Le rôle du binôme obésité-HTA sur la FA : l'association de malfaiteurs à combattre

Pierre Lantelme, LYON
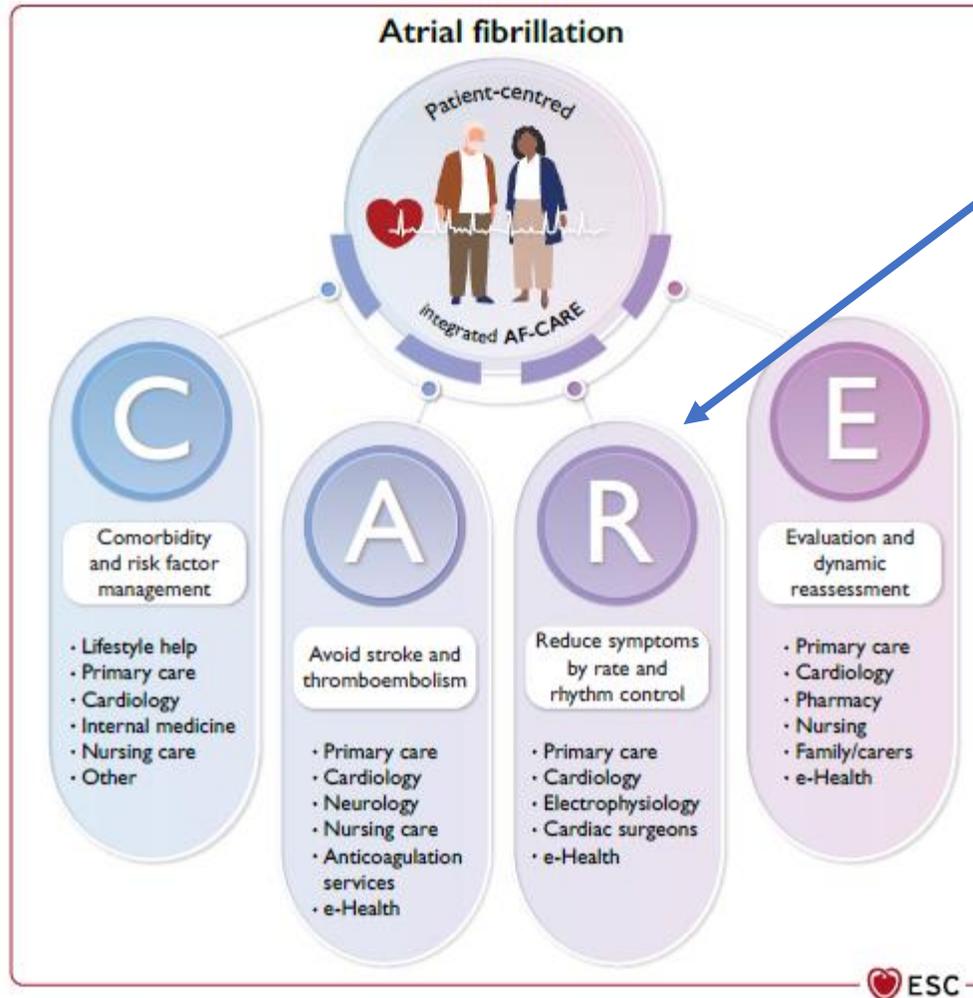
Guidelines

2024 ESC Guidelines for the management of atrial fibrillation developed in collaboration with the European Association for Cardio-Thoracic Surgery (EACTS)
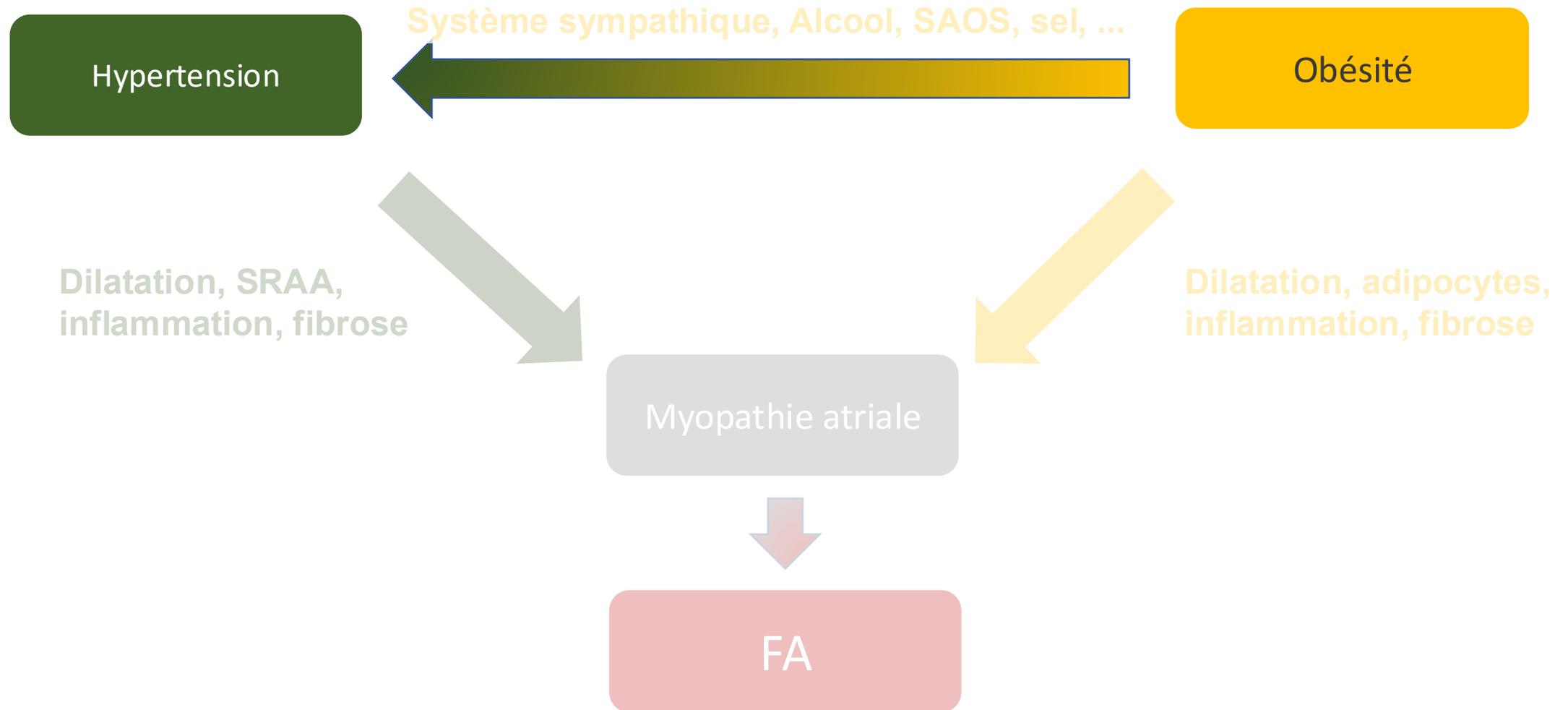
HTA et obésité : facteurs majeurs FA

