



Disturbi del sonno nella popolazione geriatrica

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Disturbi del sonno (ICSD-3, International Classification of Sleep Disorders)

Insonnia

- Difficoltà di addormentamento, mantenimento, risveglio precoce

Disturbi respiratori del sonno

- Apnee ostruttive
- Apnee centrali
- Ipopnee / Sindrome da ipoventilazione

Disturbi circadiani del ritmo sonno-veglia

- Fase ritardata del sonno
- Fase avanzata del sonno
- Sonno irregolare
- Disturbo da turni di lavoro / jet lag

Ipersonnie di origine centrale

- Narcolessia
- Ipersonnia idiopatica
- Sindrome da sonno insufficiente

Parasonnie

- Sonno NREM (pavor nocturnus, sonnambulismo)
- Sonno REM (incubi, disturbo comportamentale del sonno REM)
- Altre parasonnie isolate

Disturbi motori del sonno

- Sindrome delle gambe senza riposo (RLS)
- Disturbo da movimenti periodici degli arti

Disturbi del sonno

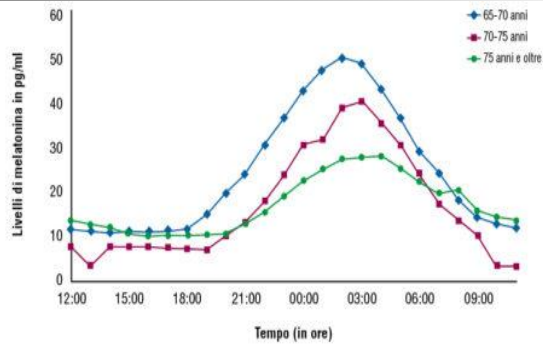
prevalenze

ADULTI

ANZIANI

INSONNIA	15-20%	30-40%
RLS	2,5%	9-20%
PLM	2-3%	4-11%
RBD	0,04-0,5%	1%

CARATTERISTICHE DEL SONNO DELL'ANZIANO



- **SONNO PIU' LEGGERO CON MENO SONNO PROFONDO N3**
- **SONNO PIU' FRAMMENTATO**
- **RISVEGLI PIU' FREQUENTI**
- **ANTICIPAZIONE DI FASE**



PUNTI CHIAVE DRS NELL'ANZIANO

- Qual è la prevalenza nell'anziano?
- Esistono differenze fisiopatogenetiche nell'anziano?
- Esistono differenze del rischio cardio/cerbro vascolare e delle conseguenze dell'OSAS?
- Quali sono le conseguenze di un mancato trattamento nell'anziano?
- Quali trattamenti sono consigliabili?

Prevalenza OSA generale

Country/Region	Study population	Year(s) of data collection	Age range (years)	Scoring criteria	AHI ≥5		AHI ≥15		Reference
					Men (%)	Women (%)	Men(%)	Women(%)	
USA	1520	1988–2011	30–70	AASM 2007	33,9	17,4	13	5,6	Peppard et al. (2013)9
USA	5804	1995–2006	≥ 40	AASM 2012	32,4	25,3	26,0	12,3	Donovan et al. (2016)664
Australia	380	1990	40–65	AASM 2012	25,5	23,5	4,7	4,9	Marshall et al. (2008)667
Japan	322	2004–2005	23–59	AASM 2012	59,7	-	22,3	-	Yukiyo et al. (2008)668
Switzerland	2121	2009–2013	40–85	AASM 2012	83,8	60,8	49,7	23,4	Heinzer et al. (2015)670
Russia	1050	2014–2018	30–70	AASM 2017	14,1	19,5	3,7	5,9	Anna et al. (2020)671
Brazil	1042	2008	20–80	AASM 2007	46,5	30,6	24,8	9,6	Sergio et al. (2010)672
Germany	1208	2008–2012	20–81	AASM 2007	59,0	33,0	30,0	13,0	Ingo et al. (2019)673
New Zealand	364	1999–2001	30–59	AASM 2007	12,5	3,4	3,9	0,2	Mihaere et al. (2009)675
Spain	2148	1993–1997	30–70	AASM 2007	26,2	28,0	14,2	7,0	Durán et al. (2001)677
South Korea	457	2001	40–69	AASM 2007	21,7	16,8	10,1	4,7	Kim et al. (2004)678
Poland	676	1993	41–72	AASM 2007	36,2	18,4	15,8	7,6	Robert et al. (2008)679
India	365	2005–2007	30–65	Chicago 1999	13,5	6,1	5,5	6,1	Reddy et al. (2009)680
China	309	2016–2017	40–70	AASM 2012	68,3	62,4	38,0	30,7	Ding et al. (2022)681
Chile	205	2016–2017	18–84	AASM 2007	62,0	31,0	21,0	13,0	Fernando et al. (2020)682
Canada	215	2018–2019	18–76	AASM 2017	51,1	41,7	14,8	9,4	James et al. (2022)683
					40,4	26,1	18,6	9,6	

