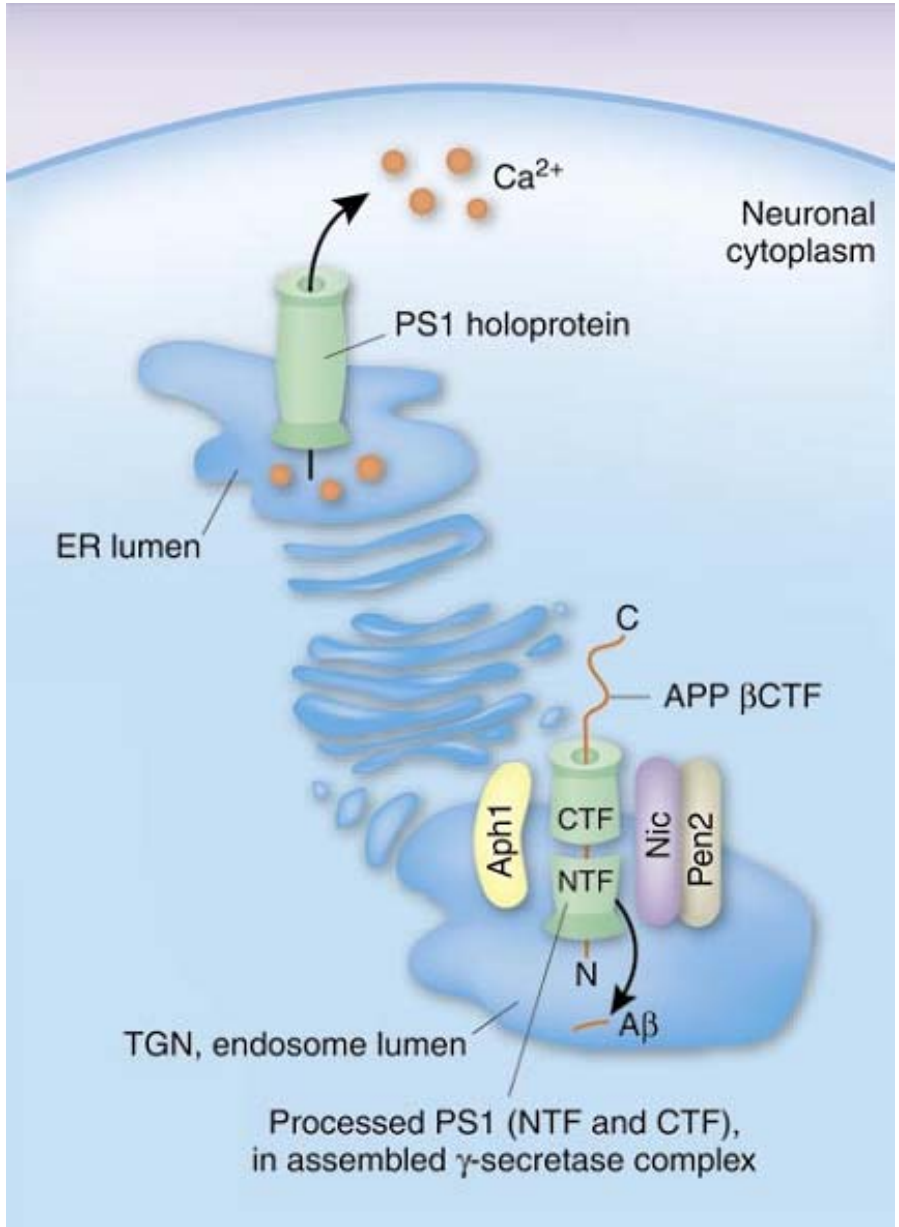
- Presenilin führt zur Proteinverklumpung und ist wesentlicher Faktor für die Entstehung von neurotoxischen ß-Amyloid
- Presenilin spielt auch eine Rolle für den Calcium-Stoffwechsel

Gandy S, Doeven MK, Poolman B. Alzheimer disease: presenilin springs a leak. Nature Med 2006;12(10):1121-3

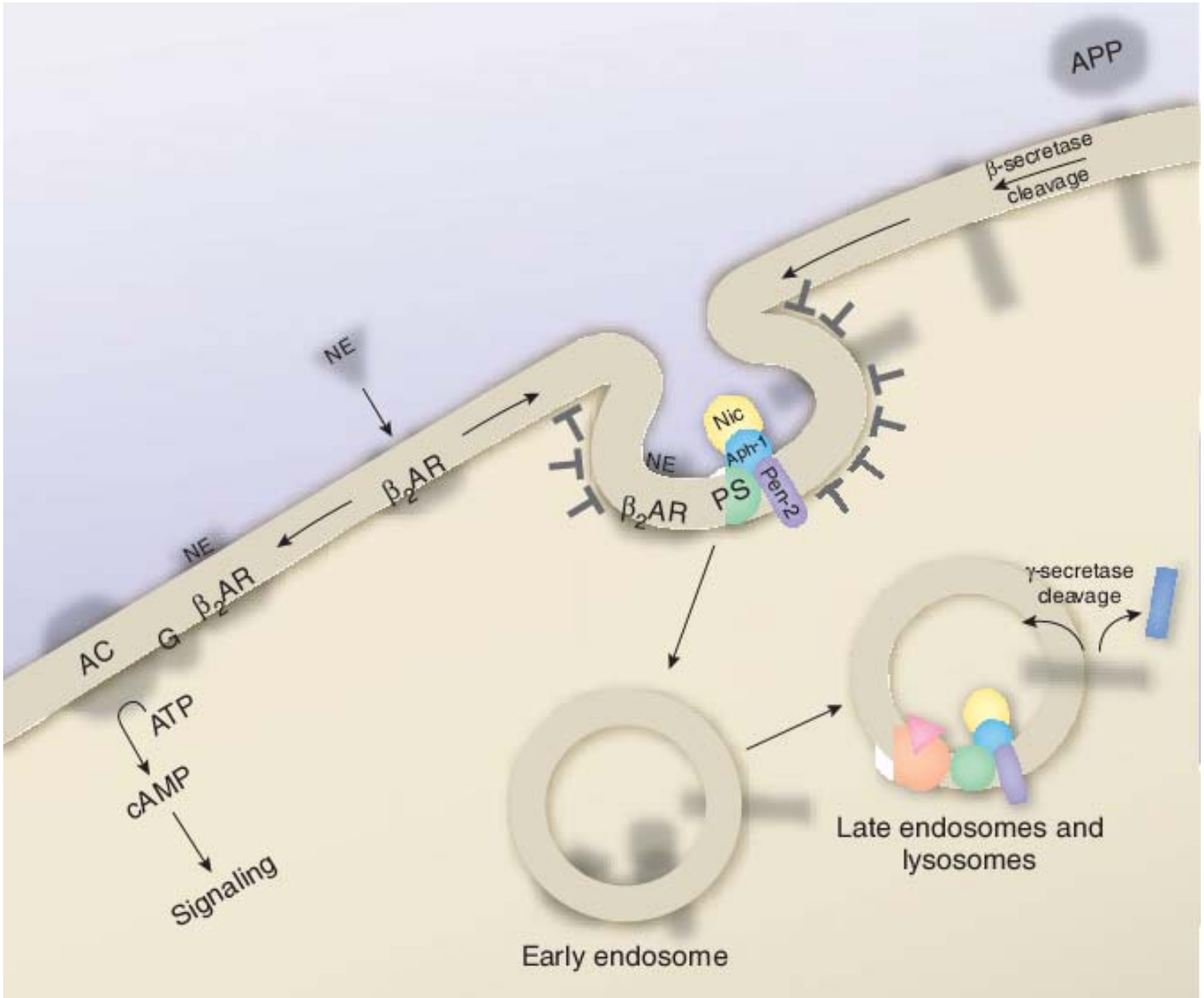
- Stimulation von ß2-adrenergen Rezeptoren stimuliert Presenilin-Entstehung

Wolfe MS. Alzheimer proteas hitches a ride. Nature Med 2006;12(12):1352-4

Ni Y et al. Activation of ß2-adrenergic receptor stimulates y-secretase activity…Nature Med 2006;12(12):1390-6