N=409 661, incidence FA, suivi 12 ans

A Age groups

Order	Risk factors	40-49 years	Risk factors	50-59 years	Risk factors	60-69 years
1	High genetic risk	19.1 (15.8~22.3)	Hypertension	18.1 (14.1~22.0)	Hypertension	18.9 (16.2~21.6)
2	Hypertension	15.9 (9.3~22.3)	High genetic risk	17.7 (16.1~19.3)	Overweight/obesity	14.7 (12.1~17.3)
3	Overweight/obesity	15.0 (5.5~24.1)	Overweight/obesity	16.2 (11.5~20.9)	High genetic risk	14.3 (13.4~15.1)
4	Acute illness	13.3 (6.1~20.4)	Acute illness	16.2 (12.3~20.1)	Acute illness	11.2 (8.8~13.6)
5	Elevated CRP	6.2 (2.3~10.0)	Elevated CRP	5.5 (3.7~7.4)	Cardiovascular diseases	5.3 (4.3~6.3)
6	Cardiovascular diseases	4.3 (0.8~7.8)	Cardiovascular diseases	4.7 (2.9~6.5)	Renal dysfunction	4.4 (3.6~5.2)
7	Low LDL-C	3.8 (0.3~7.3)	Less education	4.5 (1.4~7.7)	Elevated CRP	4.4 (3.4~5.3)
8	Excessive physical activity	3.3 (-0.2~6.8)	Excessive alcohol intake	4.5 (2.3~6.7)	Excessive alcohol intake	4.4 (3.2~5.5)
9	Broad depression	3.0 (0.2~5.9)	Renal dysfunction	3.3 (2.2~4.5)	Low LDL-C	3.8 (2.5~5.1)
10	Less education	2.9 (-3.1~8.9)	Low LDL-C	3.3 (1.4~5.2)	Low triglycerides	2.9 (2.3~3.5)
11	Excessive alcohol intake	2.5 (-1.9~6.8)	Low triglycerides	2.4 (1.2~3.5)	Less education	2.4 (0.3~4.6)
12	Diabetes mellitus/prediabetes	2.3 (-0.7~5.3)	Loneliness	2.4 (0.8~4.0)	Socioeconomic deprivation	2.3 (1.4~3.2)
13	Severe air pollution	2.2 (-1.7~6.1)	Diabetes mellitus/prediabetes	2.0 (0.3~3.7)	Diabetes mellitus/prediabetes	1.4 (0.4~2.5)
14	Immune mediated disease	2.1 (0.4~3.9)	Broad depression	1.5 (0.3~2.7)	COPD	1.4 (1.0~1.8)
15	Renal dysfunction	1.8 (0.2~3.4)	Socioeconomic deprivation	1.5 (-0.2~3.1)	Loneliness	1.1 (0.4~1.8)
16	Loneliness	1.4 (-1.9~4.7)	Current smoking	1.5 (0.4~2.7)	No coffee habit	1.1 (0.2~2.0)
17	COPD	1.1 (-0.1~2.3)	COPD	1.3 (0.6~2.0)	Current smoking	1.0 (0.5~1.4)
18	Socioeconomic deprivation	0.9 (-2.8~4.7)	No coffee habit	0.8 (-1.0~2.6)	Severe air pollution	0.9 (0.0~1.7)
19	Sleep apnoea	0.5 (-0.3~1.2)	Immune mediated disease	0.8 (-0.1~1.7)	Broad depression	0.8 (0.2~1.4)
20	Physical inactivity	0.4 (-4.1~5.0)	Excessive physical activity	0.7 (-0.9~2.3)	Physical inactivity	0.7 (-0.5~1.9)
21	Current smoking	0.0 (-1.7~3.0)	Sleep apnoea	0.3 (0.0~0.7)	Immune mediated disease	0.6 (0.1~1.2)
22	Low triglycerides	0 (-3.1~3.2)	Severe air pollution	0	Sleep apnoea	0.3 (0.2~0.5)
23	No coffee habit	0	Physical inactivity	0	Excessive physical activity	0

Wang et al. European Heart Journal 2023

Collège National des Cardiologues des Hôpitaux

Avec le parrainage de la SFC

Des liaisons dangereuses

Système sympathique, Alcool, SAOS, sel, ...