Modified from Renjun et al 2023

Media= 33,2

14,1

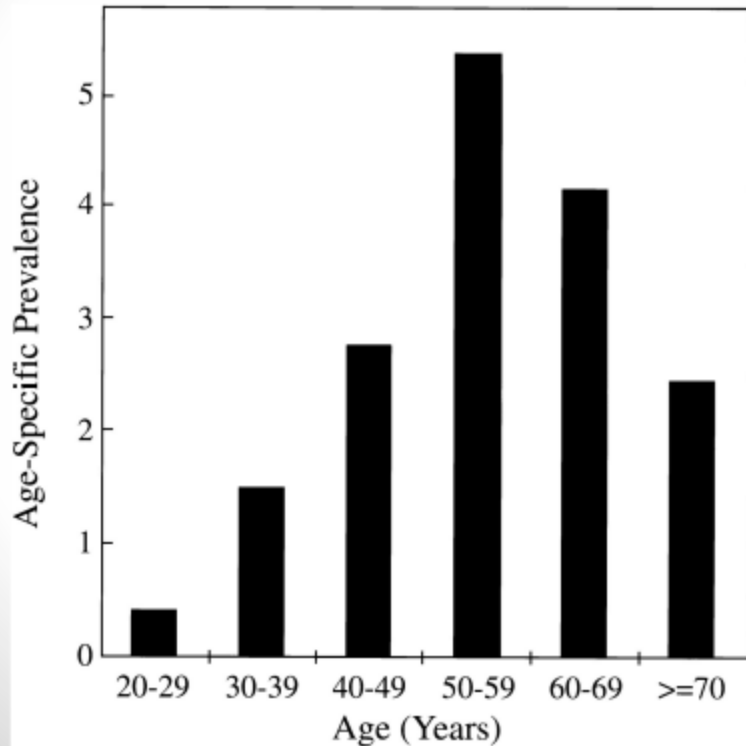
Prevalenza OSA Negli anziani

Author, year	n	Age, yrs	Females %	BMI Kg/m ²	Population	AHI≥5 %	AHI≥10/15 %
Ancoli-Israel(176)	233	65-101	65	30.6 ± 6	Nursing home	70	--
Ancoli-Israel(177)	385	65-99	62.6	21.1 ± 4	Community	81	62
Bixler(48)	75	65-100	0	29.4	Community	31	24
Young(45)	3448	60-99	--	--	Community	54	20
Carskadon(178)	40	62-86	55	--	Community	36	--
McGinty(179)	26	61-81	0	--	Community		62
Hoch(180)	105	60-91	52	--	Community	26	13
Martinez-Garcia(41)	12,468	65	--	--	Clinical series	71.5	--

