Asti 11/06/2026

OSAS e patologia cardiovascolare: Scompenso e Cardiopatia Ischemica

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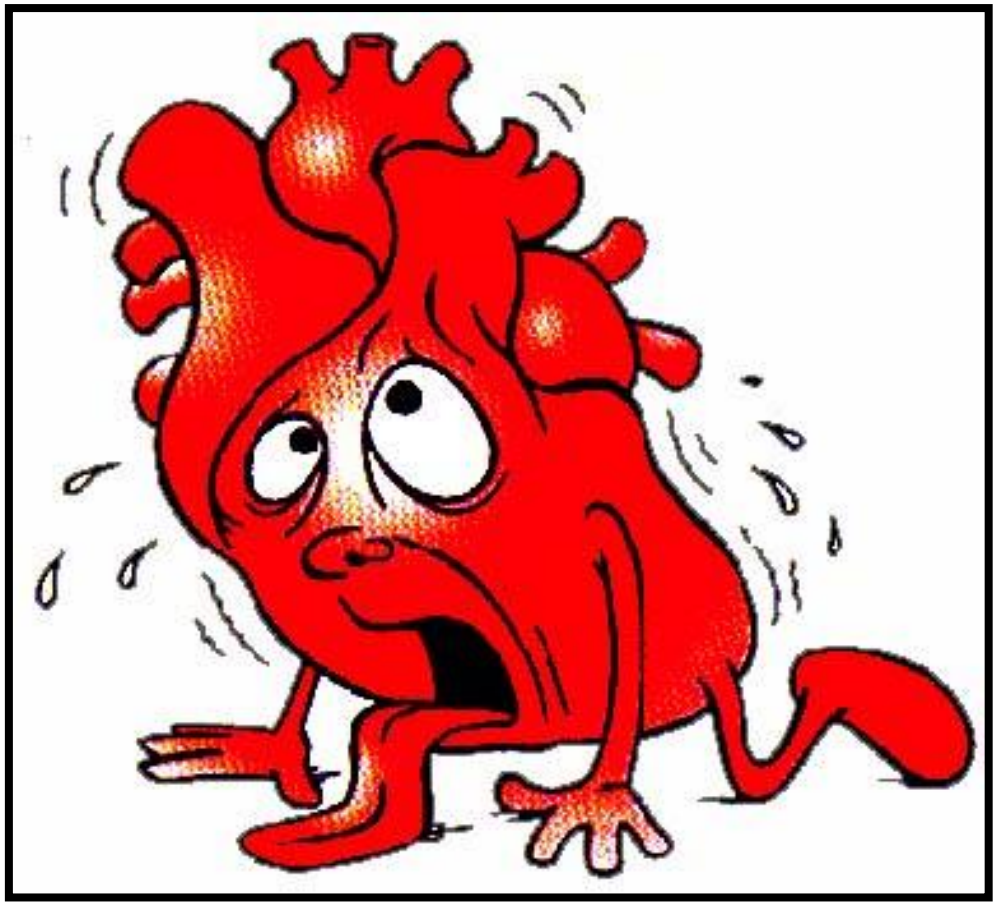
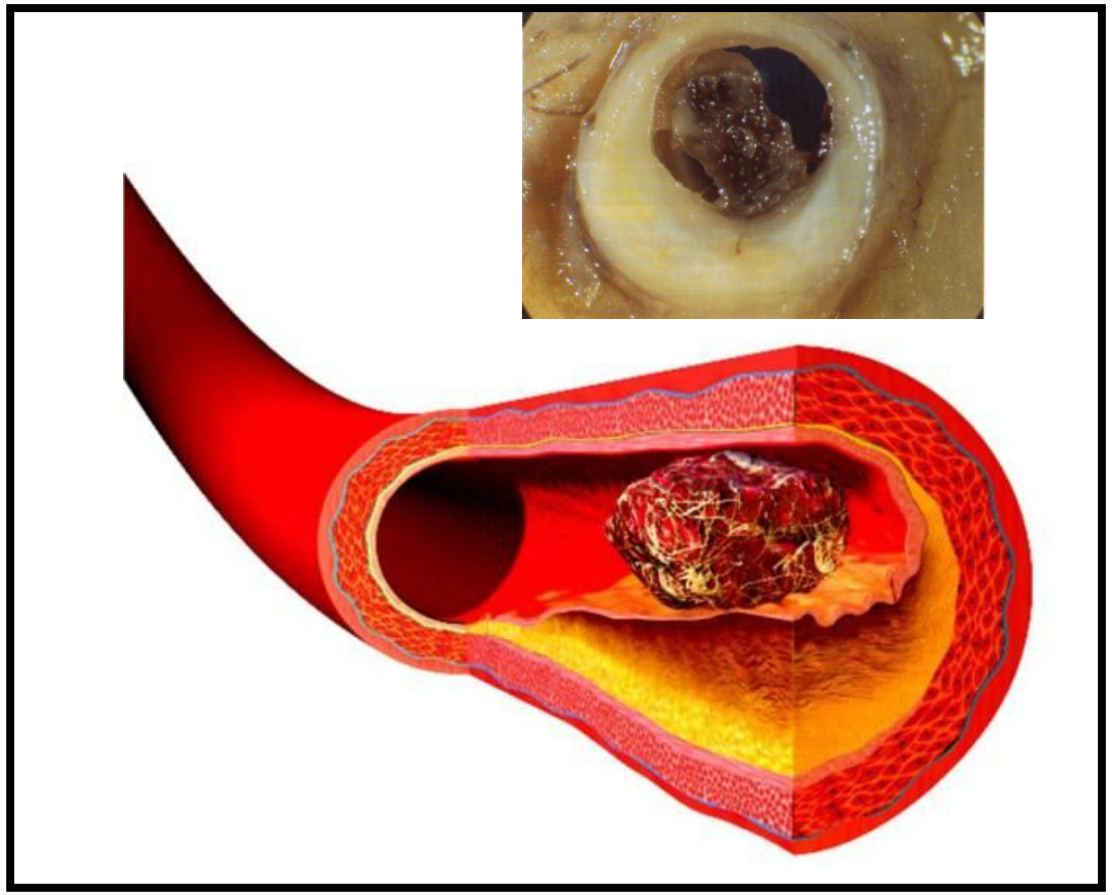
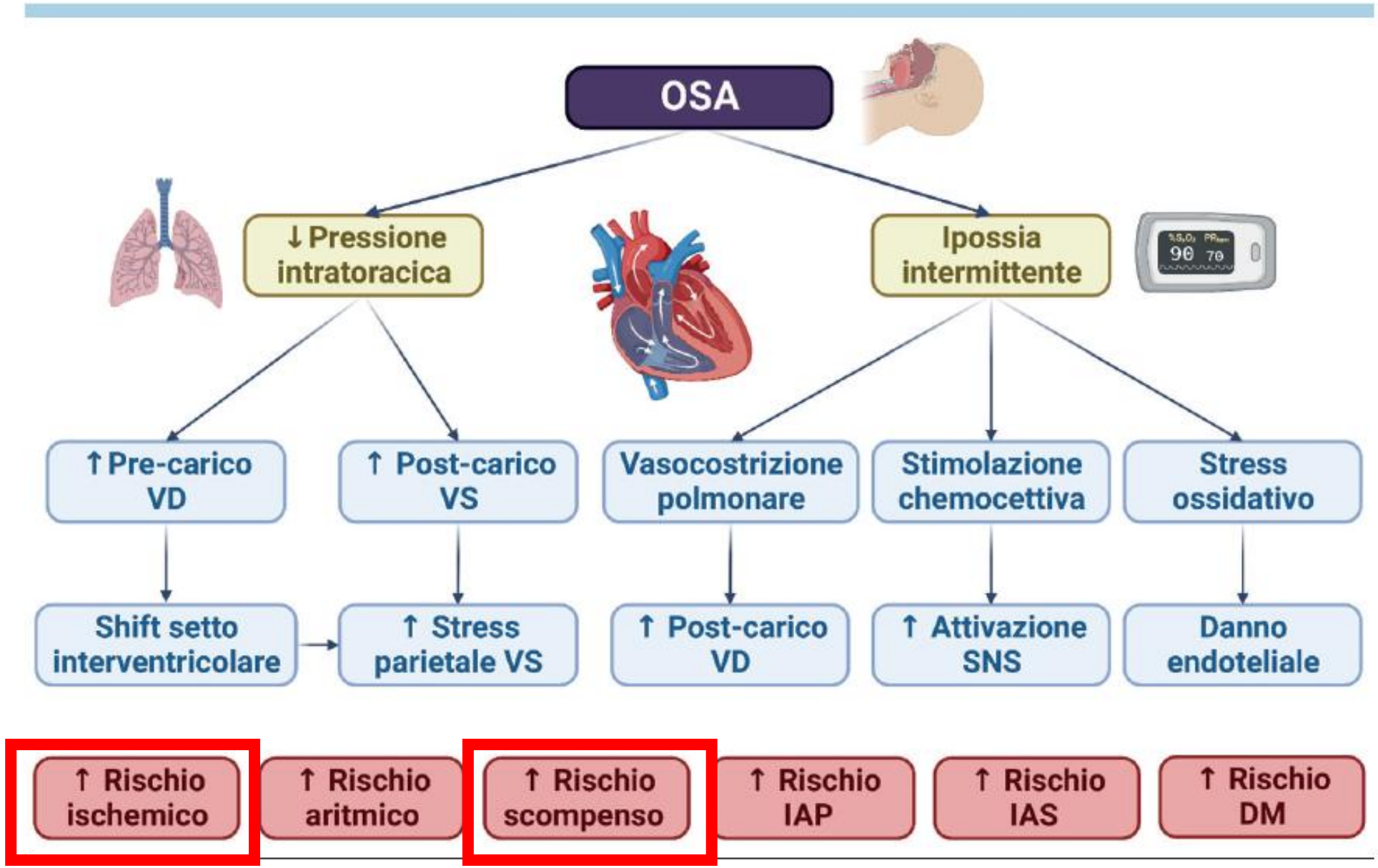
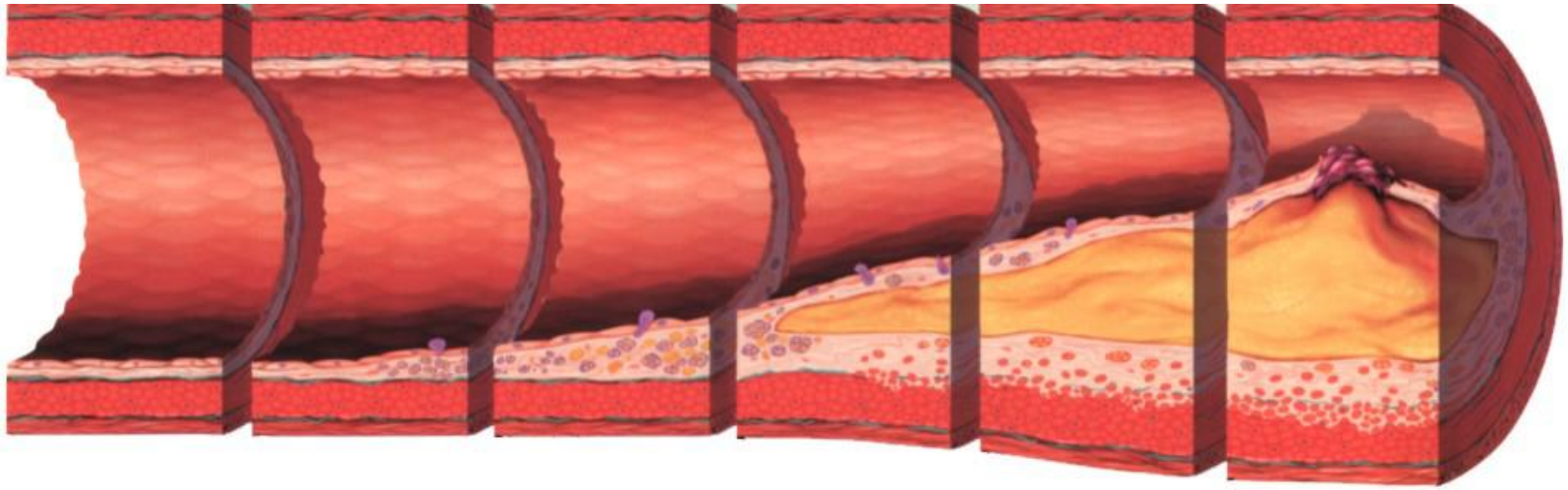