Hypertension ← Obésité

Dilatation, SRAA, inflammation, fibrose

Dilatation, adipocytes, inflammation, fibrose
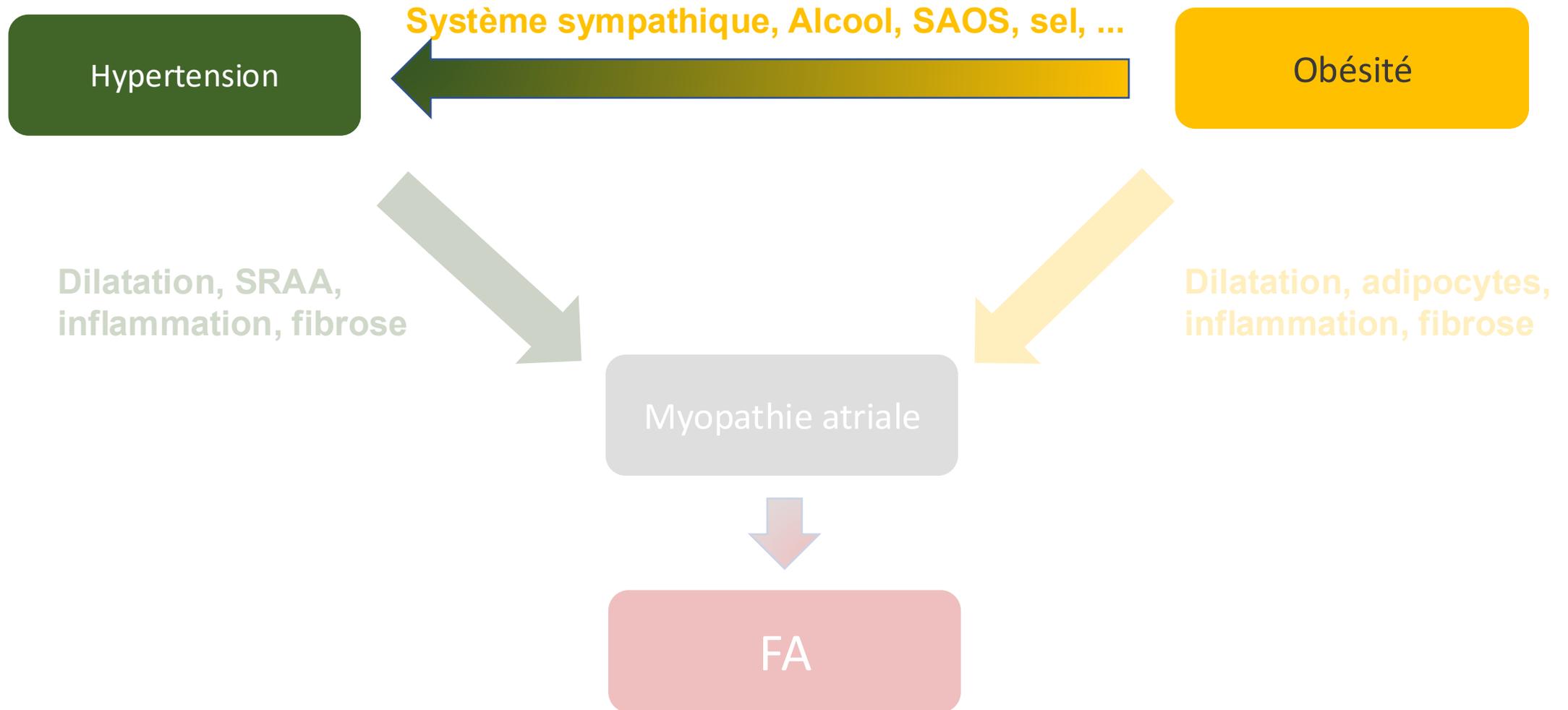
Myopathie atriale