Media= 52,7 36,2

Effects of Age on Sleep Apnea in Men

Bixler et al. Am J Respir Crit Care Med 1998

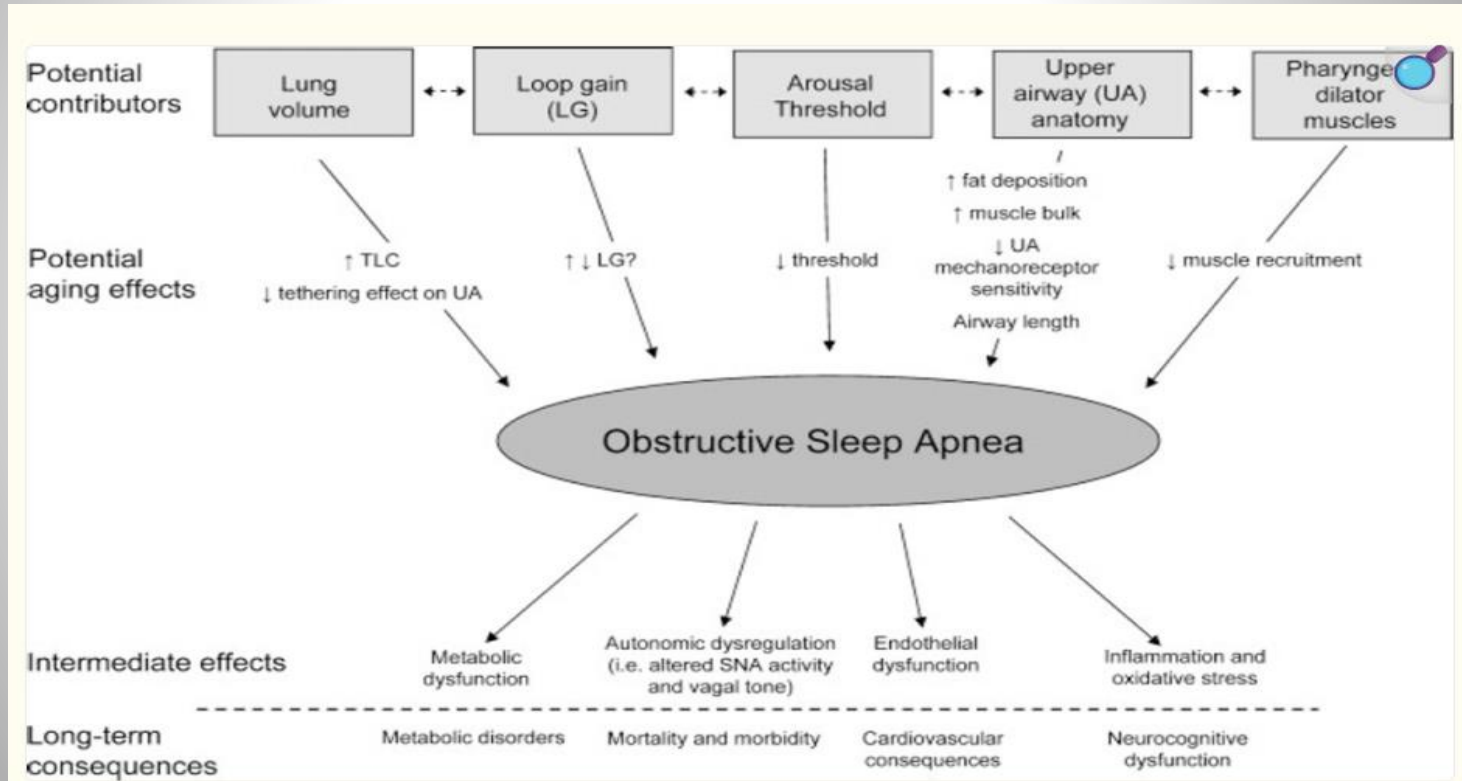


AHI > 10
+
SYMPTOMS

Aging and Sleep: Physiology and Pathophysiology

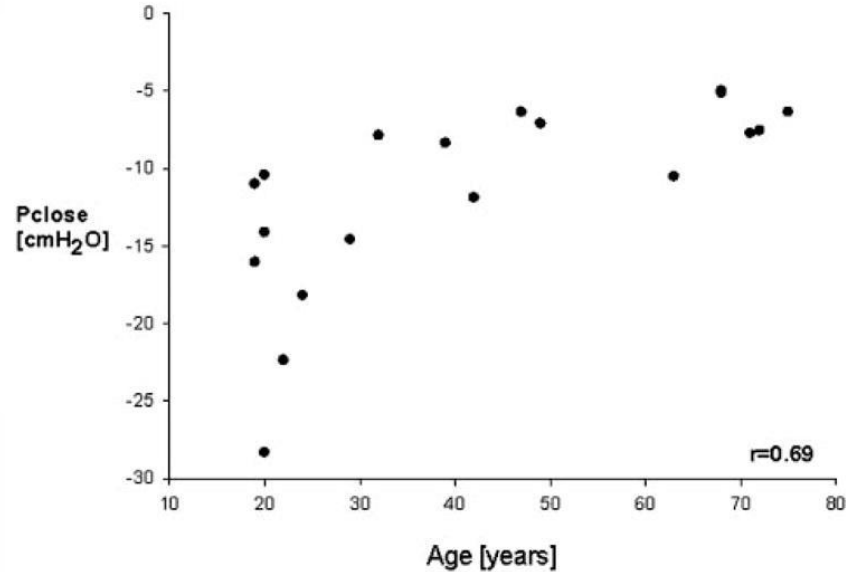
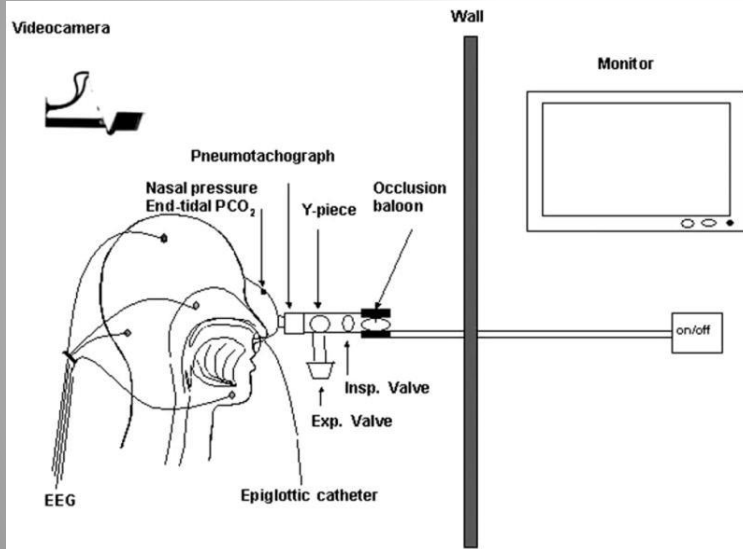
Bradley A. Edwards, Ph.D.¹, Denise M. O'Driscoll, Ph.D.², Asad Ali, M.D.¹, Amy S. Jordan, Ph.D.³, John Trinder, Ph.D.³, and Atul Malhotra, M.D.¹

¹Division of Sleep Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts



The influence of aging on pharyngeal collapsibility during sleep.

Eikermann M, Jordan AS, Chamberlin NL, et al. *Chest*. 2007;131(6):1702-1709.