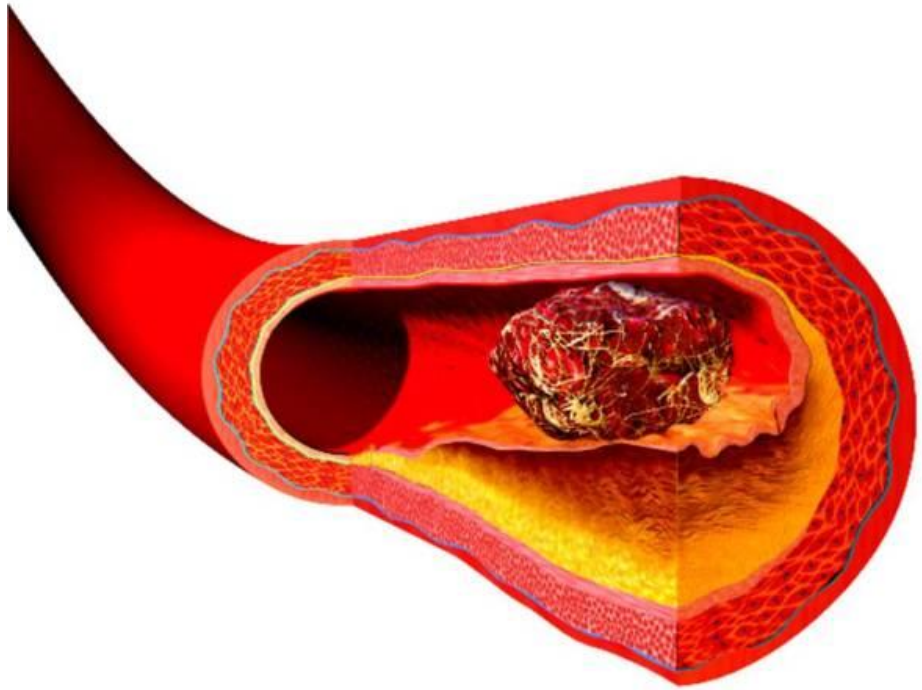


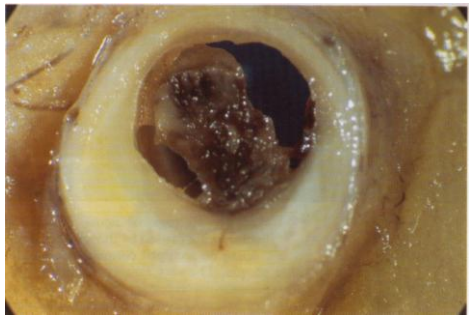


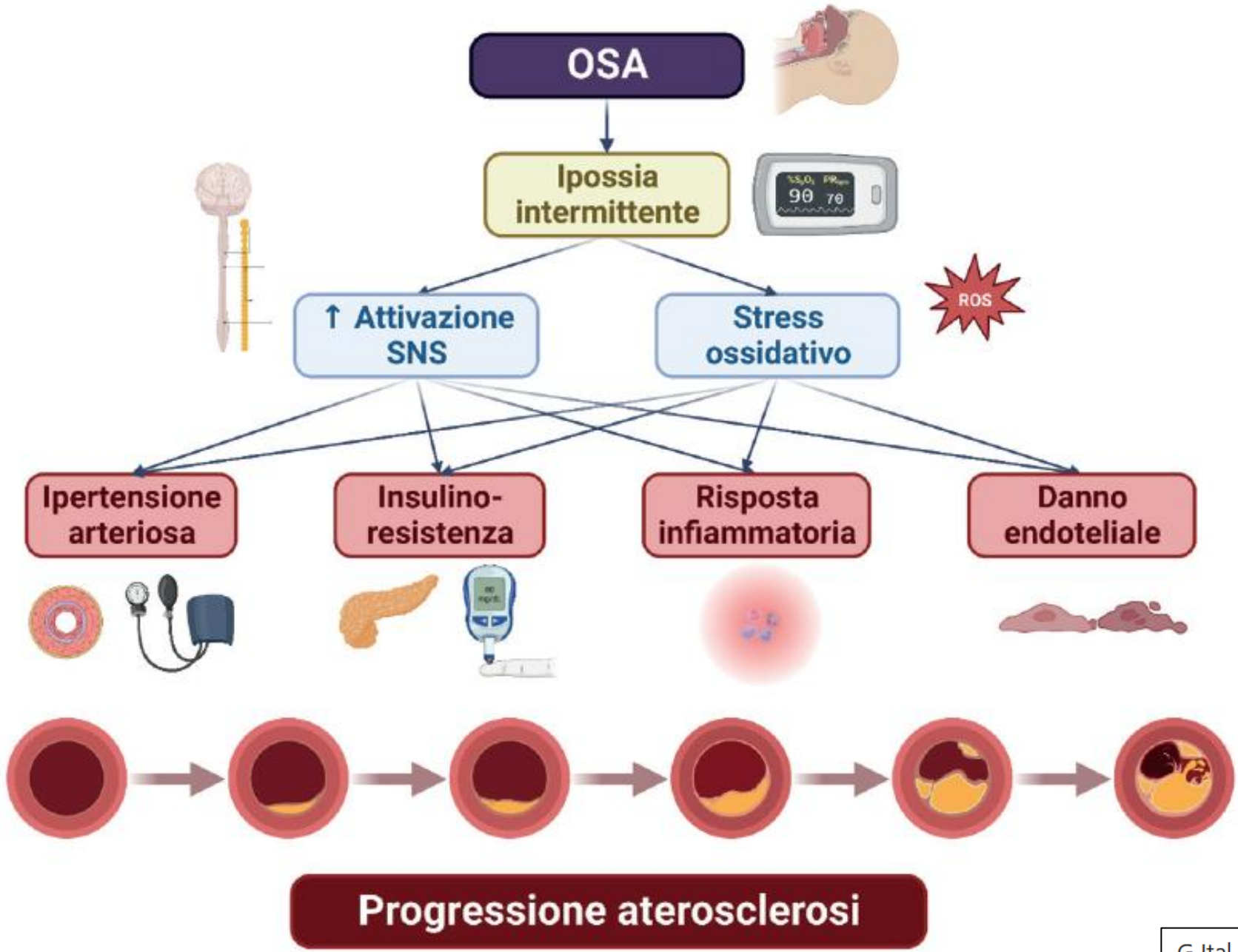
G Ital Cardiol 2023;24(12):979-989



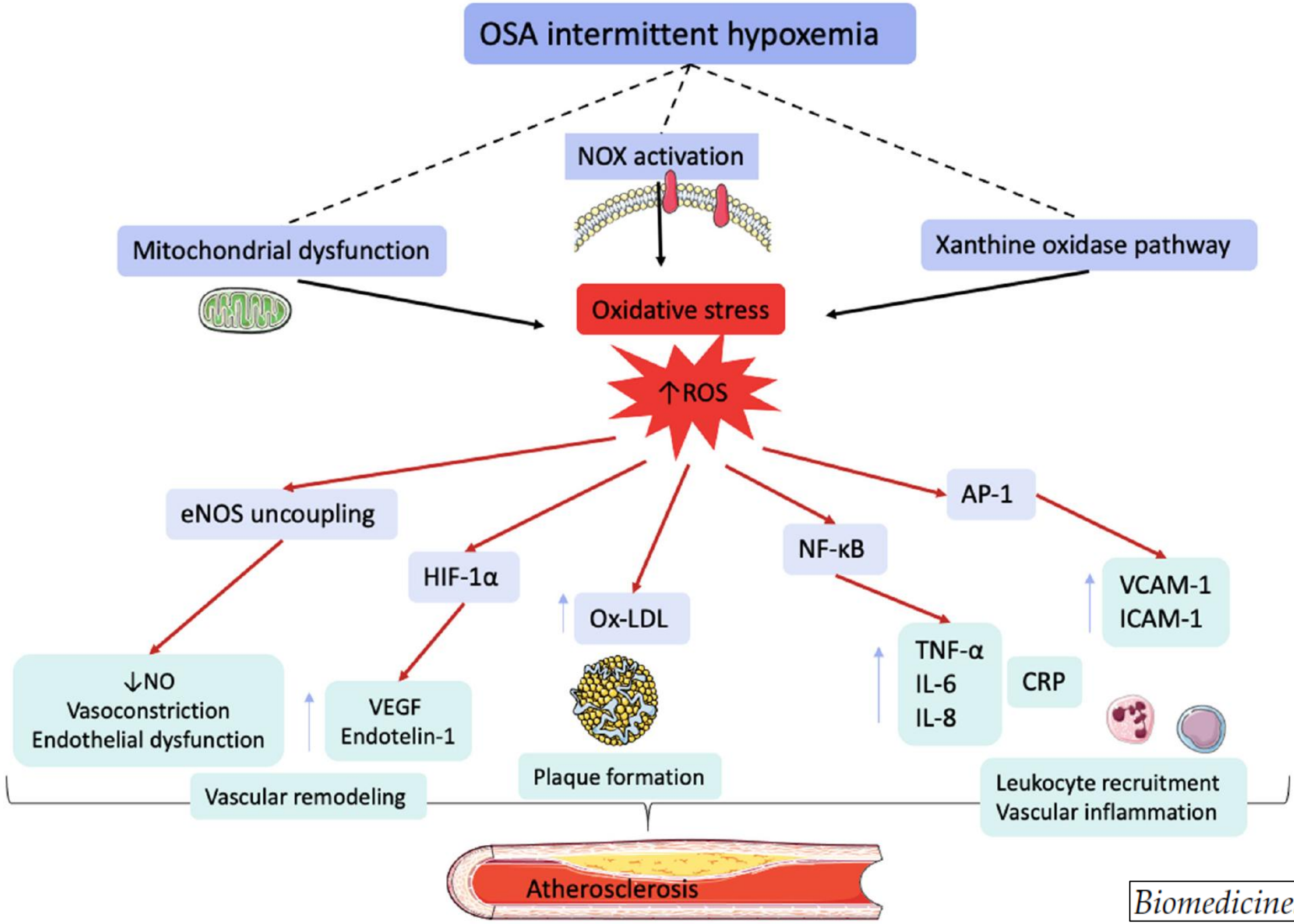
OSAS E RISCHIO ISCHEMICO







G Ital Cardiol 2023;24(12):979-989



Biomedicines **2026**, *14*, 515

ESC
European Society of Cardiology
European Heart Journal (2021) **42**, 3599–3726
doi:10.1093/eurheartj/ehab368

2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

ESC
European Society of Cardiology
European Heart Journal (2023) **44**, 3627–3639
https://doi.org/10.1093/eurheartj/ehad195

2023 Focused Update of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

ESC
European Society of Cardiology