FA

Des liaisons dangereuses

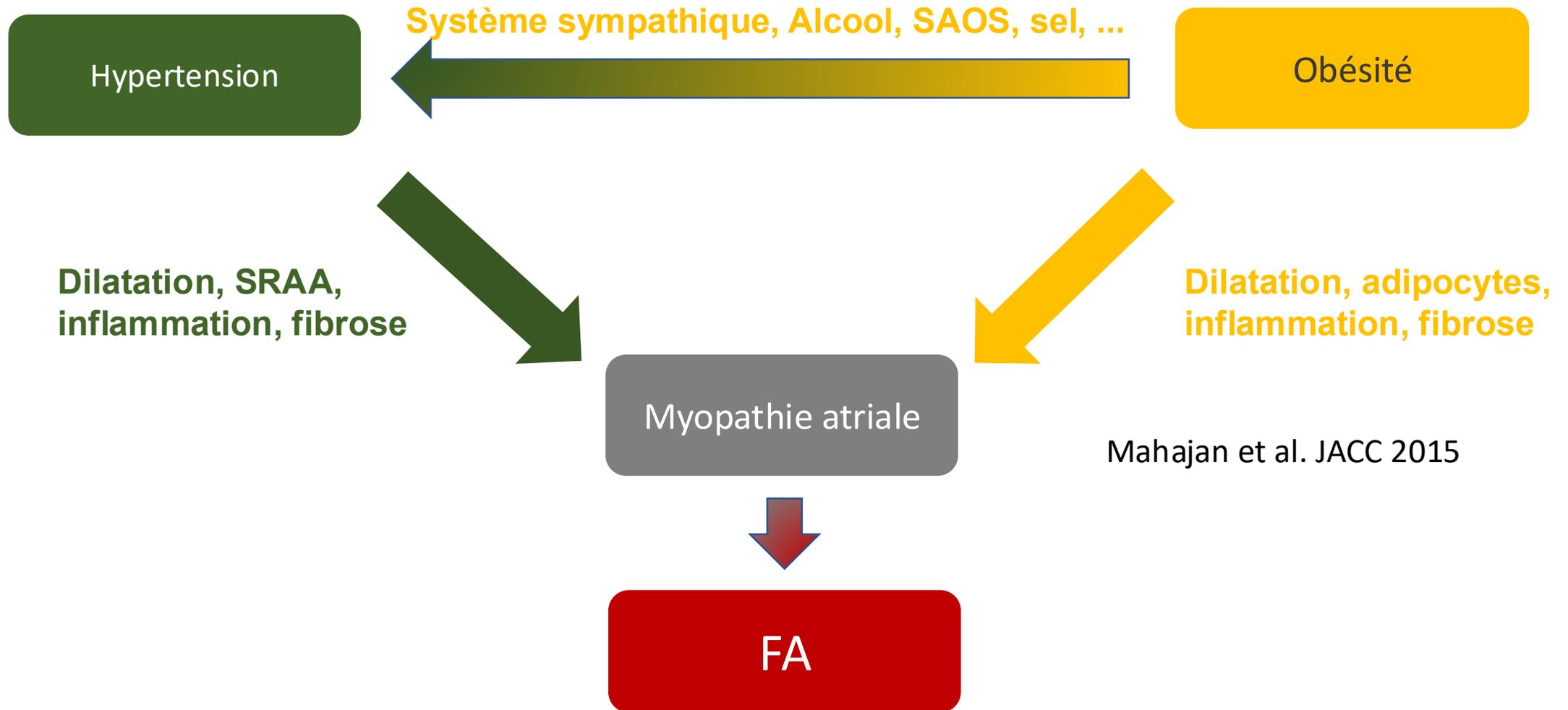**Weight and blood pressure. Findings in hypertension screening of 1 million Americans**