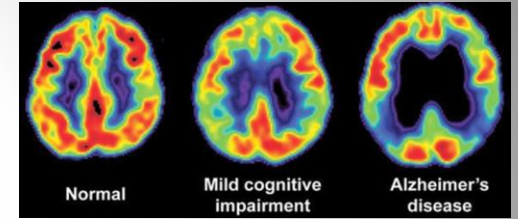


Complicanze cardiache

ictus



Accelerazione demenza



Rischi e Conseguenze cliniche

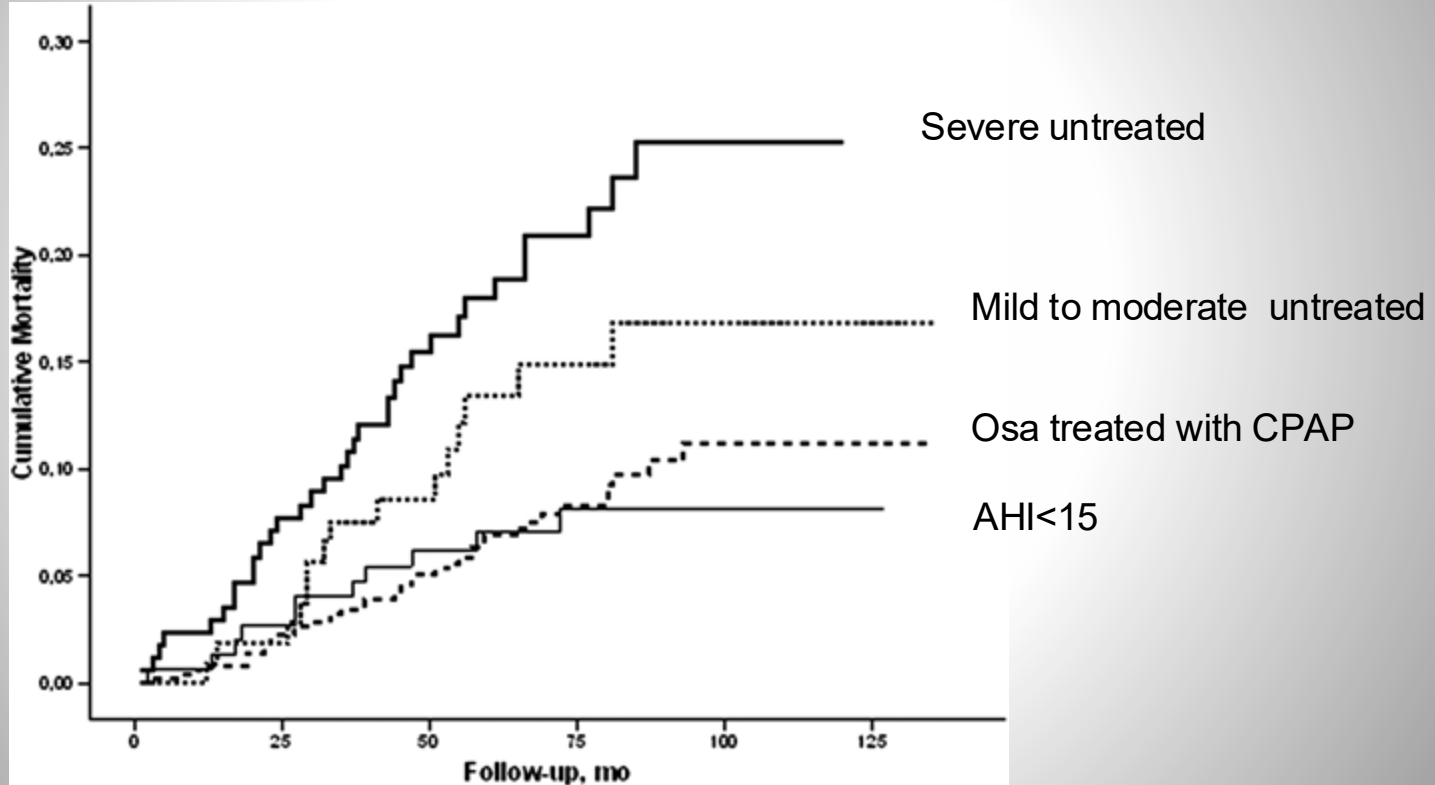
depressione