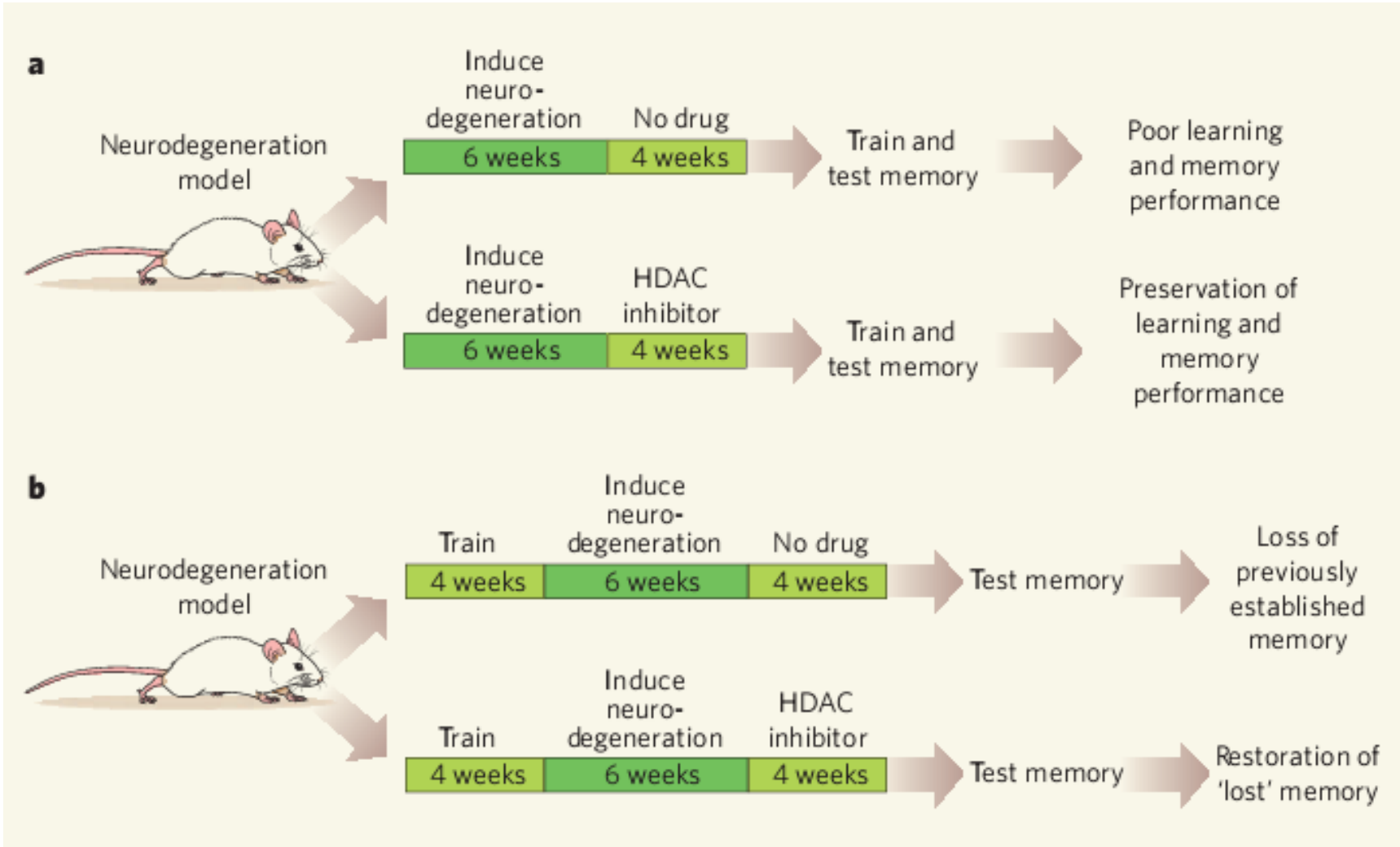


Gandy S, Doeven MK, Poolman B. Alzheimer disease: presenilin springs a leak. Nature Med 2006;12(10):1121-3



Wolfe MS. Alzheimer proteas hitches a ride. Nature Med 2006;12(12):1352-4

HDAC – Inhibitoren *(Histone deacetylases)*



Sweatt DJ. Down memory lane. Nature 2007;447;151-3

Fischer A et al. Recovery of learning and mmory is associated with chromatin remodelling. Nature 2007;447:178-83

Vitamine und Kognition

Table 3. Mean Cognitive Performance With Short-term Treatment Assignment[a]: the Physicians' Health Study II

Follow-up 1 y

Cognitive Measure	Placebo Group (n = 968)	Beta Carotene Group (n = 936)	*P* Value
Global score[b]			
Mean *z* score (SD)[c]	0.007 (0.67)	−0.007 (0.67)	
Mean difference (95% CI)	0 [Reference]	−0.014 (−0.07 to 0.05)	.65
Verbal memory[b]			
Mean *z* score (SD)[c]	0.008 (0.72)	−0.008 (0.72)	
Mean difference (95% CI)	0 [Reference]	−0.015 (−0.08 to 0.05)	.64
TICS[b]			
Mean points (SD)[c]	34.29 (2.64)	34.15 (2.57)	
Mean difference (95% CI)	0 [Reference]	−0.13 (−0.37 to 0.10)	.26
Category fluency[b]			
Mean points (SD)[c]	20.09 (6.15)	20.02 (6.14)	
Mean difference (95% CI)	0 [Reference]	−0.06 (−0.62 to 0.49)	.82

Table 4. Mean Cognitive Performance With Long-term Treatment Assignment[a]: the Physicians' Health Study II

Follow-up 18 y

Cognitive Measure	Placebo Group (n = 2021)	Beta Carotene Group (n = 2031)	*P* Value
Global score[b]			
Mean *z* score (SD)[c]	−0.024 (0.71)	0.023 (0.69)	
Mean difference (95% CI)	0 [Reference]	0.047 (0.00 to 0.09)	.03
Verbal memory[b]			
Mean *z* score (SD)[c]	−0.032 (0.74)	0.031 (0.73)	
Mean difference (95% CI)	0 [Reference]	0.063 (0.02 to 0.11)	.007
TICS[b]			
Mean points (SD)[c]	34.23 (2.80)	34.41 (2.73)	
Mean difference (95% CI)	0 [Reference]	0.18 (0.01 to 0.35)	.04
Category fluency[b]			
Mean points (SD)[c]	20.04 (6.04)	20.03 (5.94)	
Mean difference (95% CI)	0 [Reference]	−0.012 (−0.38 to 0.35)	.95

Grodstein F et al. A randomized trial of beta carotene supplementation and cognitive function in men. The Physicians´ Health Study II. Arch Intern Med 2007;167(20):2184-90.

Effect of multivitamin and multimineral supplementation on cognitive function in men and women aged 65 years and over: a randomised controlled trial

Geraldine McNeill*[1], Alison Avenell[2], Marion K Campbell[2], Jonathan A Cook[2], Philip C Hannaford[3], Mary M Kilonzo[4], Anne C Milne[2], Craig R Ramsay[2], D Gwyn Seymour[5], Audrey I Stephen[2] and Luke D Vale[2,4]

Characteristics	Supplemented group (n 456)	Placebo group (n 454)
Age in years: median (interquartile range)	72 (68.0 – 76.0)	71 (68.0 – 76.0)
Body mass index in kg/m^2: mean (SD)	28.2 (4.2)	27.9 (4.1)
Women: n (%)	217 (48)	214 (47)
Current smoker: n (%)	57 (13)	63 (14)
Past or present hypertension: n (%)	188 (41)	172 (38)
Past or present heart disorders: n (%)	137 (30)	130 (29)
Past or present chest disorders: n (%)	86 (19)	87 (19)
Past or present diabetes: n (%)	37 (8)	42 (9)
Past or present cancer: n (%)	46 (10)	46 (10)
Past or present cerebrovascular disease: n (%)	31 (7)	22 (5)
At risk of iron, folate, vitamin C or vitamin D deficiency: n (%)	145 (32)	117 (26)

Nutrition Journal 2007;6:10

Mortality in Randomized Trials of Antioxidant Supplements for Primary and Secondary Prevention

Systematic Review and Meta-analysis

Goran Bjelakovic, MD, DrMedSci
Dimitrinka Nikolova, MA
Lise Lotte Gluud, MD, DrMedSci
Rosa G. Simonetti, MD
Christian Gluud, MD, DrMedSci

Context Antioxidant supplements are used for prevention of several diseases.