European Heart Journal (2023) **44**, 3720–3826
https://doi.org/10.1093/eurheartj/ehad191

ESC GUIDELINES

2023 ESC Guidelines for the management of acute coronary syndromes

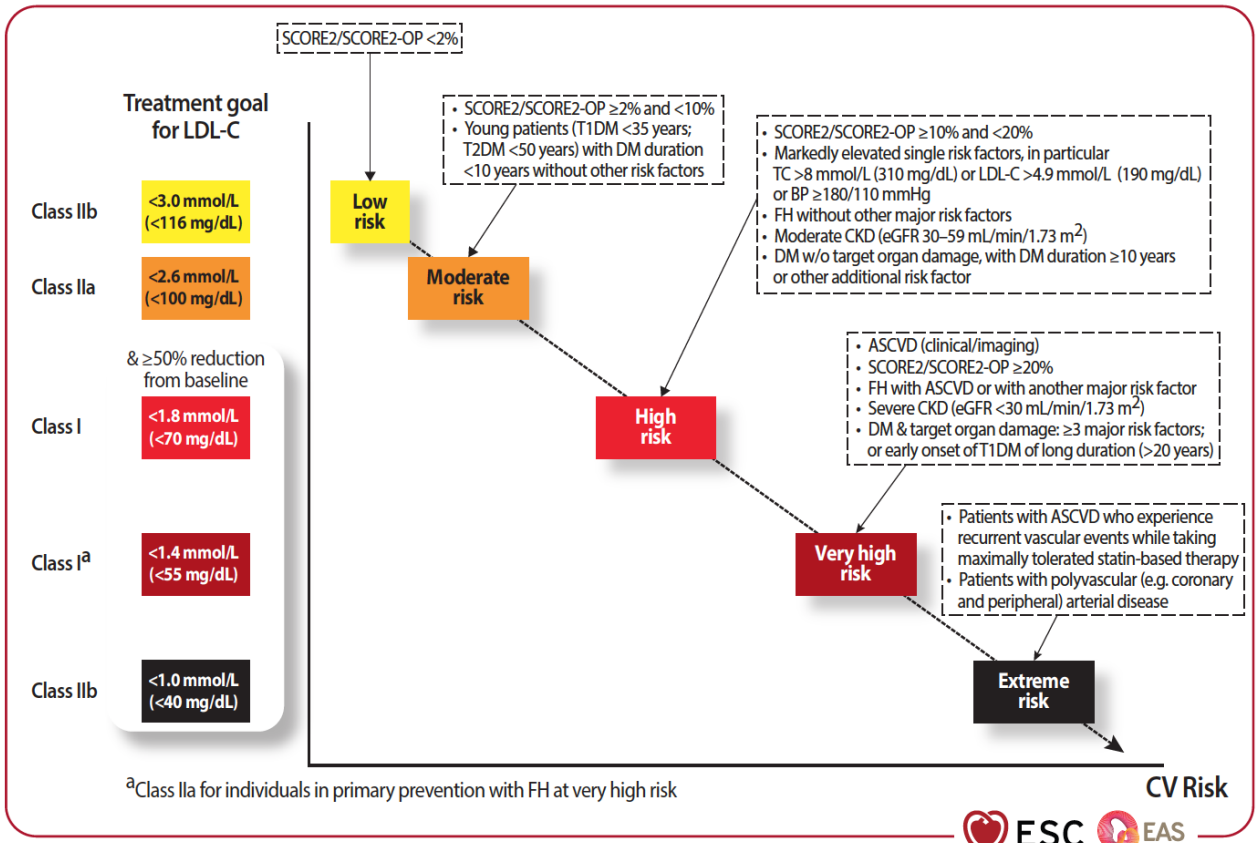
ESC
European Society of Cardiology
European Heart Journal (2024) **45**, 3415–3537
https://doi.org/10.1093/eurheartj/ehae177

ESC GUIDELINES

2024 ESC Guidelines for the management of chronic coronary syndromes

ESC European Society of Cardiology
European Heart Journal (2025) **46**, 4359–4378
https://doi.org/10.1093/eurheartj/ehaf190

2025 Focused Update of the 2019 ESC/EAS Guidelines for the management of dyslipidaemias



Box 1 Risk modifiers for consideration beyond the risk estimation based on the SCORE2 and SCORE2-OP algorithms