Cadute e incidenti

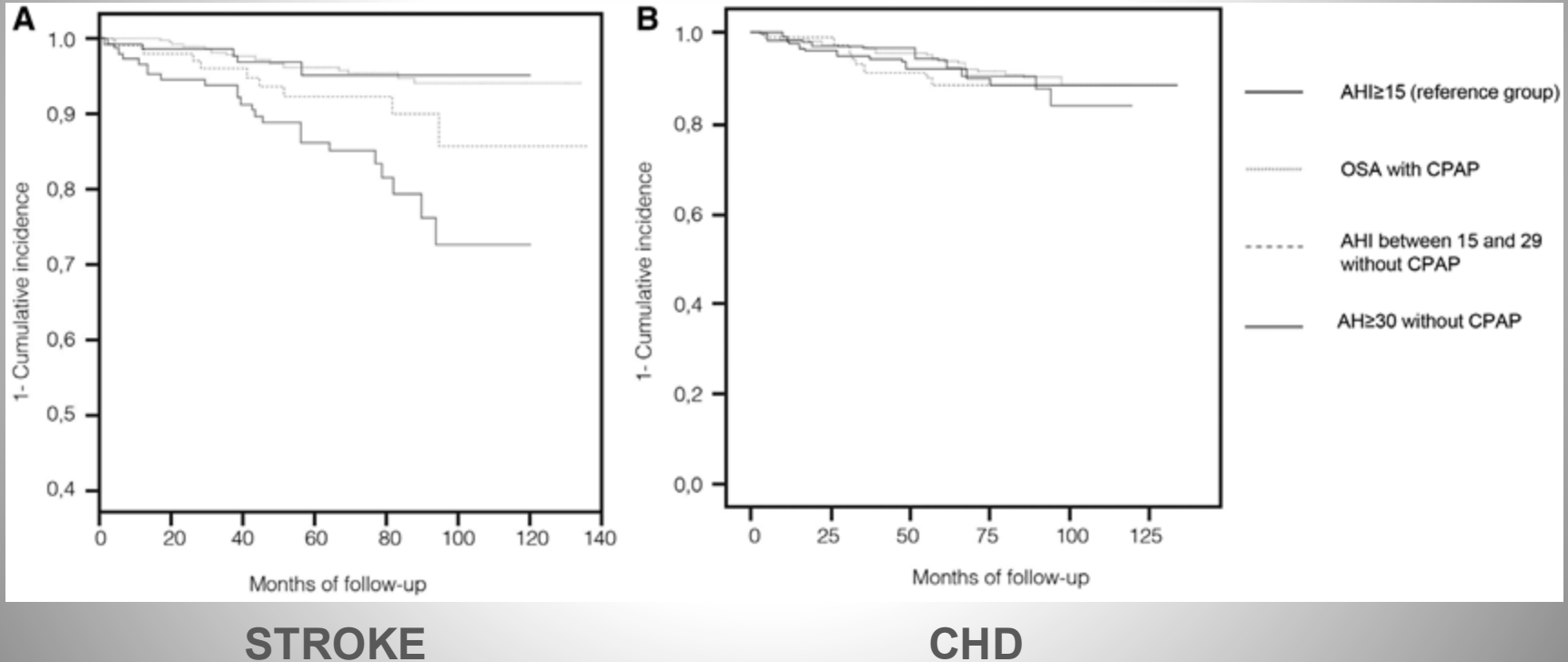
Cardiovascular Mortality in Obstructive Sleep Apnea in the Elderly: Role of Long-Term Continuous Positive Airway Pressure Treatment