Objective To assess the effect of antioxidant supplements on mortality in randomized primary and secondary prevention trials.

Data Sources and Trial Selection We searched electronic databases and bibliographies published by October 2005. All randomized trials involving adults comparing beta carotene, vitamin A, vitamin C (ascorbic acid), vitamin E, and selenium either singly or combined vs placebo or vs no intervention were included in our analysis. Randomization, blinding, and follow-up were considered markers of bias in the included trials. The effect of antioxidant supplements on all-cause mortality was analyzed with random-effects meta-analyses and reported as relative risk (RR) with 95% confidence intervals (CIs). Meta-regression was used to assess the effect of covariates across the trials.

Data Extraction We included 68 randomized trials with 232 606 participants (385 publications).

Data Synthesis When all low- and high-bias risk trials of antioxidant supplements were pooled together there was no significant effect on mortality (RR, 1.02; 95% CI, 0.98-1.06). Multivariate meta-regression analyses showed that low-bias risk trials (RR, 1.16; 95% CI, 1.05-1.29) and selenium (RR, 0.998; 95% CI, 0.997-0.9995) were significantly associated with mortality. In 47 low-bias trials with 180938 participants, the antioxidant supplements significantly increased mortality (RR, 1.05; 95% CI, 1.02-1.08). In low-bias risk trials, after exclusion of selenium trials, beta carotene (RR, 1.07; 95% CI, 1.02-1.11), vitamin A (RR, 1.16; 95% CI, 1.10-1.24), and vitamin E (RR, 1.04; 95% CI, 1.01-1.07), singly or combined, significantly increased mortality. Vitamin C and selenium had no significant effect on mortality.

Conclusions Treatment with beta carotene, vitamin A, and vitamin E may increase mortality. The potential roles of vitamin C and selenium on mortality need further study.

JAMA. 2007;297:842-857 www.jama.com

OXIDATIVE STRESS IS IMPLICATED in most human diseases.[1,2] Antioxidants may decrease the oxidative damage and its alleged harmful effects.[3-6] Many people are taking antioxidant supplements, believing to improve their health and prevent diseases.[7-10] Whether antioxidant supplements are beneficial or harmful is uncertain.[11-13] Many primary or secondary prevention trials of antioxidant supplements have been conducted to prevent several diseases.

We found that antioxidant supplements, with the potential exception of selenium, were without significant effects on gastrointestinal cancers and increased all-cause mortality.[14,15]

Agitation bei AD und Donepezil-Behandlung

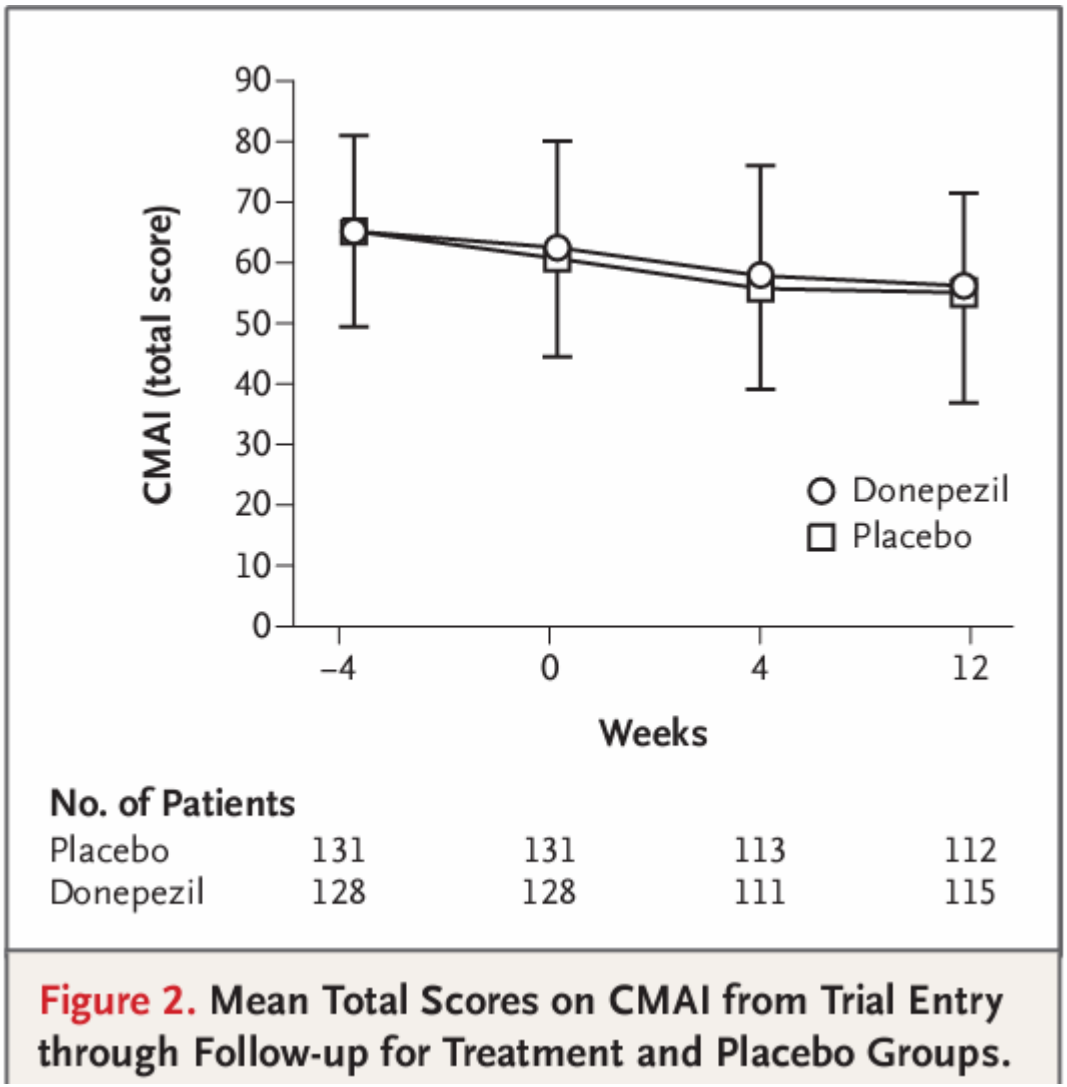
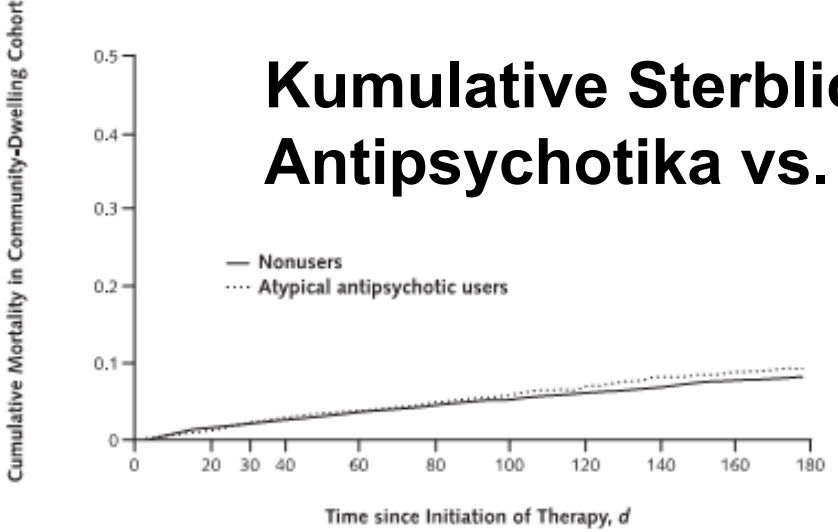


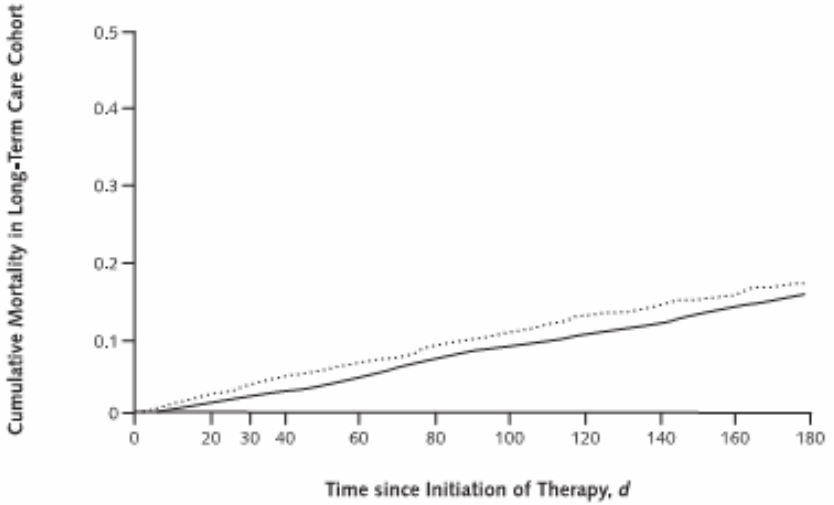
Figure 2. Mean Total Scores on CMAI from Trial Entry through Follow-up for Treatment and Placebo Groups.