Demographic/clinical conditions

- Family history of premature CVD (men: <55 years; women: <60 years)
- High-risk ethnicity (e.g. Southern Asian)
- Stress symptoms and psychosocial stressors
- Social deprivation
- Obesity
- Physical inactivity
- Chronic immune-mediated/inflammatory disorders
- Major psychiatric disorders
- History of premature menopause
- Pre-eclampsia or other hypertensive disorders of pregnancy
- Human immunodeficiency virus infection
- Obstructive sleep apnoea syndrome

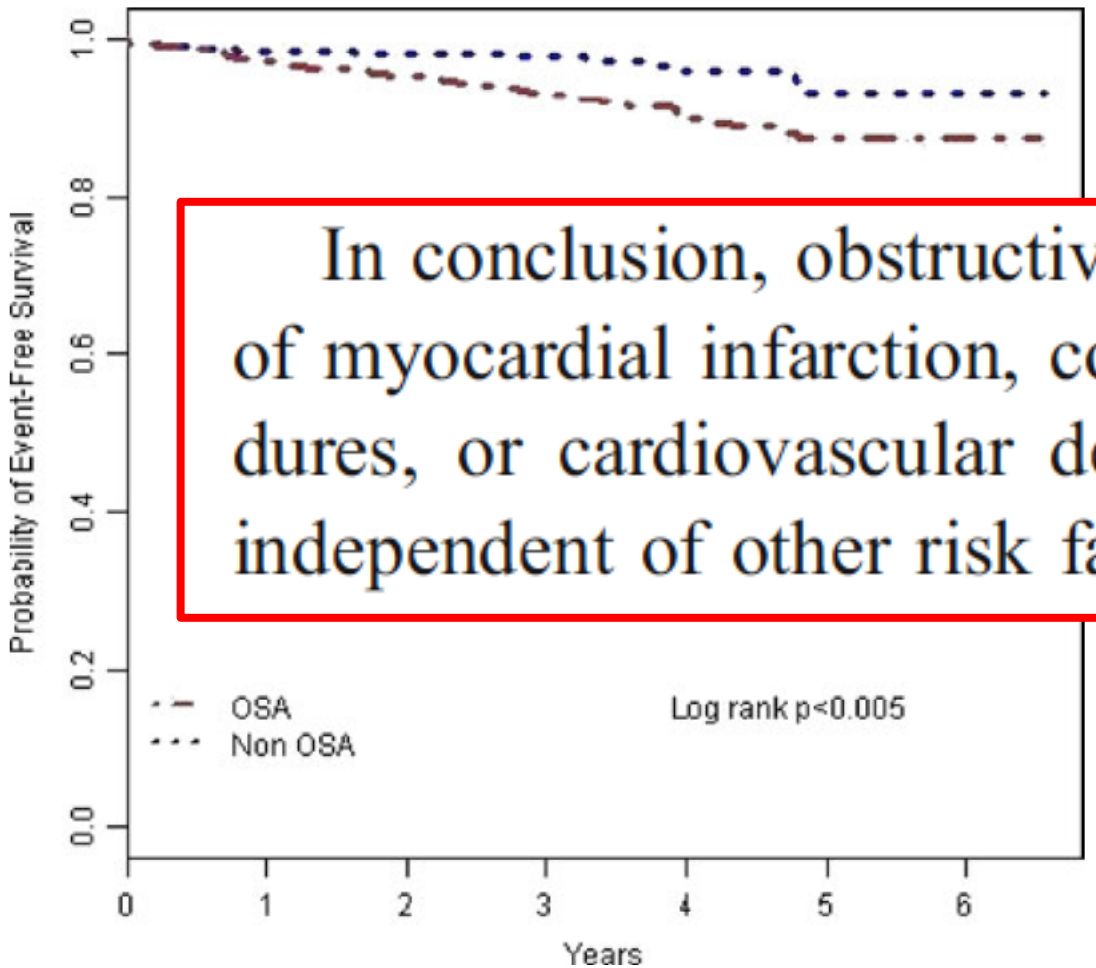
Biomarkers

- Persistently elevated hs-CRP (>2 mg/L)
- Elevated Lp(a) [>50 mg/dL (>105 nmol/L)].

Obstructive sleep apnea as a risk factor for coronary events or cardiovascular death

1024 pz

Rischio 2.5 maggiore di eventi coronarici (IMA, rivascolarizzazione) o morte cardiovascolare rispetto ai controlli.



In conclusion, obstructive sleep apnea increases the risk of myocardial infarction, coronary revascularization procedures, or cardiovascular death, and this increased risk is independent of other risk factors, including hypertension.

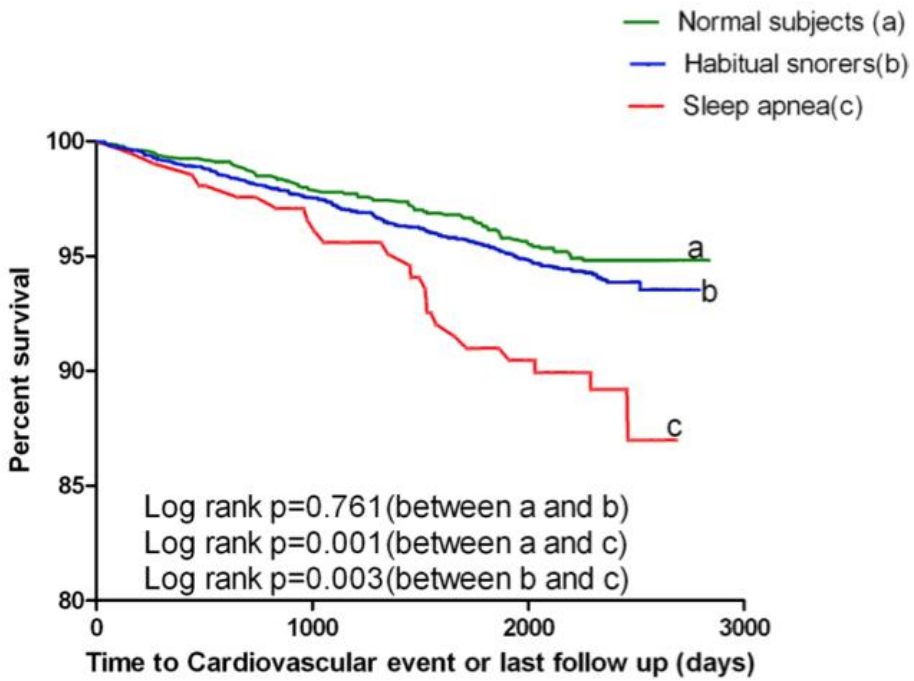
AHI 5–14	21	342	2.9	2.22 (1.10–4.45)
AHI 15–29	18	231	2.9	2.65 (1.27–5.56)
AHI≥30	35	451	2.7	2.82 (1.46–5.45)

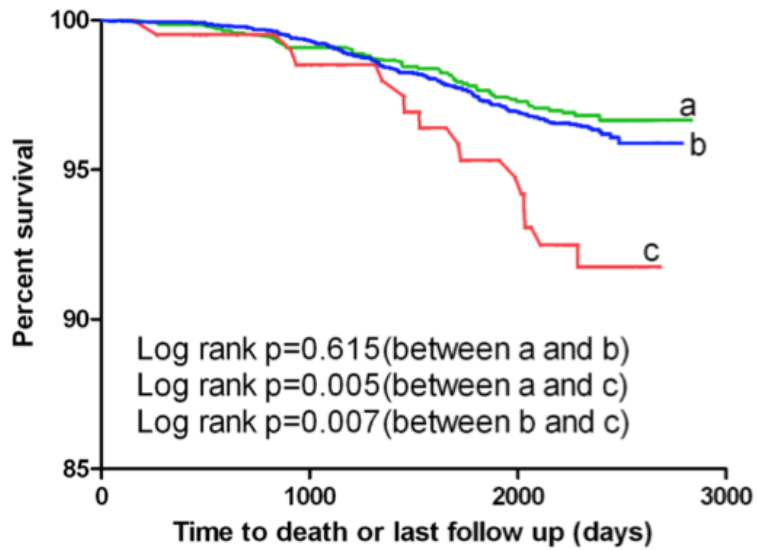
P=0.005 by the chi-squared test for linear trend

Sleep Breath (2010) 14:131–136

Association Between Sleep Apnea, Snoring, Incident Cardiovascular Events and All-Cause Mortality in an Adult Population. MESA

5338 soggetti senza precedente malattia CV: 208 OSAS; 1452 russatori; 3678 normali
Follow up 7.5 anni
Eventi: IMA, angina, ACC resuscitato, stroke, storke fatale, morte CV





Atherosclerosis. 2011 December ; 219(2): 963–968.