Martínez-García MA, 2012 Am J Respir Crit care Med



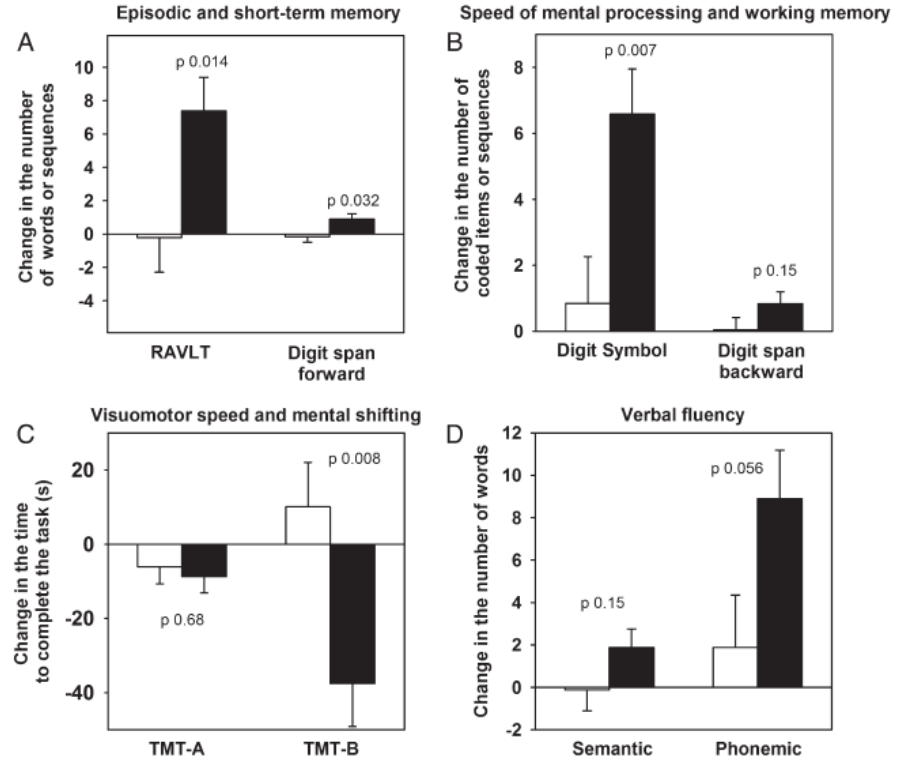
Increased Incidence of Stroke, but Not Coronary Heart Disease, in Elderly Patients With Sleep Apnea Role of Continuous Positive Airway Pressure Treatment

Catalan-Serra et al., Stroke 2018



Effect of CPAP on Cognition, Brain Function, and Structure Among Elderly Patients With OSA