Howard RJ et al. Donepezil for the treatment of agitation in Alzheimer´s disease. NEJM 2007;357:1382-92
Yaffe K. Treatment of neuropsychiatric symptoms in patients with dementia. NEJM 2007;357:1441-3

Kumulative Sterblichkeit atypische Antipsychotika vs. keine Antipsychotika



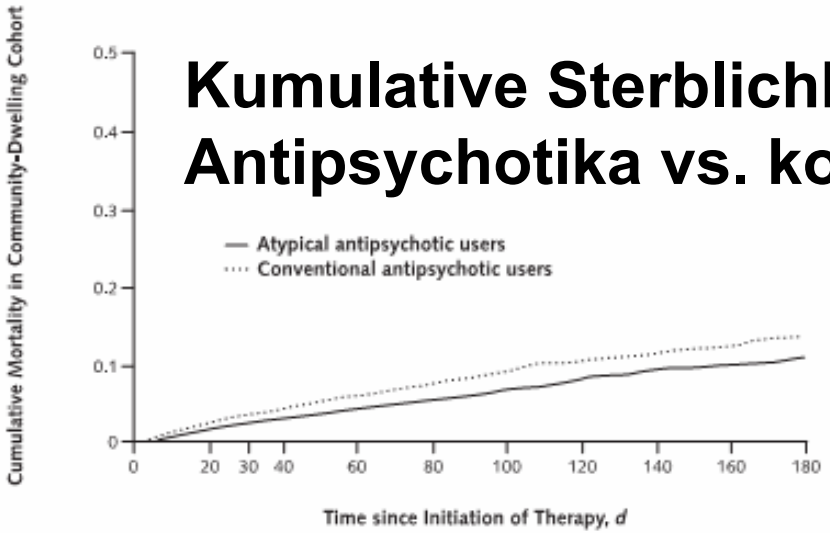
Patients at risk, *n*					
Nonusers	9100	8908	8762	8615	8249
Atypical antipsychotic users	9100	7522	4800	3591	1903



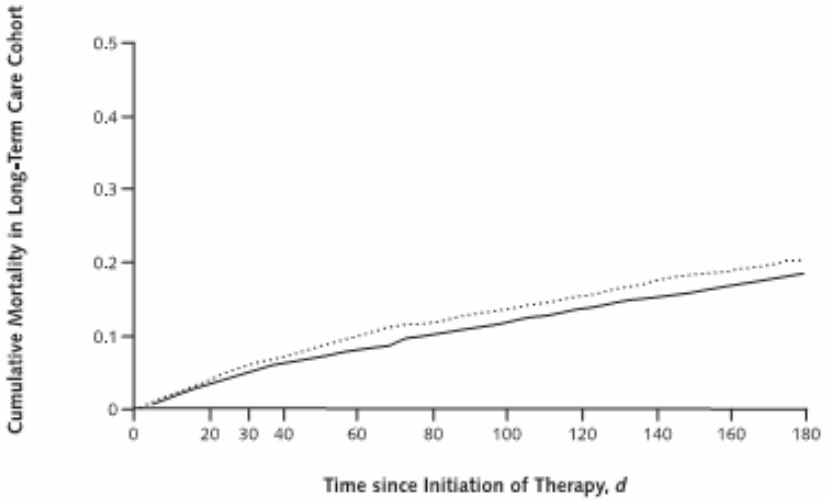
Patients at risk, *n*					
Nonusers	4036	3917	3799	3684	3387
Atypical antipsychotic users	4036	3022	2233	1803	1078

Gill SS et al. Antipsychotic drug use
And mortality in older adults with dementia.
Ann Intern Med 2007;146-775-86

Kumulative Sterblichkeit atypische Antipsychotika vs. konvent. Antipsychotika



Patients at risk, *n*					
Atypical antipsychotic users	6888	5586	3491	2588	1345
Conventional antipsychotic users	6888	4479	2206	1465	596



Patients at risk, *n*					
Atypical antipsychotic users	7235	5327	3873	3158	1861
Conventional antipsychotic	7235	4419	2557	1841	932

Gill SS et al. Antipsychotic drug use
And mortality in older adults with dementia.
Ann Intern Med 2007;146-775-86

Donepezil Nebenwirkung

DRUG POINTS

Calculate the QT interval in patients taking drugs for dementia

Andrew Leitch, Peter McGinness, David Wallbridge

Frau, 76 Jahre, Demenz, Depression, Tremor

Medikamente: 10 mg Donepezil, Omeprazol 20 mg,
Citalopram 10 mg, Propanolol 80 mg

Schwindel, EKG : Sinusbradykardie, verlängerte QT-Zeit

BMJ 2007;335:557

Donepezil bei schwerer Demenz I

Table 1 Summary of patient characteristics for all randomized patients at baseline

	Treatment group		
	Donepezil (n = 176)	Placebo (n = 167)	Overall (n = 343)
Age, y, mean (SD)	78.0 (8.04)	78.0 (8.20)	78.0 (8.10)
Age category, y, n (%)			
<65	12 (6.8)	10 (6.0)	22 (6.4)
65-74	34 (19.3)	43 (25.7)	77 (22.4)
75-84	105 (59.7)	75 (44.9)	180 (52.5)
≥85	25 (14.2)	39 (23.4)	64 (18.7)
Sex, n (%)			
Male	48 (27.3)	54 (32.3)	102 (29.7)
Female	128 (72.7)	113 (67.7)	241 (70.3)
Race, n (%)			
Black	24 (13.6)	16 (9.6)	40 (11.7)
White	134 (76.1)	127 (76.0)	261 (76.1)
Hispanic	15 (8.5)	21 (12.6)	36 (10.5)
Native American	0 (0.0)	1 (0.6)	1 (0.3)
Asian/Pacific	2 (1.1)	2 (1.2)	4 (1.2)

Black SE et al. Donepezil preserves cognition and global function in patients with severe Alzheimer disease. Neurology 2007;69:459-69