Age (y) and weight class	Rate per 1000[c]				
	White men	White women	Black men	Black women	All[d]
Absolute frequency					
20–39					
Underweight	38.7	38.6	88.3	88.7	46.2
Normal weight	72.4	41.3	122.5	101.9	61.7
Overweight	175.9	110.9	259.9	201.4	149.1
All weights	93.1	58.9	147.7	137.6	82.4
40–64					
Underweight	182.4	172.5	300.4	377.2	189.7
Normal weight	244.2	221.7	374.7	411.8	240.9
Overweight	361.2	352.7	519.0	539.2	370.7
All weights	280.2	269.2	415.1	476.1	286.1
Relative frequency[e]					
20–39	2.43	2.69	2.12	1.96	2.42
40–64	1.46	1.59	1.39	1.31	1.54

X 3   X 2

X 2   X 1,5

Stamler et al. Ann Epidem 1991

Des liaisons dangereuses

Système sympathique, Alcool, SAOS, sel, ...

Hypertension

Obésité

Dilatation, SRAA, inflammation, fibrose

Dilatation, adipocytes, inflammation, fibrose

Myopathie atriale

FA

Un impact commun: la myopathie atriale

Système sympathique, Alcool, SAOS, sel, ...

Hypertension

Obésité

Dilatation, SRAA, inflammation, fibrose

Dilatation, adipocytes, inflammation, fibrose

Myopathie atriale

Mahajan et al. JACC 2015

FA

Pour autant tout ne passe pas par l'HTA

Effects	Effect (95% CI) of overweight	Effect (95% CI) of obesity
Total population		
Total excess relative risk	0.45 (0.40–0.49)	1.06 (0.99–1.13)
Excess relative risk due to overweight/obesity	0.35 (0.31–0.40)	0.79 (0.73–0.85)
Excess relative risk due to co-diagnoses	0.10 (0.09–0.10)	0.27 (0.25–0.29)
Percentage mediated	21.2 (19.0–23.3)	25.3 (23.4–27.1)
Percentage eliminated	40.9 (38.1–43.8)	44.8 (42.0–47.7)