Association of obstructive sleep apnoea with the risk of vascular outcomes and all-cause mortality: a meta-analysis

24308 pazienti

Table 2 Summary of the relative risks of all outcomes evaluated

Outcomes	Mild OSA (RR with 95% CI)	P value for mild OSA	Moderate OSA (RR with 95% CI)	P value for moderate OSA	Severe OSA (RR with 95% CI)	P value for severe OSA
MACEs	0.98 (0.87 to 1.11)	0.741	1.16 (1.01 to 1.33)	0.034	2.04 (1.56 to 2.66)	<0.001
CHD	1.25 (0.95 to 1.66)	0.117	1.38 (1.04 to 1.83)	0.026	1.63 (1.18 to 2.26)	0.003
Stroke	1.29 (0.69 to 2.41)	0.424	1.35 (0.82 to 2.23)	0.245	2.15 (1.42 to 3.24)	<0.001
Cardiac death	1.80 (0.68 to 4.76)	0.236	1.11 (0.53 to 2.35)	0.781	2.96 (1.45 to 6.01)	0.003
All-cause mortality	1.26 (0.77 to 2.07)	0.354	1.04 (0.60 to 1.79)	0.895	1.54 (1.21 to 1.97)	<0.001
Heart failure	1.02 (0.78 to 1.34)	0.868	1.07 (0.74 to 1.54)	0.719	1.44 (0.94 to 2.21)	0.097

Xie C, *et al*. *BMJ Open* 2017;**7**:e013983.

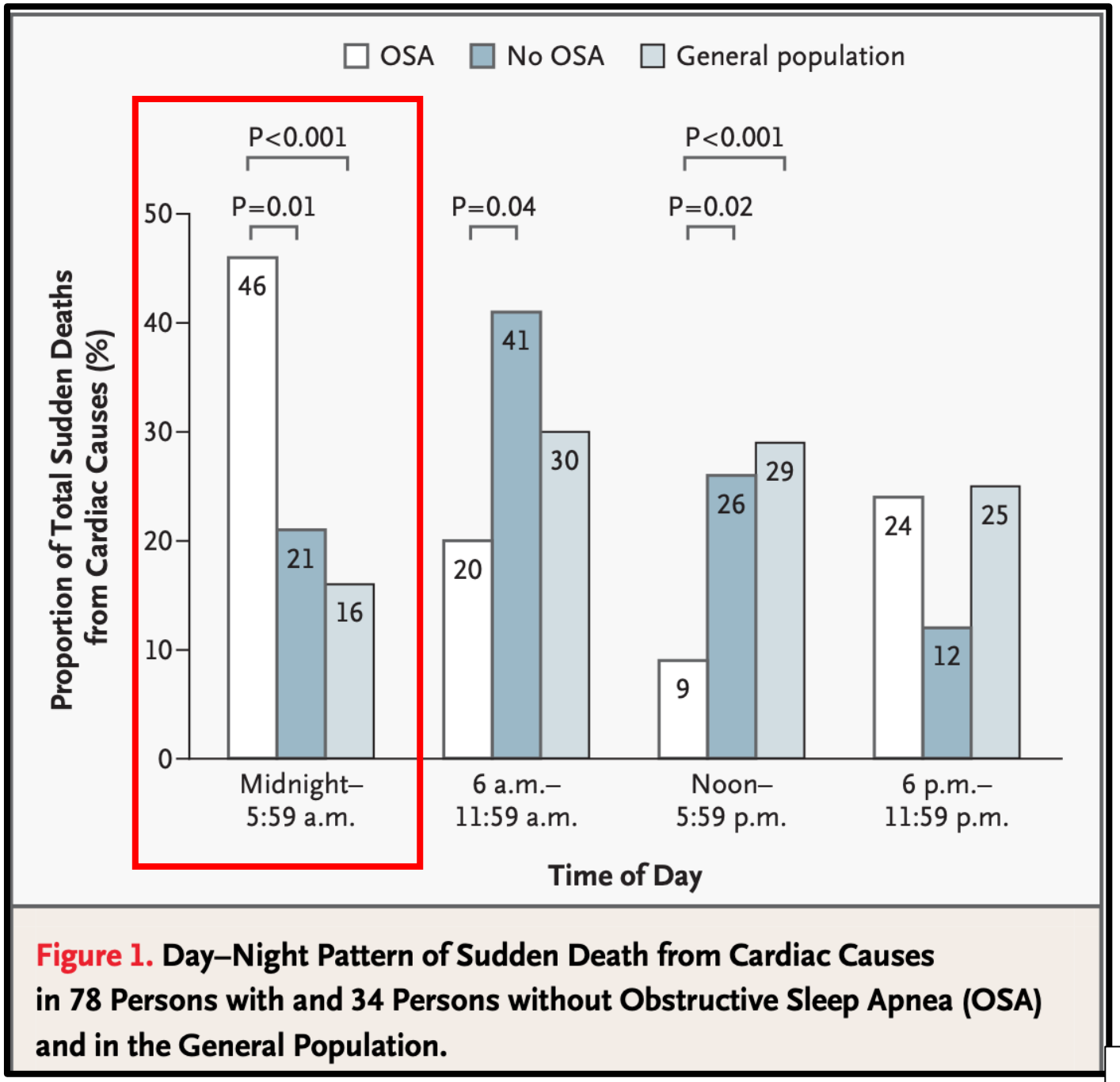
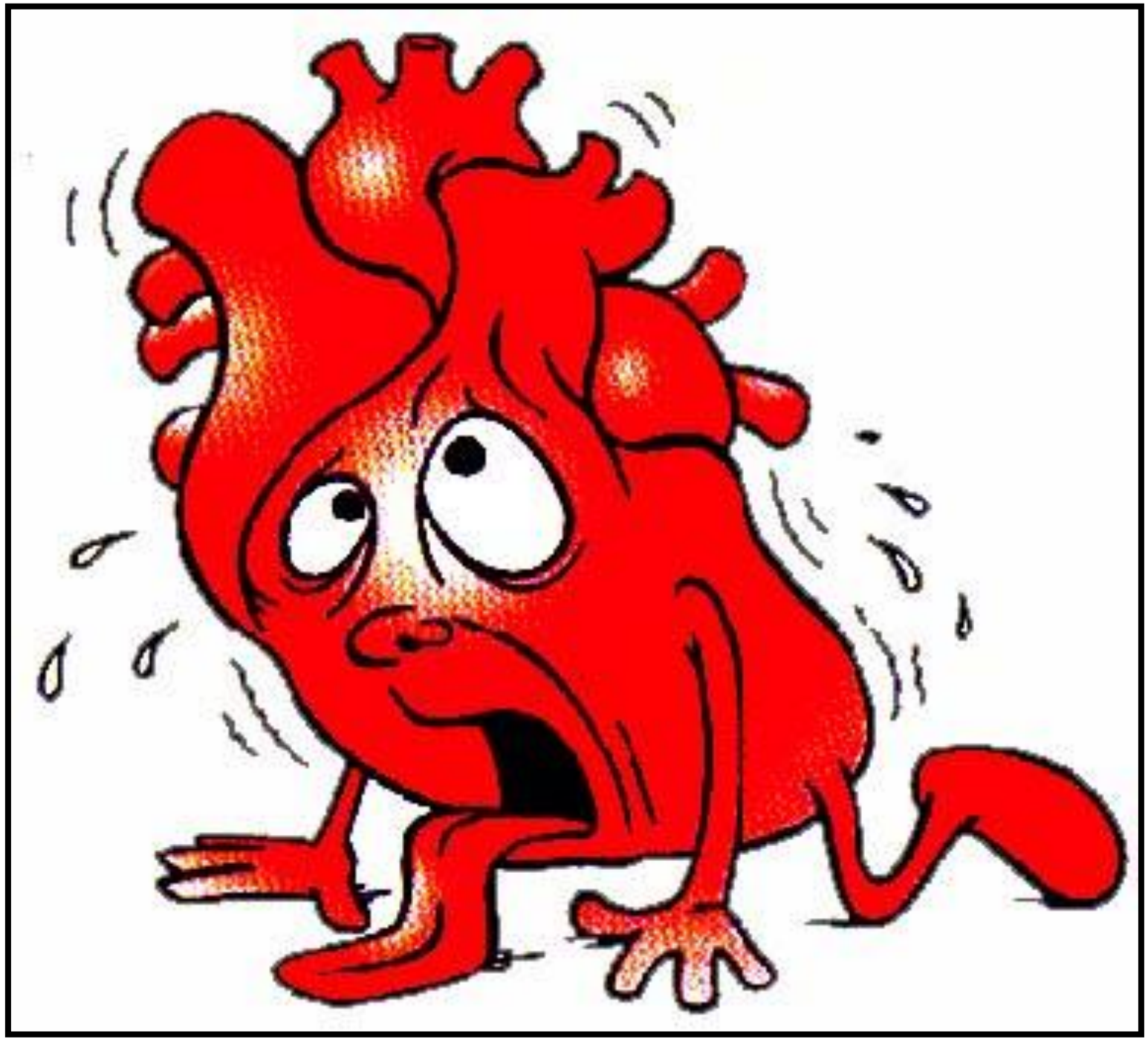


Figure 1. Day–Night Pattern of Sudden Death from Cardiac Causes in 78 Persons with and 34 Persons without Obstructive Sleep Apnea (OSA) and in the General Population.

Picco di SD cardiaca maggiore nelle ore notturne nei soggetti con OSAS (46% Vs 21%)

N Engl J Med 2005;352:1206-14.