Donepezil bei schwerer Demenz II

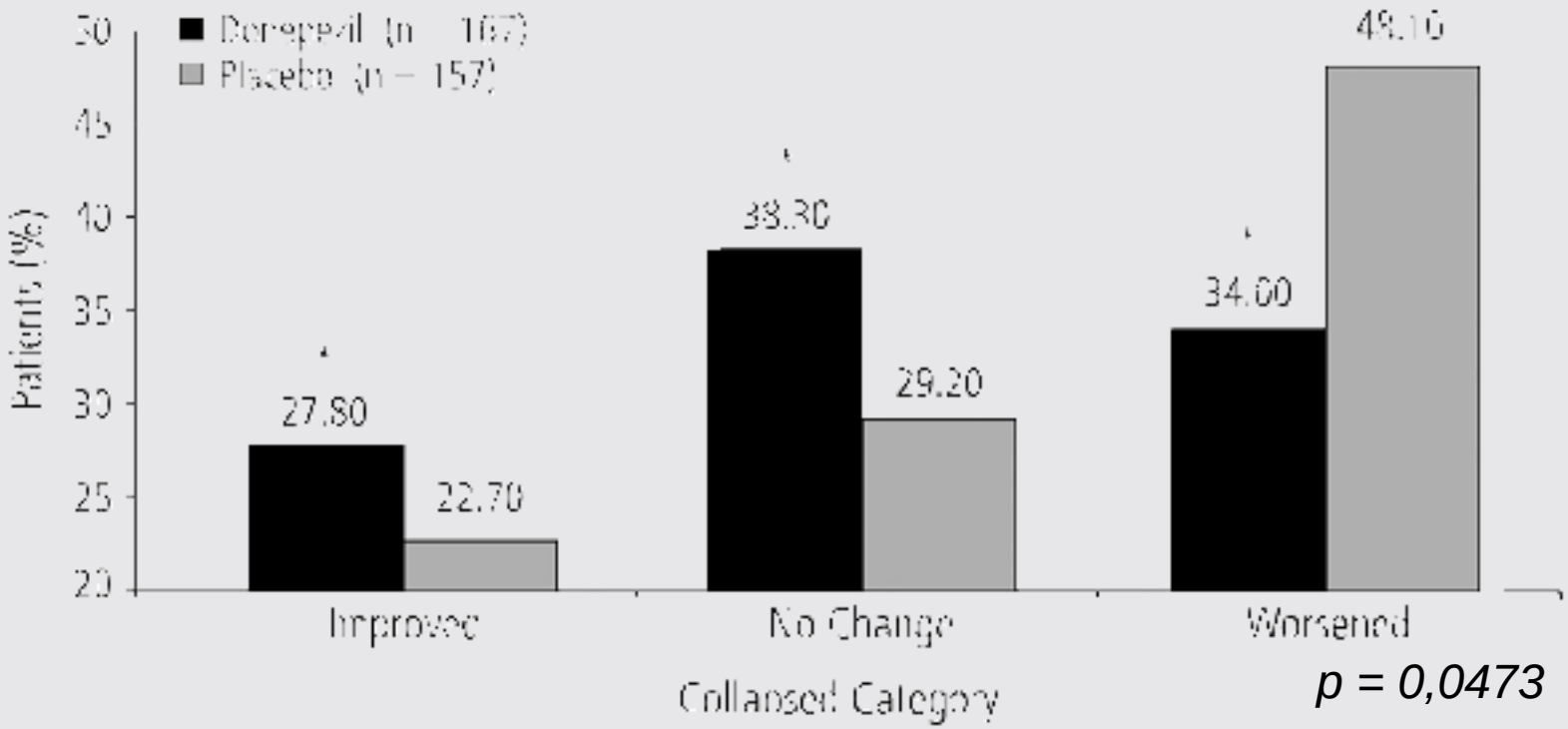
Table 2 Neurologic and cognitive test scores for all randomized patients at screening

	Treatment group	
Assessment	Donepezil (n = 176)	Placebo (n = 167)
Modified Hachinski total score, mean (SD)	0.7 (0.96)	0.9 (1.07)
MMSE score, mean (SD)	7.5 (3.25)	7.4 (3.57)
MMSE score distribution, n (%)		
1-5	54 (30.7)	51 (30.5)
6-12	121 (68.8)	114 (68.3)
>12	1 (0.6)	2 (1.2)
FAST total score, n (%)		
5	3 (1.7)	2 (1.2)
6.A-6.E	153 (87.0)	143 (85.8)
7.A-7.D	20 (11.3)	22 (13.2)

Black SE et al. Donepezil preserves cognition and global function in patients with severe Alzheimer disease. Neurology 2007;69:459-69

Donepezil bei schwerer Demenz III

Figure 4 Clinician's Interview-Based Impression of Change-Plus (CIBIC-Plus) scores (collapsed categories) for the intent-to-treat (ITT) population at week 24 last observation carried forward (LOCF)



Black SE et al. Donepezil preserves cognition and global function in patients with severe Alzheimer disease. Neurology 2007;69:459-69

IQWiG Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen

Cholinesterasehemmer Donepezil, Galantamin und Rivastigmin haben bei AD einen **Nutzen bezüglich kognitiver Leistungsfähigkeit**

[Donepezil über alle Dosen, Galantamin und Rivastigmin nur bei mittleren Und hohen Dosen]

Galantamin mit Hinweisen auf positive Beeinflussung der Psychopathologie

Lebensqualität: Keine Daten oder kein Nutzen

Heimunterbringung: Keine Daten

UAW: Häufig, dosisabhängig, insbes. Rivastigmin

Substanzvorteil: Keiner

Limitationen: Studiendauer 6 Monate

IQWiG. Abschlussbericht A05-19A: Cholinesterasehemmer bei Alzheimer Demenz. Köln 2007. http://www.iqwig.de/download/A05-19A_Abschlussbericht_Cholinesterasehemmer_bei_Alzheimer_Demenz.pdf

Ausbildung und Demenz I

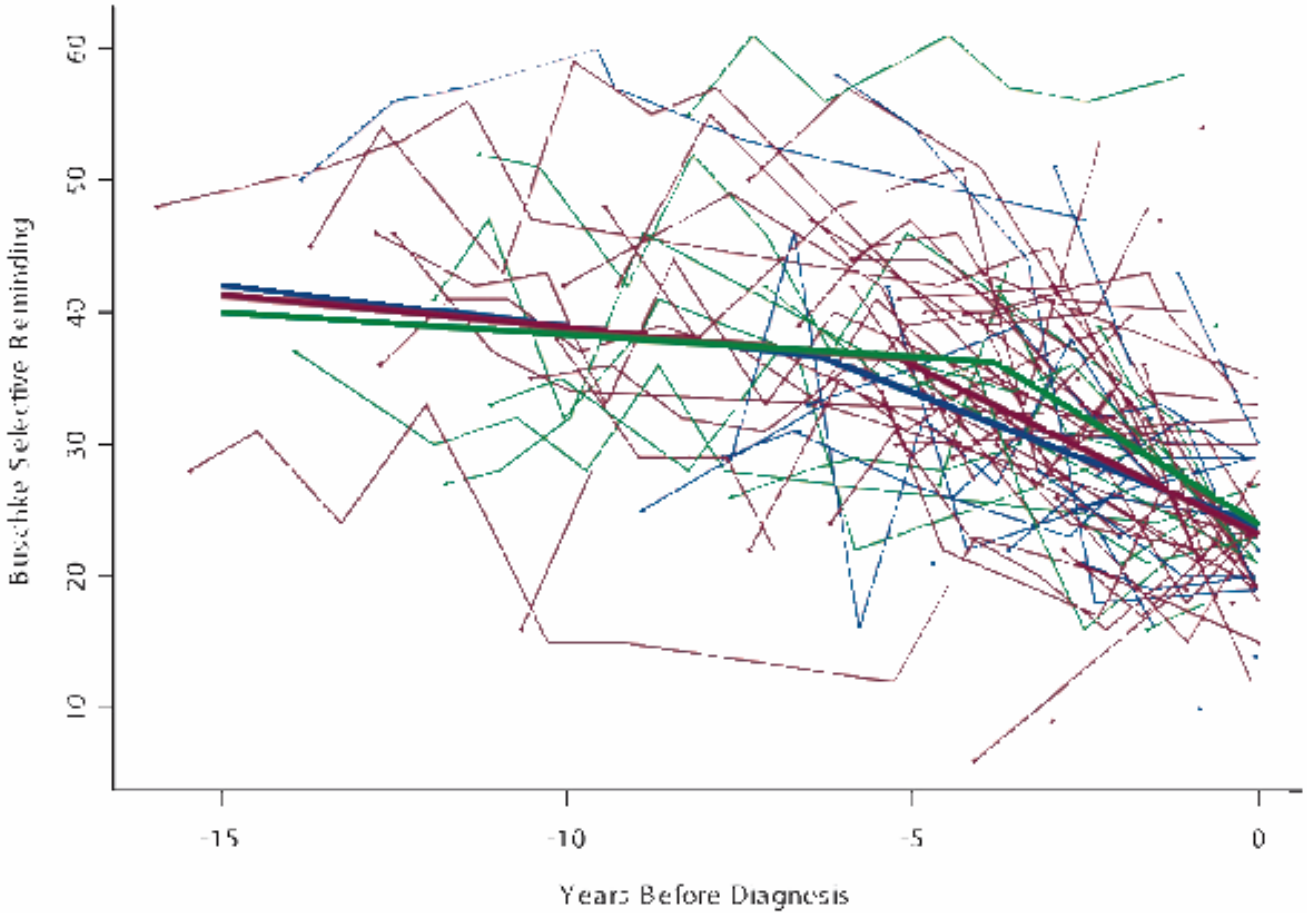
Table 1 Baseline demographics and cognitive status, and testing intensity, of 117 Bronx Aging Study participants who developed dementia during follow-up