26 %

Hypertension

Obésité

74 %

Myopathie atriale

FA
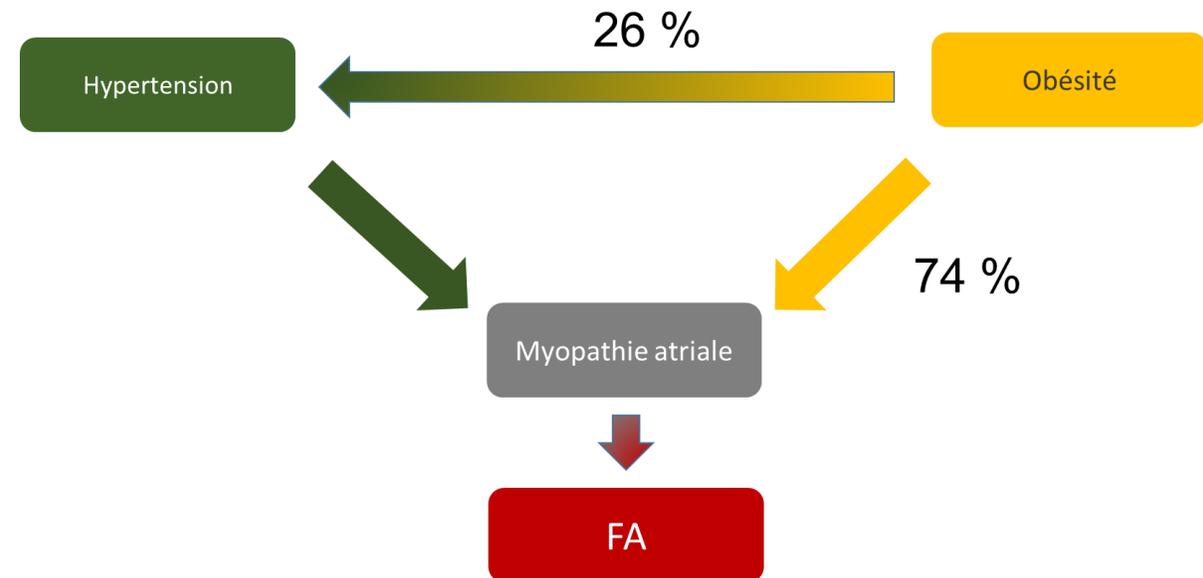
Diabetes Obes Metab. 2025;27:5822–5830.