A Randomized Pilot Study



Dalmases et al. Chest, Volume 148, Issue 5, 2015, 1214-1223,

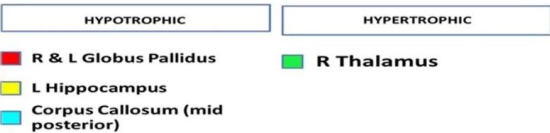
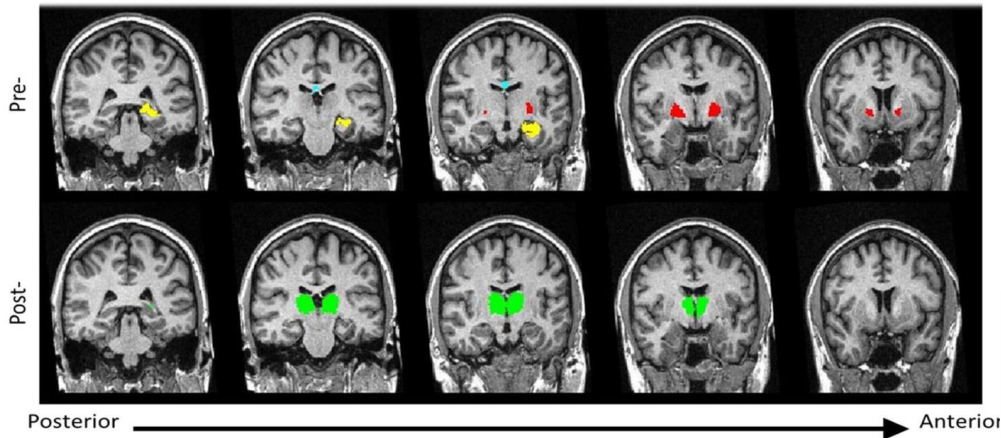
Research Paper

Changes in Neurocognitive Architecture in Patients with Obstructive Sleep Apnea Treated with Continuous Positive Airway Pressure



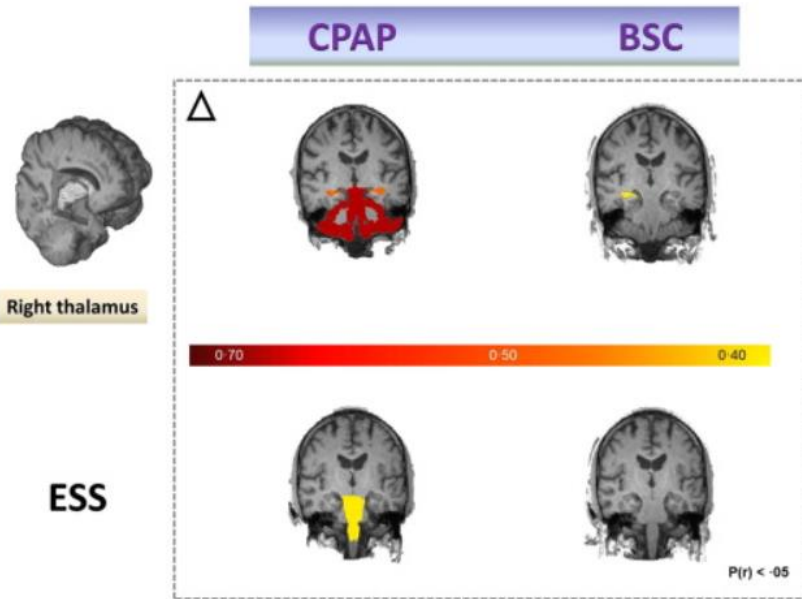
Ivana Rosenzweig^{a,b,c,*}, Martin Glasser^{d,e,1}, William R. Crum^{a,h}, Matthew J. Kempton^{a,h}, Milan Milosevicⁱ, Alison McMillan^{d,e}, Guy D. Leschziner^{a,c,g}, Veena Kumari^f, Peter Goadsby^{g,h}, Anita K. Simonds^{d,e}, Steve C.R. Williams^{a,h}, Mary J. Morrell^{a,d,e}

Significant structural change in OSA patients Pre and Post CPAP treatment



Post CPAP analysis

$$\Delta = \frac{V_{\text{PreCPAP}} - V_{\text{PostCPAP}}}{V_{\text{PreCPAP}}}$$



Review

Open Access

Depression and Obstructive Sleep Apnea (OSA)

Carmen M Schröder and Ruth O'Hara*

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* Corresponding author

Abstract

For over two decades clinical studies have been conducted which suggest the existence of a relationship between depression and Obstructive Sleep Apnea (OSA). Recently, Ohayon underscored the evidence for a link between these two disorders in the general population, showing that 800 out of 100,000 individuals had both, a breathing-related sleep disorder and a major depressive disorder, with up to 20% of the subjects presenting with one of these disorders also having the other. In some populations, depending on age, gender and other demographic and health characteristics, the prevalence of both disorders may be even higher: OSA may affect more than 50% of individuals over the age of 65, and significant depressive symptoms may be present in as many as 26% of a community-dwelling population of older adults.