Education, y	≤7	8-11	≥12	*p*
No.	32	64	21	
Median age, y	81.7	81.1	80.7	0.28
% Women	65.6	73.4	52.4	0.20
% White	93.8	90.6	81.0	0.34
Median Selective Reminding Test	25.5	34	33	0.061
Median estimated WAIS verbal IQ	86	104	118	<0.0001
Median estimated WAIS performance IQ	94	96	98	0.101
Median category fluency (fruits + animals + vegetables)	26	28	29	0.065
Median Blessed errors	4.5	2.5	3	0.013
Mean testing interval before diagnosis, y	1.57	1.50	1.56	0.65
Mean no. of visits before dementia diagnosis	2.67	3.60	4.22	0.075

Hall CB et al. Education delays accelerated decline on memory test in persons who developed dementia. Neurology 2007;69:1657-64.

Ausbildung und Demenz II

Figure Memory as measured by the Buschke Selective Reminding Test as a function of time to diagnosis of dementia and of education in 117 Bronx Aging Study participants who developed dementia



< 7 years education

8-11 years education

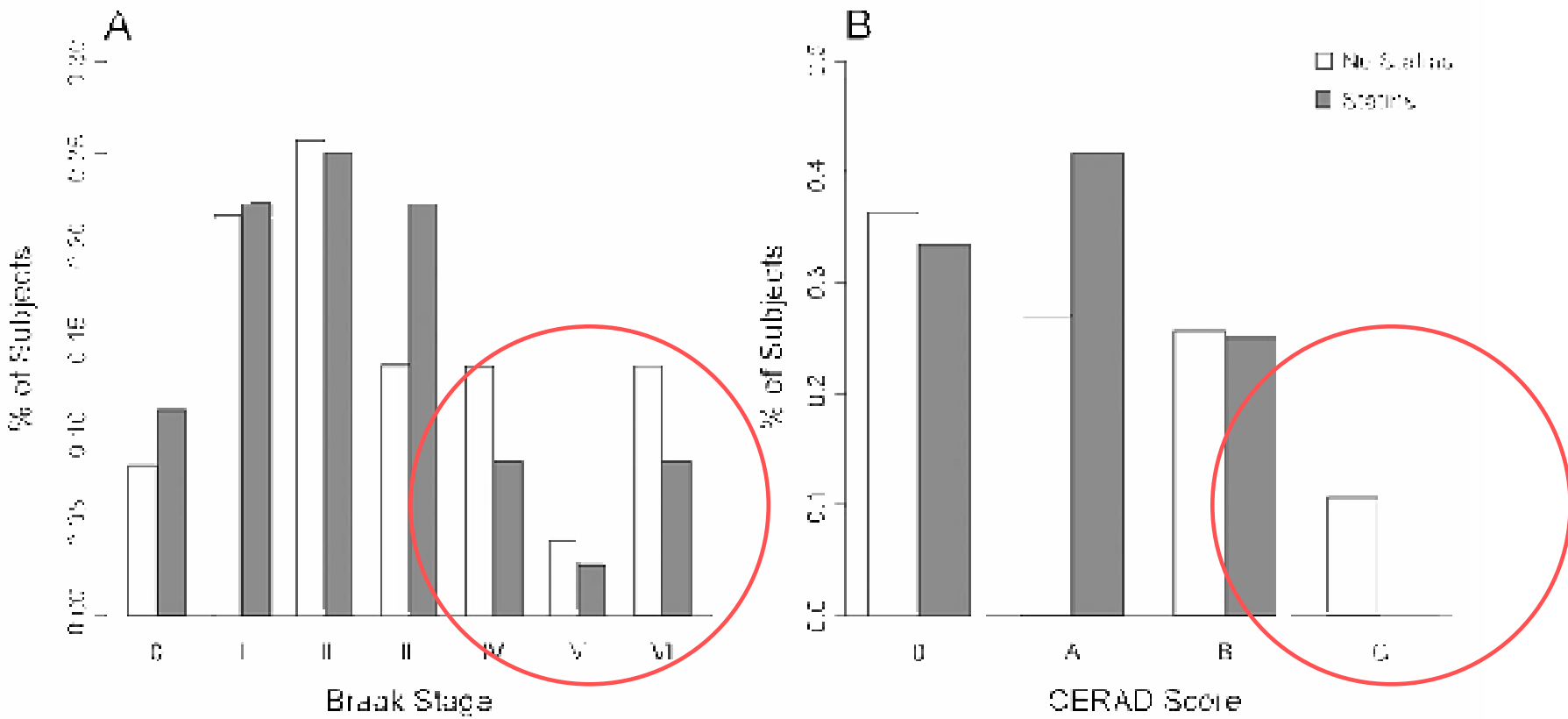
> 12 years education

Hall CB et al. Education delays accelerated decline on memory test in persons who developed dementia. Neurology 2007;69:1657-64.

Cholesterin und Hirnpathologie

Figure 1 Distribution of Braak stages (A) and Consortium to Establish a Registry for Alzheimer's Disease (CERAD) scores (B) among statin users and nonusers

Brain autopsy n = 110, age 65- 79 y,OR 0,44 (95 % CI 0,20 – 0,95)



Li G et al. Statin therapy is associated with reduced neuropathologic changes in Alzheimer disease. Neurology 2007;69:878-885

Depression und Arteriosklerose

Demographic factors	
Age, y	60.6 ± 4.7
Sex, % female	50.6
Race, % nonwhite	15.7
Education level, %	
High school or less	24.4
Technical school or some college	25.9
Bachelor's degree	22.5
Master's degree or higher	27.2