Impact du traitement anti-hypertenseur

The LIFE study
ATENOLOL based regimen
LOSARTAN based regimen
HTN and LVH

Achieved SBP below 130 lowers the risk of AF
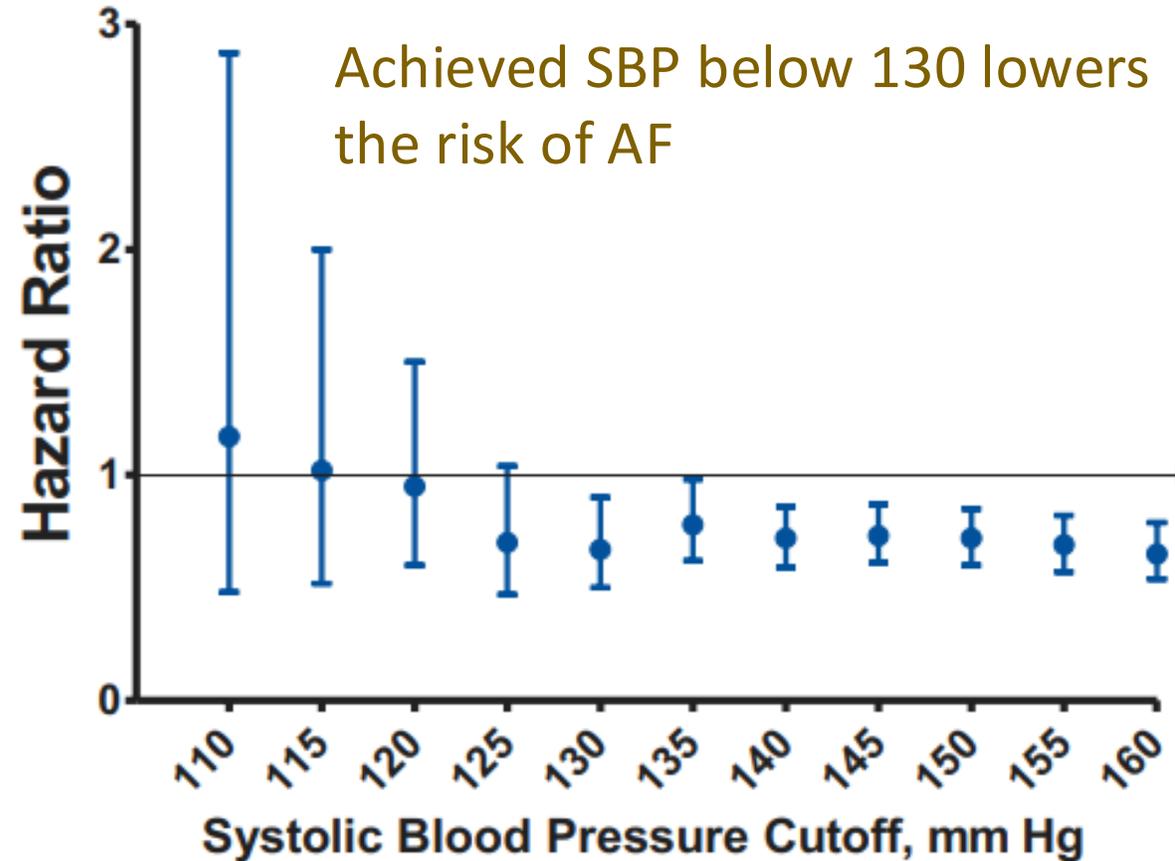
Okin et al. *Hypertension. 2015;66:368-373*
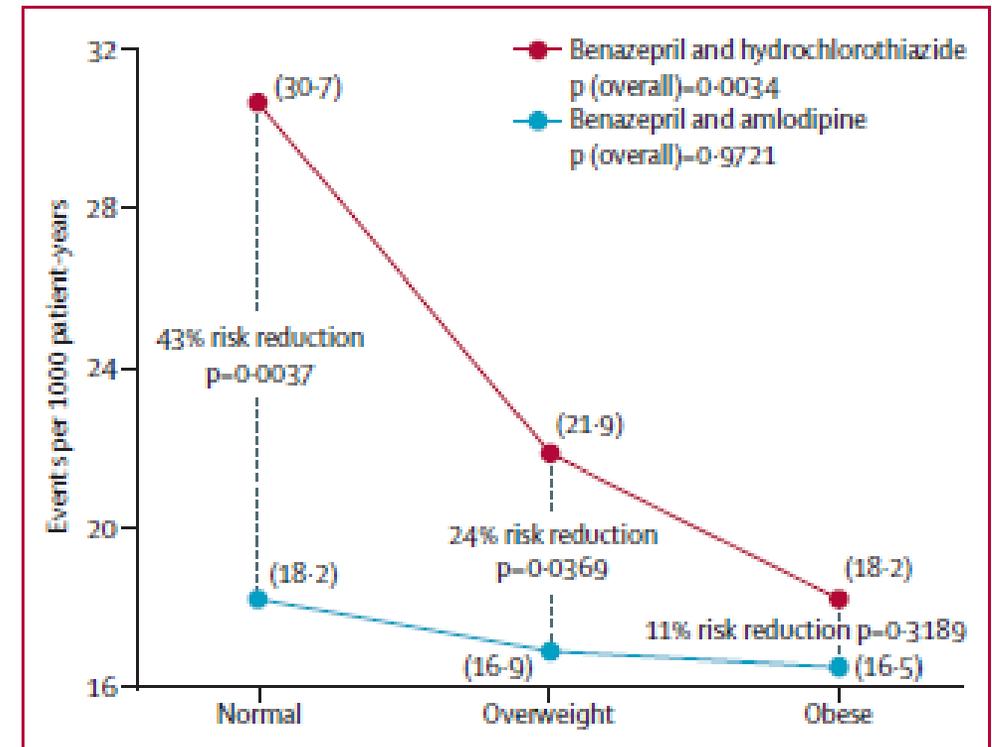
Quel traitement ?