OSAS E RISCHI DI SCOMPENSO CARDIACO

Incidenza di disturbi respiratori del sonno nei pz con HF noto: 50-75%

Le apnee centrali sono più frequenti nei pz HFrEF (66% Vs 48% Vs 34%)

Le OSAS sono più frequenti nei pz HFpEF (53% Vs 29% Vs 20%)

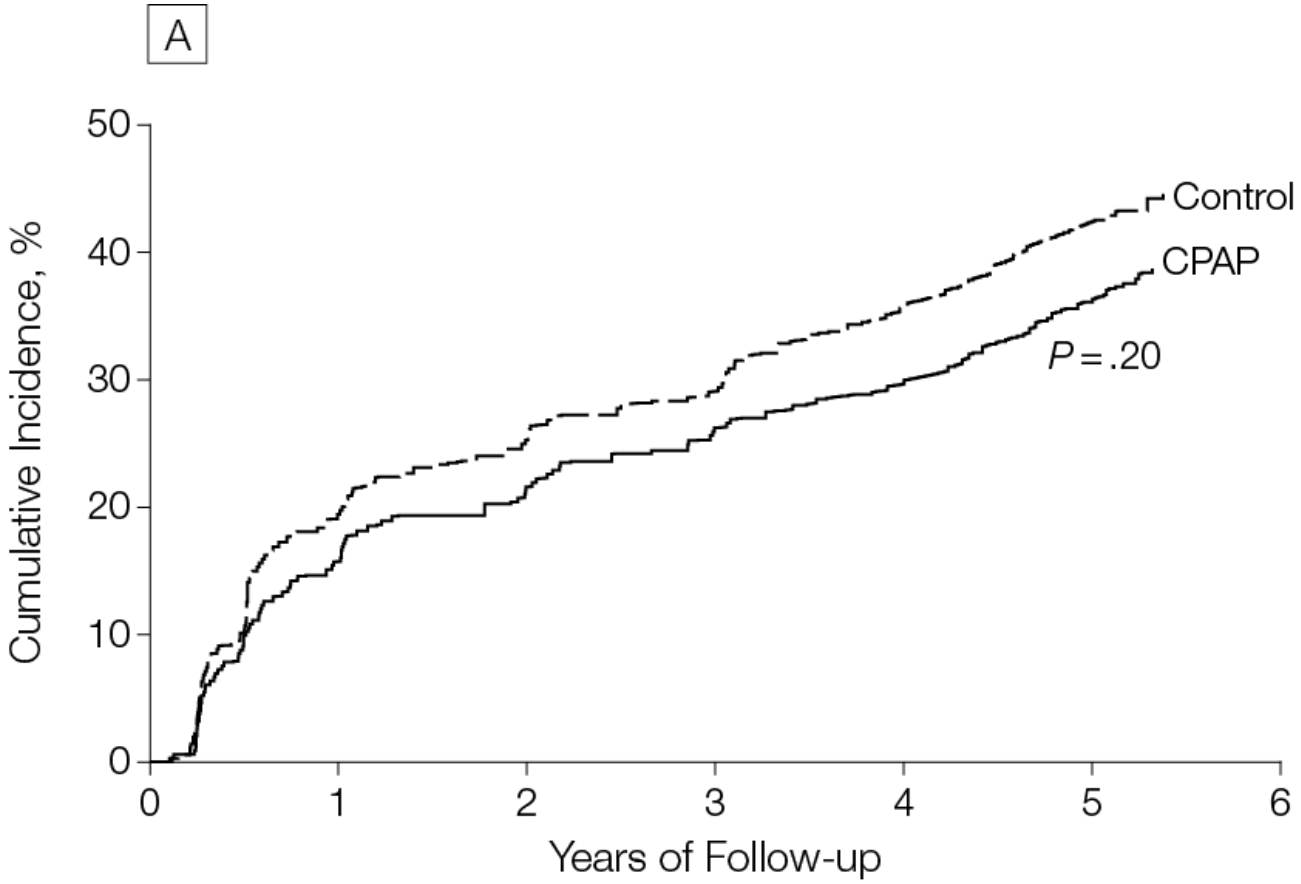
Type of HF		HFrEF	HFmrEF	HFpEF
Criteria	1	Symptoms ± signs[a]	Symptoms ± signs[a]	Symptoms ± signs[a]
	2	LVEF ≤40%	LVEF 41–49%[b]	LVEF ≥50%
	3	–	–	Objective evidence of cardiac structural and/or functional abnormalities consistent with the presence of LV diastolic dysfunction/raised LV filling pressures, including raised natriuretic peptides[c]

Normalizza l’AHI nel 90% dei pazienti; fondamentale è l’aderenza alla terapia (almeno 4 ore durante la notte per almeno 5 giorni alla settimana)

Effect of Continuous Positive Airway Pressure on the Incidence of Hypertension and Cardiovascular Events in Nonsleepy Patients With Obstructive Sleep Apnea: A Randomized Controlled Trial

725 pz senza precedente storia di malattia CV

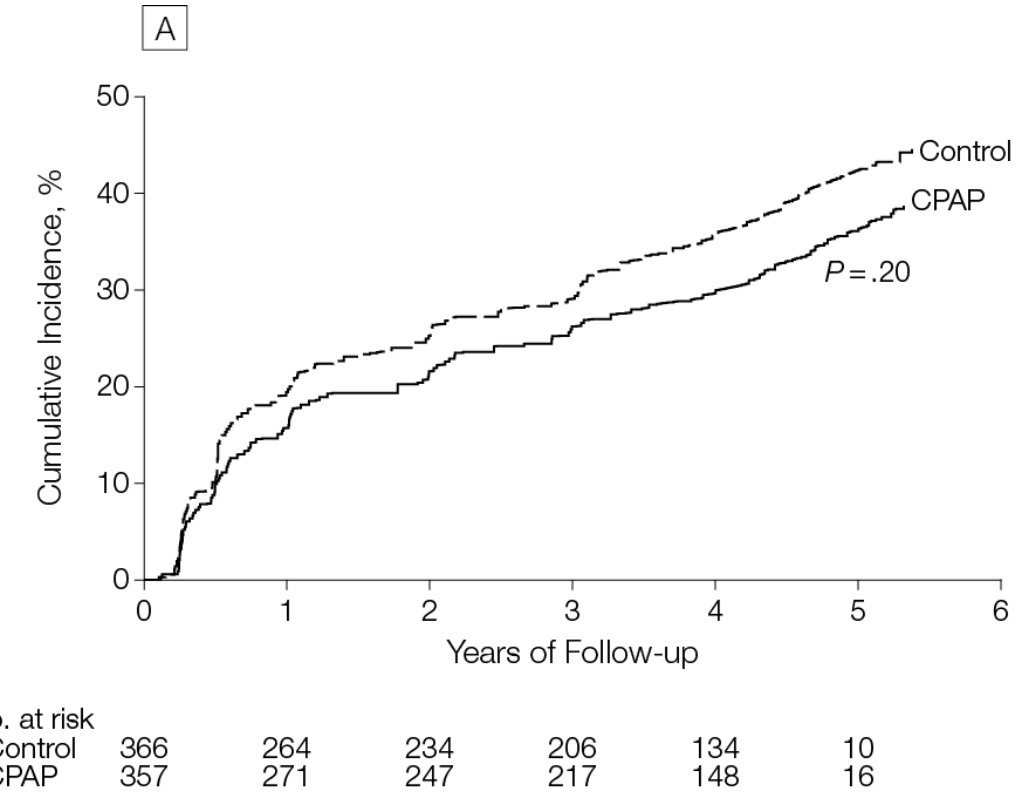
Eventi: ipertensione o eventi cardiovascolari (angina, IMA, TIA, Ictus, HF o morte CV)