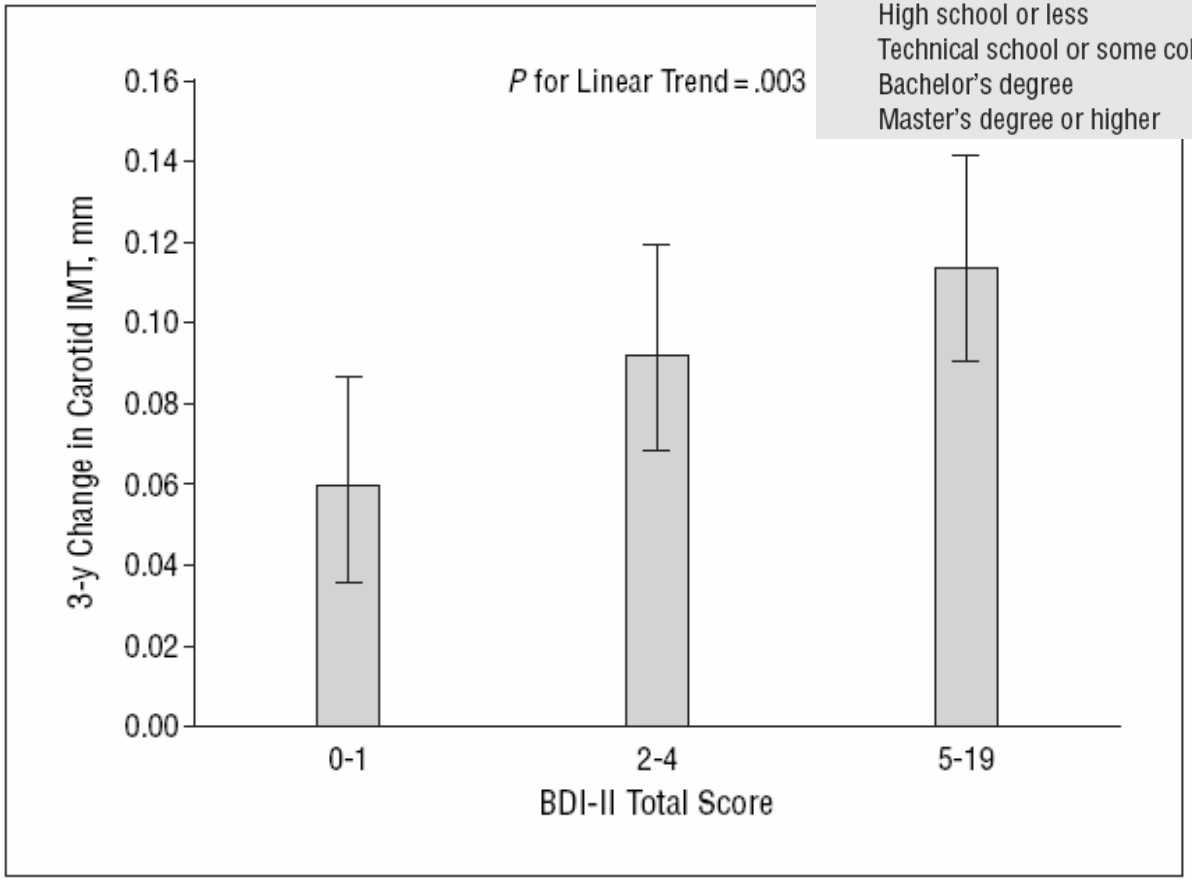


Figure 2. Mean 3-year change in carotid intima-media thickness (IMT) for participants in the lower, middle, and upper tertiles of the Beck Depression Inventory II (BDI-II) total score. Error bars represent 95% confidence intervals for the mean (N = 324).

Stewart JC et al. Negative emotions and And 3-year progression of subclinical Atherosclerosis.
Arch Gen Psychiatry 2007;64:225-33

Einsamkeit und Demenzentwicklung

Table 1. Characteristics of Participants Who Did Not Develop AD and Those Who Did*

Characteristic	Participants Without AD (n = 716)	Participants With AD (n = 76)	*P* Value
Age at baseline, y	80.3 (7.1)	85.1 (5.9)	<.01
Educational achievement, y	14.5 (2.9)	14.8 (3.4)	.35
Female sex, %	77.2	61.8	<.01
African American race, %	6.0	4.0	.47
Income score	5.7	4.7	.03
MMSE score	28.2 (1.8)	25.8 (3.0)	<.01
Nine-item CES-D score	1.1 (1.5)	1.1 (1.7)	.97
Loneliness score	2.2 (0.6)	2.5 (0.6)	<.01
Social network size	7.0 (6.0)	6.4 (5.1)	.41
Social activity score	2.6 (0.6)	2.3 (0.5)	<.01
Cognitive activity score	3.2 (0.7)	2.8 (0.8)	<.01
Physical activity score	2.9 (3.4)	3.3 (4.2)	.42
Disability, %†	10.5	24.0	<.01
Vascular risk factors, %‡	79.5	85.5	.21
Vascular conditions, %‡	29.1	34.2	.35

Wilson RS et al. Loneliness and risk of Alzheimer disease. Arch Gen Psyciatry 2007;64:234-40

Geschätzte Kosten für das US-Gesundheitswesen

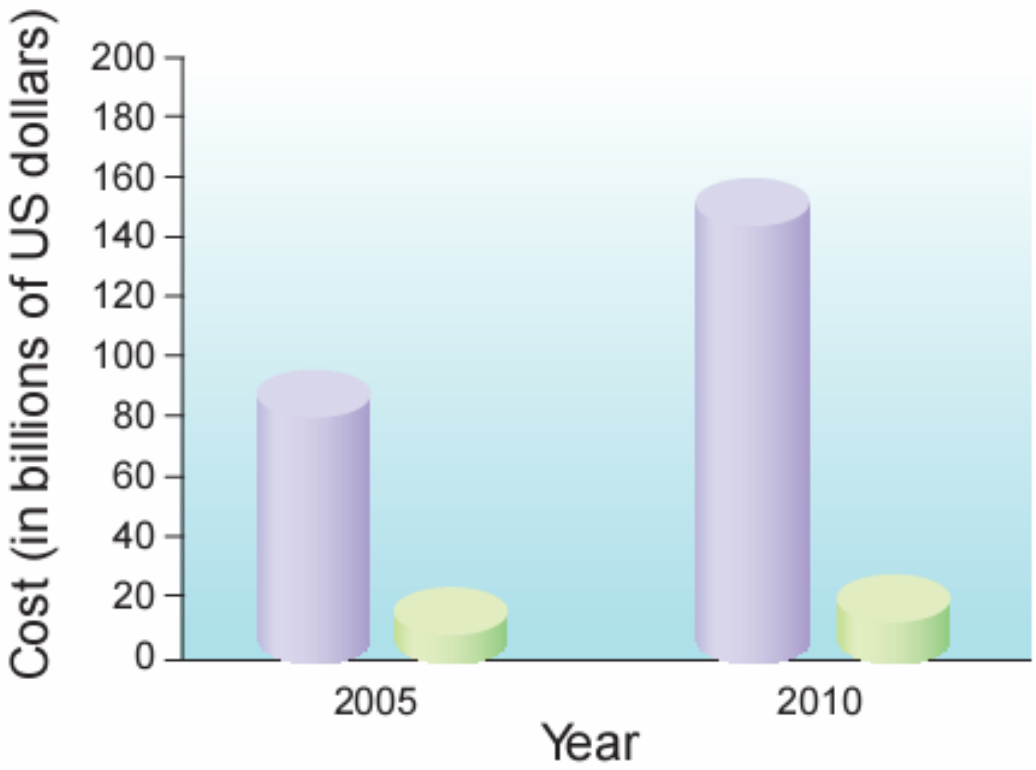
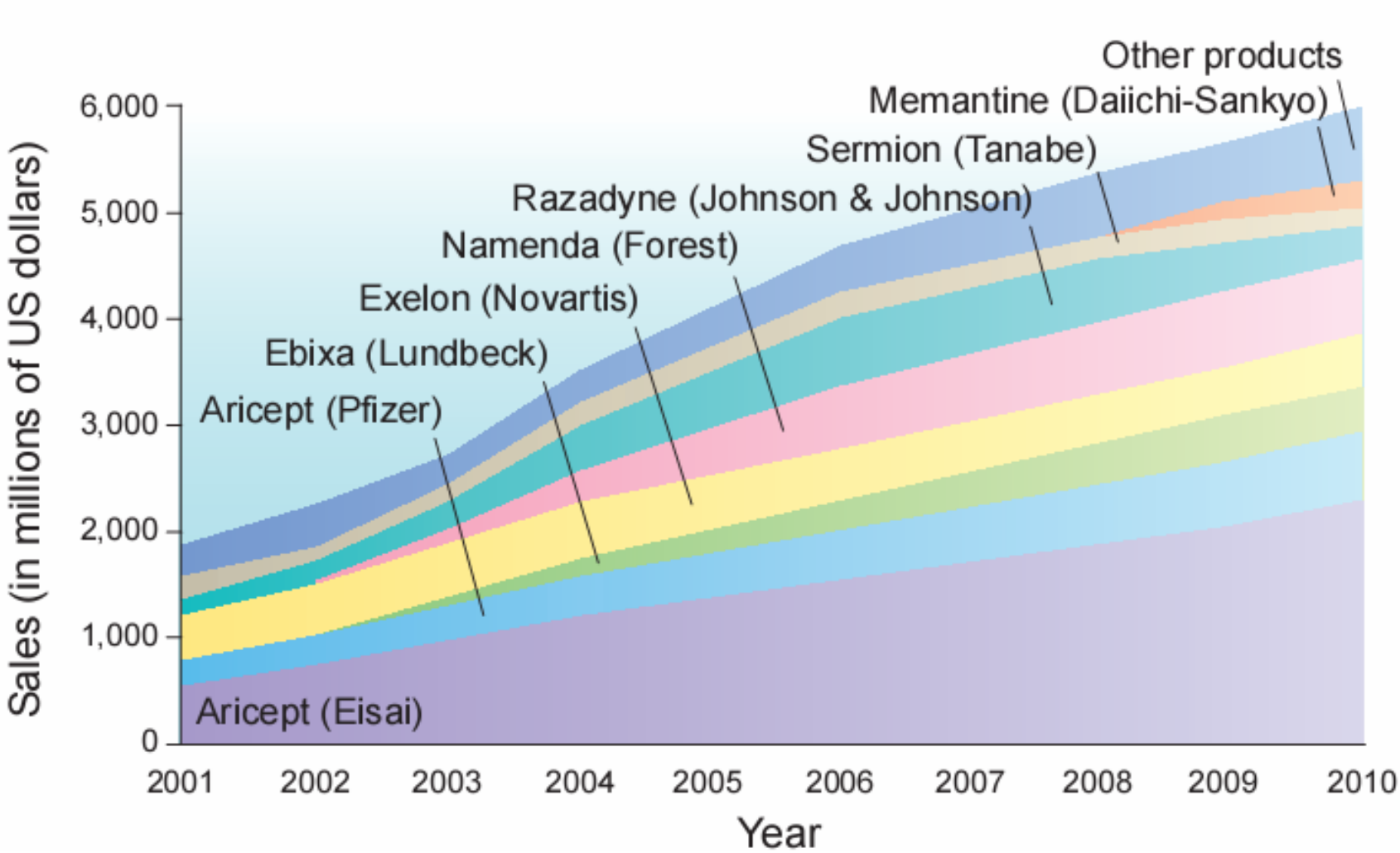