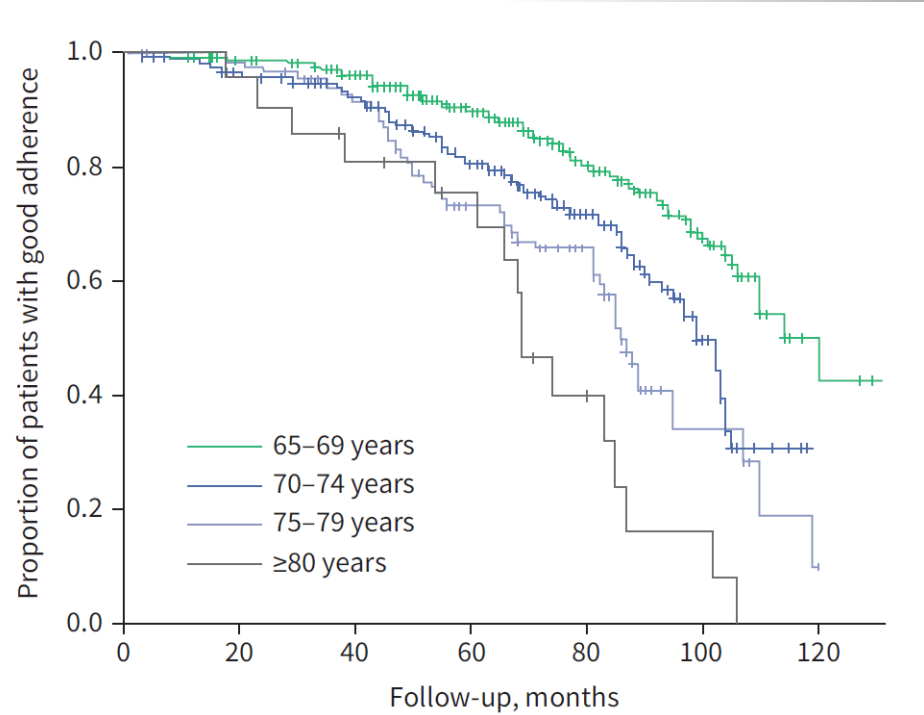
Gold standard del trattamento dell'anziano è ovviamente la CPAP ma l'aderenza diminuisce con l'età



EUROPEAN RESPIRATORY JOURNAL
SERIES
R.S. OSORIO ET AL.

Sleep apnoea in the elderly: a great challenge for the future

Ricardo S. Osorio^{1,2}, Miguel Ángel Martínez-García^{3,4} and David M. Rapoport⁵



Considerazioni su possibili trattamenti alternativi

- Terapia posizionale applicabile nelle POSA
- MAD spesso non praticabile
- Terapia miofunzionale
- Approcci complementari: dimagrimento, igiene del sonno, riduzione sedativi/alcol
- Chirurgia poco consigliabile >65aa (Gouveia et al 2017, Iannella et al 2020, De Vito et al 2021)
- Possibile indicazione alla neurostimolazione del XII Inc

conclusioni

- AHI AUMENTA CON L'ETA' MA LA SONNOLENZA E' MENO IMPATTANTE
- NELL'ANZIANO VI SONO MOLTEPLICI FATTORI PATOGENETICI PREDISPONENTI MA IN PARTICOLARE C'E' MAGGIOR COLLASSABILITA'
- L'OSAS NELL'ANZIANO AUMENTA RISCHIO STROKE, DECADIMENTO COGNITIVO, DEPRESSIONE
- L'OSAS MERITA TRATTAMENTO ANCHE NELL'ANZIANO (CPAP, TP, TMF, NEUROSTIM XII NC?)

GRAZIE PER L'ATTENZIONE