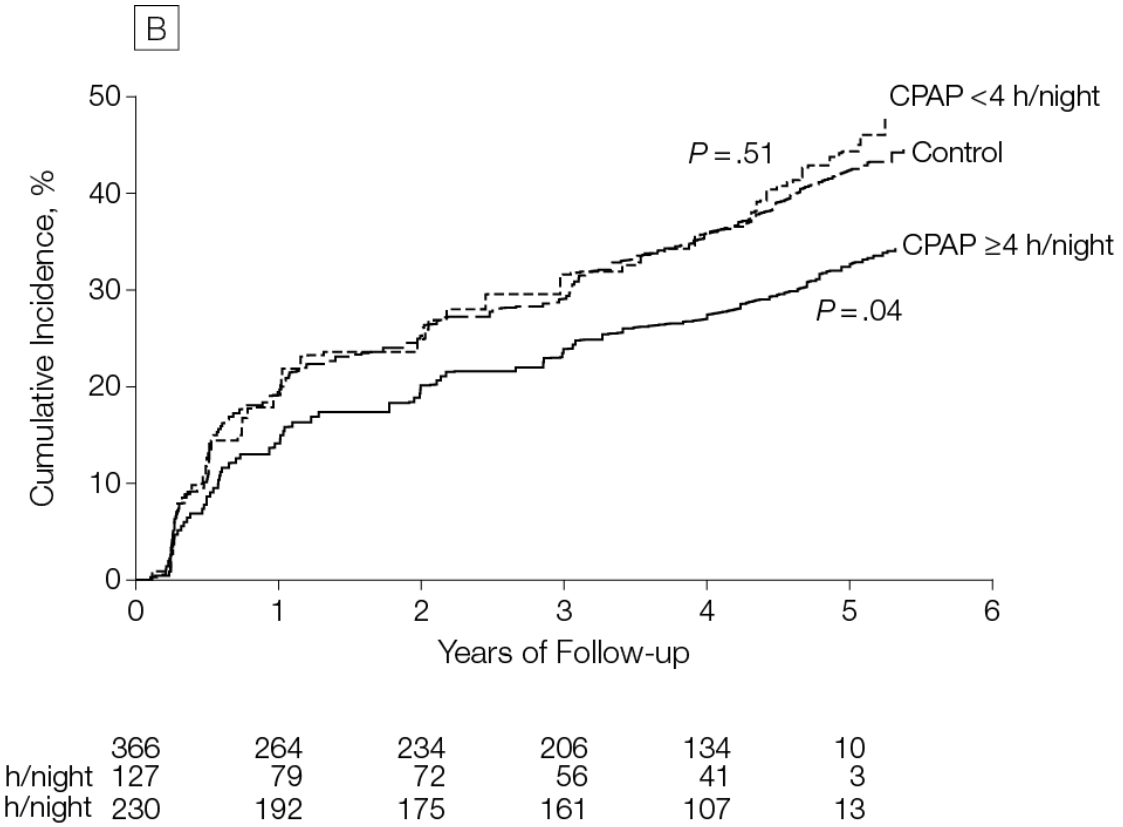


No. at risk						
Control	366	264	234	206	134	10
CPAP	357	271	247	217	148	16

JAMA. 2012;307(20):2161-2168.

Effect of Continuous Positive Airway Pressure on the Incidence of Hypertension and Cardiovascular Events in Nonsleepy Patients With Obstructive Sleep Apnea: A Randomized Controlled Trial (Post hoc analysis)



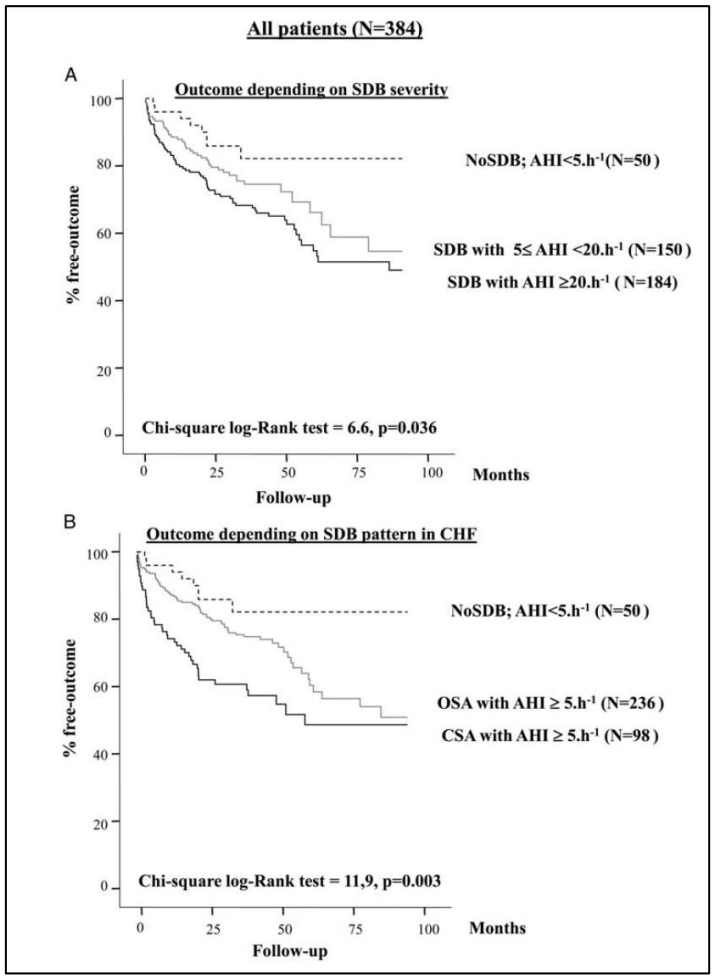


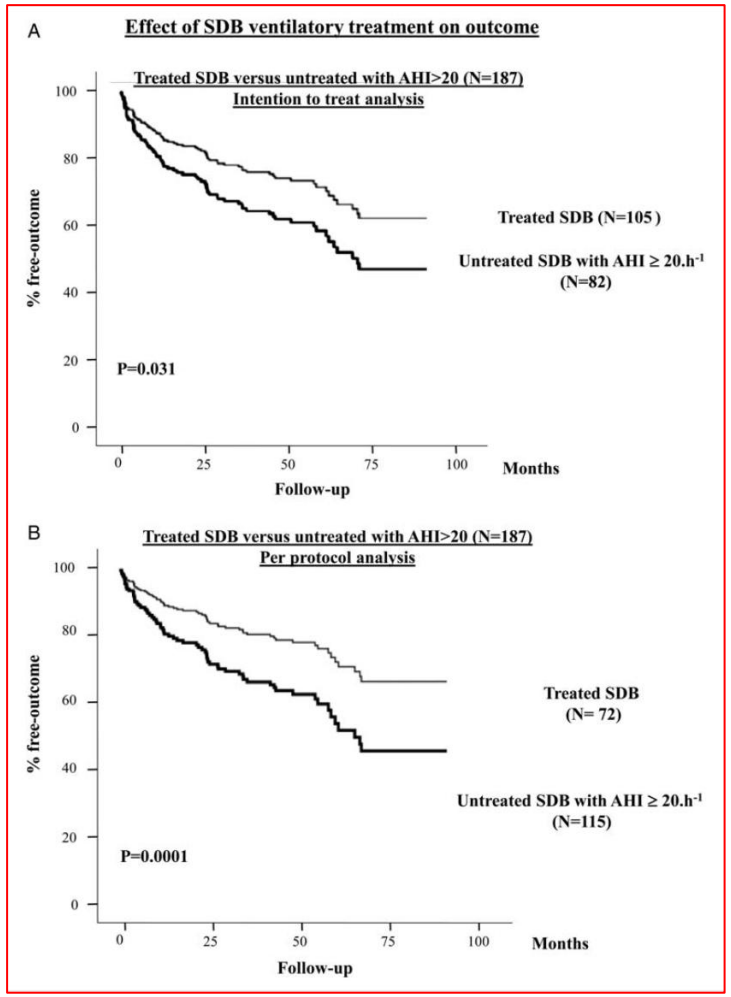
JAMA. 2012;307(20):2161-2168.

Prognostic impact of sleep-disordered breathing and its treatment with nocturnal ventilation for chronic heart failure

384 pz con HF e FE < 45%

Eventi: morte, trapianto di cuore o impianto di L-VAD





European Journal of Heart Failure (2012) **14**, 1009–1019

Effect of Positive Airway Pressure on Cardiovascular Outcomes in Coronary Artery Disease Patients with Nonsleepy Obstructive Sleep Apnea. The RICCADSA Randomized Controlled Trial

244 pz con CAD

Follow up: 57 mesi

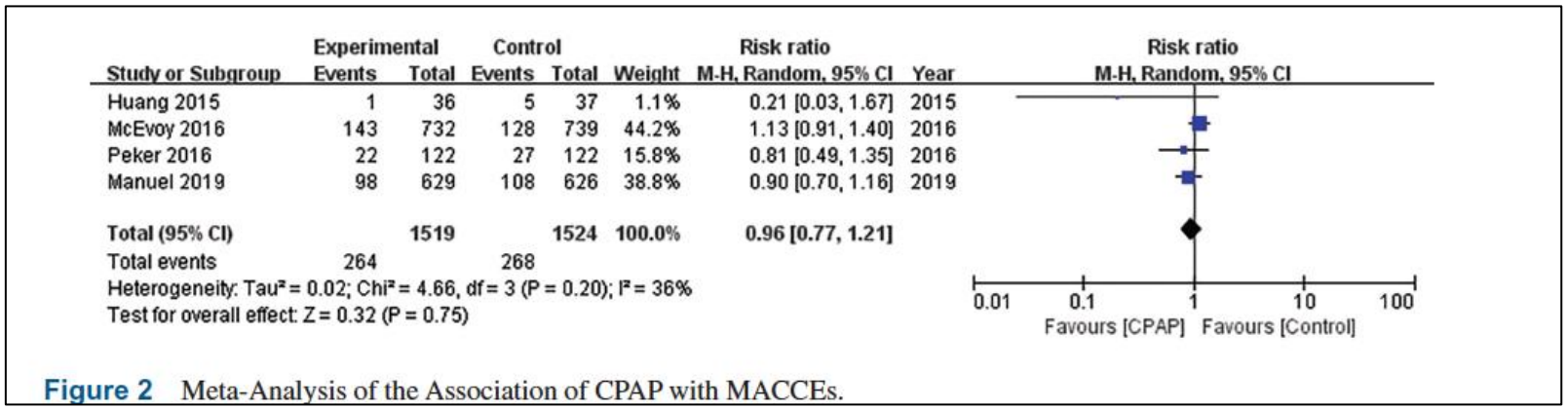
Eventi: PTCA, IMA, stroke o morte CV

The incidence of the primary endpoint did not differ significantly in patients who did versus did not receive CPAP (18.1% vs. 22.1%; hazard ratio, 0.80; 95% confidence interval, 0.46–1.41; *P* = 0.449).