Figure 2 Actual and estimated financial costs of Alzheimer disease in the US[6]. Purple bars, Medicare costs; yellow bars, Medicaid costs.

Mount C, Downton C. Alzheimer disease: progress or profit. Nature Med 2006;12(7):780-4

Antidementiva-Markt



Mount C, Downton C. Alzheimer disease: progress or profit. Nature Med 2006;12(7):780-4

The Alzheimer's Society, drug firms, and public trust

PERSONAL VIEW **Iain Chalmers**

For about five years before he died, my father had Alzheimer's disease. When it was first diagnosed we asked him how he wished his condition to be described when other people asked us about his health. He chose "bewildered"; and, indeed, bewilderment characterised his slow decline over the next five years. By far the most important part of his care was the loving support he received from a carer, who helped our family to cope.

We briefly considered the possibility of drug treatment at one point. The particular drug that we looked at caused diarrhoea in some patients, and that was not going to be welcome in someone who was already incontinent of urine and faeces. But the main problem was that we couldn't interpret

CATE GILLON/GETTY IMAGES

Challenging NICE: Neil Hunt, Alzheimer's Society chief executive (centre), outside the High Court

decision making, can simply guess at vital data. This is simply unacceptable . . . To retain its authority as a public body it must command the confidence of the public. The result of this case must call into question whether NICE has lost that confidence."

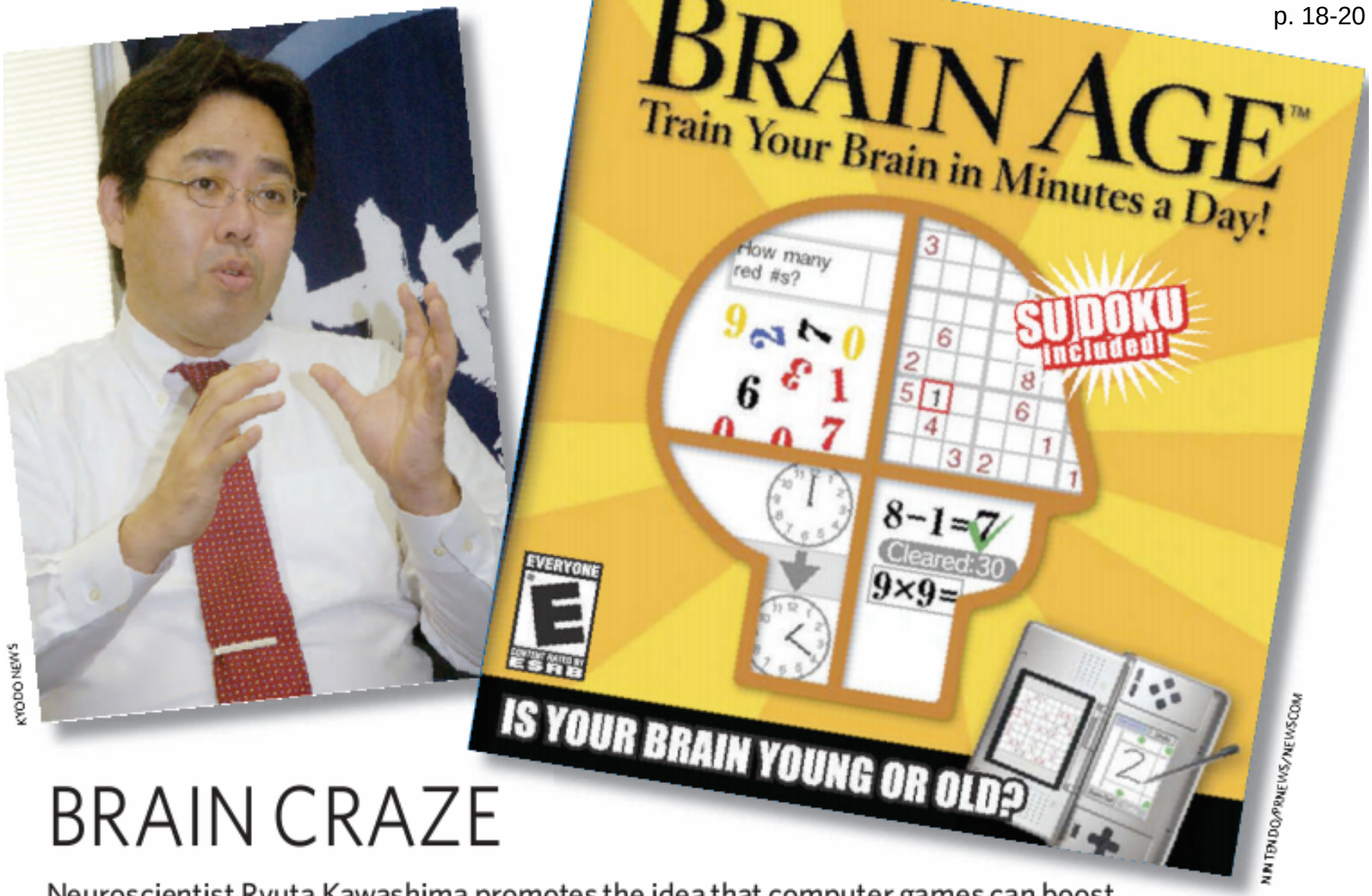
But how might the Alzheimer's Society's close alliance with drug manufacturers erode its own authority as a charity subsidised by the public— which thus also needs to retain the public's confidence? The society could take the following steps to restore my respect for and confidence in it.

Firstly, it should declare clearly on its website the sources and amounts of support it receives for its work.

Secondly, having challenged NICE's judgments about the most effective use of NHS resources for the care of people with

BMJ 2007;335;400

p. 18-20



BRAIN CRAZE

Neuroscientist Ryuta Kawashima promotes the idea that computer games can boost the ageing brain — but others in the field remain sceptical. **Ichiko Fuyuno** investigates.

The Brain Age game claims that its cognitive exercises can help the ageing brain.

Natur 2007;447:18-20

Box 1 | Guidelines from the Driver and Vehicle Licensing Agency if medical conditions could affect safe driving[15]

Age

- Age is no bar to the holding of a driving licence
- Licences are normally valid until age 70, unless restricted to a shorter duration for medical reasons
- The agency requires confirmation at age 70 that no medical disability is present
- All licence applications require a self declaration of medical status by the applicant
- The maximum licence period after age 70 is three years, subject to satisfactory completion of medical questions on the application form

Breen DA et al. Driving and dementia. BMJ 2007;334:1365-9

Dementia

- The agency must be notified as soon as Alzheimer's disease or another dementia is diagnosed
- Drivers have an obligation to make such a declaration
- The agency accepts the difficulty of assessing driving ability in Alzheimer's disease
- Patients with poor short term memory, disorientation, and lack of insight and judgment are almost certainly not fit to drive
- In early Alzheimer's disease, where sufficient skills are retained and disease progression is slow, a licence may be issued subject to annual review
- A formal driving assessment may be necessary
- A decision on fitness to drive is usually based on medical reports

Breen DA et al. Driving and dementia. BMJ 2007;334:1365-9