Adjusted on-treatment analysis showed a **significant cardiovascular risk reduction in those who used CPAP for ≥4** versus <4 hours per night or did not receive treatment (hazard ratio, 0.29; 95% confidence interval, 0.10–0.86; *P* = 0.026).

Am J Respir Crit Care Med. 2016 Sep 1;194(5):613-20.

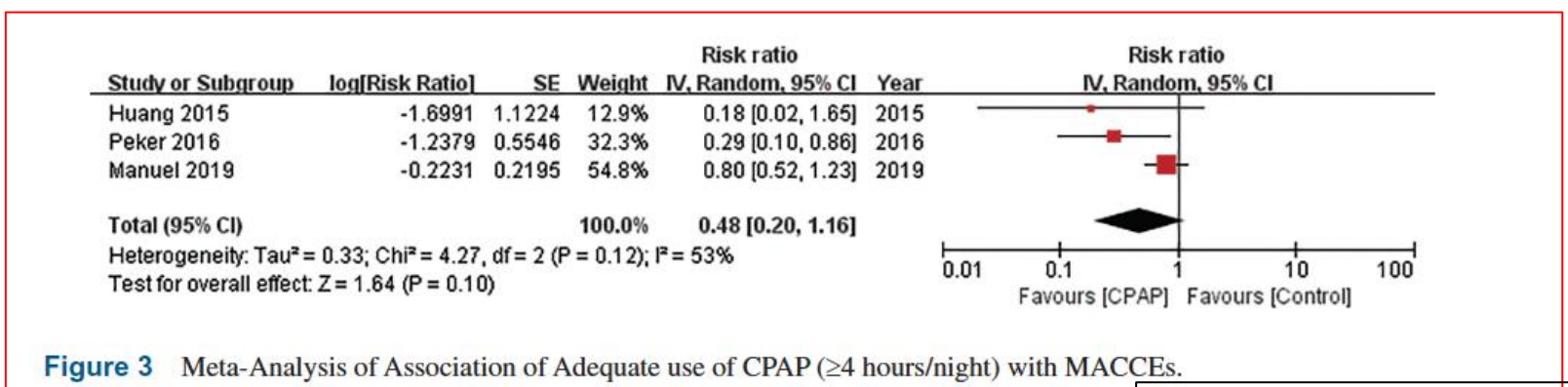
Continuous Positive Airway Pressure Therapy and Long-Term Outcomes in Patients with Coronary Artery Disease and Obstructive Sleep Apnea: A Meta-Analysis of Randomized Trials



Study or Subgroup	Experimental Events	Experimental Total	Control Events	Control Total	Weight	Risk ratio M-H, Random, 95% CI	Year
Huang 2015	1	36	5	37	1.1%	0.21 [0.03, 1.67]	2015
McEvoy 2016	143	732	128	739	44.2%	1.13 [0.91, 1.40]	2016
Peker 2016	22	122	27	122	15.8%	0.81 [0.49, 1.35]	2016
Manuel 2019	98	629	108	626	38.8%	0.90 [0.70, 1.16]	2019
Total (95% CI)		**1519**		**1524**	**100.0%**	**0.96 [0.77, 1.21]**	
Total events	264		268				

Heterogeneity: Tau² = 0.02; Chi² = 4.66, df = 3 (P = 0.20); I² = 36%
Test for overall effect: Z = 0.32 (P = 0.75)

Figure 2 Meta-Analysis of the Association of CPAP with MACCEs.



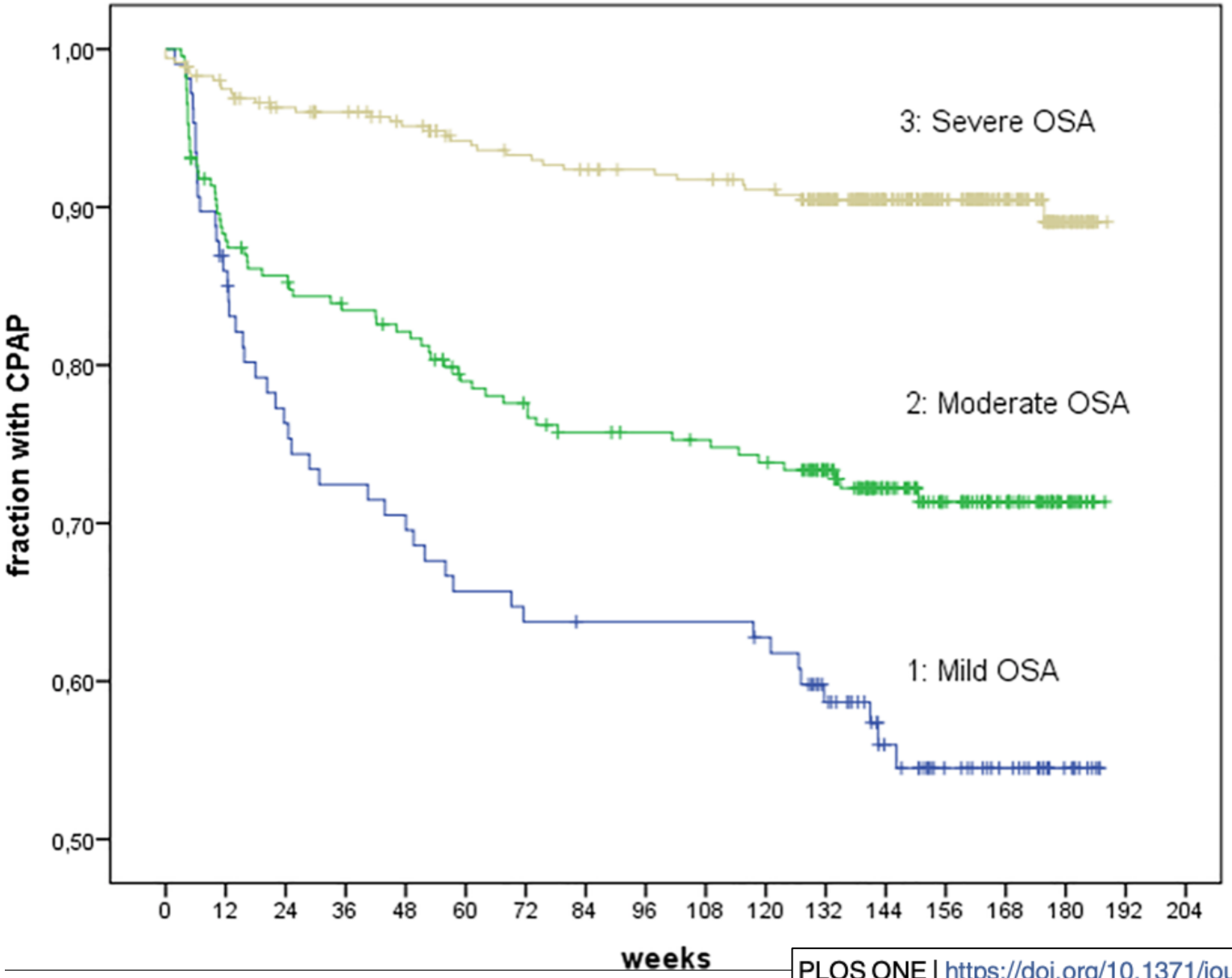
Study or Subgroup	log[Risk Ratio]	SE	Weight	Risk ratio IV, Random, 95% CI	Year
Huang 2015	-1.6991	1.1224	12.9%	0.18 [0.02, 1.65]	2015
Peker 2016	-1.2379	0.5546	32.3%	0.29 [0.10, 0.86]	2016
Manuel 2019	-0.2231	0.2195	54.8%	0.80 [0.52, 1.23]	2019
Total (95% CI)			**100.0%**	**0.48 [0.20, 1.16]**	

Heterogeneity: Tau² = 0.33; Chi² = 4.27, df = 2 (P = 0.12); I² = 53%
Test for overall effect: Z = 1.64 (P = 0.10)

Figure 3 Meta-Analysis of Association of Adequate use of CPAP (≥4 hours/night) with MACCEs.

CVIA. 2024. Vol. 9(1). DOI: 10.15212/CVIA.2023.0086

ADERENZA ALLA TERAPIA CON C-PAP



PLOS ONE | https://doi.org/10.1371/journal.pone.0189614 December 18, 2017

CONCLUSIONI

- Le OSAS sono associate ad un aumento del rischio di sviluppare malattie cardiovascolari e scompenso cardiaco

- Le OSAS sono più frequenti nei soggetti con malattie cardiovascolari

- La gestione del paziente con OSA si concentra sull'intervento verso i fattori di rischio modificabili e sull'utilizzo della CPAP

- Affinchè la C-PAP sia efficace nel ridurre il rischio di eventi cardiovascolari/mortalità nei pz con OSAS è indispensabile un corretto utilizzo della stessa ed un'adeguata aderenza (> 4h/notte)

GRAZIE DELL'ATTENZIONE

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