Quel traitement ? Peut-on utiliser les diurétiques chez les patients obèses
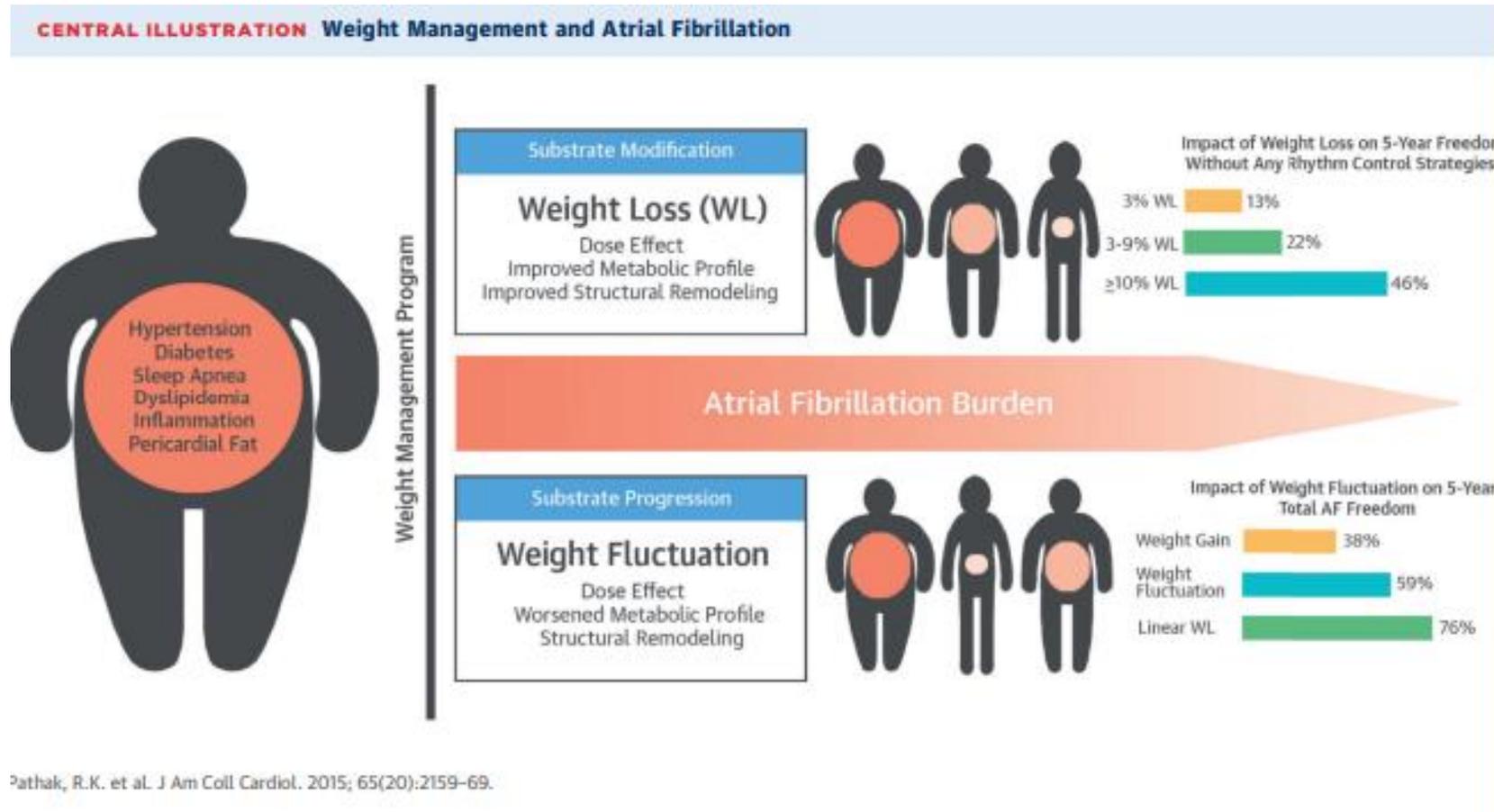
Accomplish trial
Evènement ou décès CV
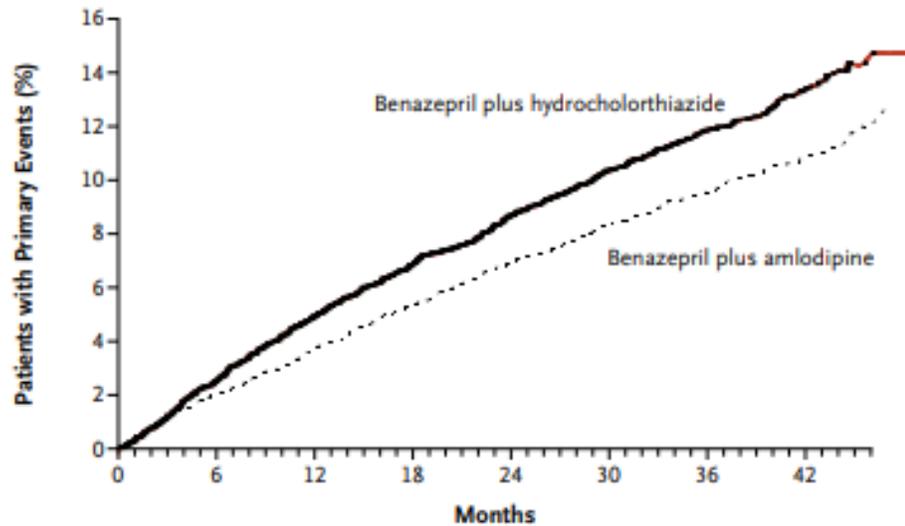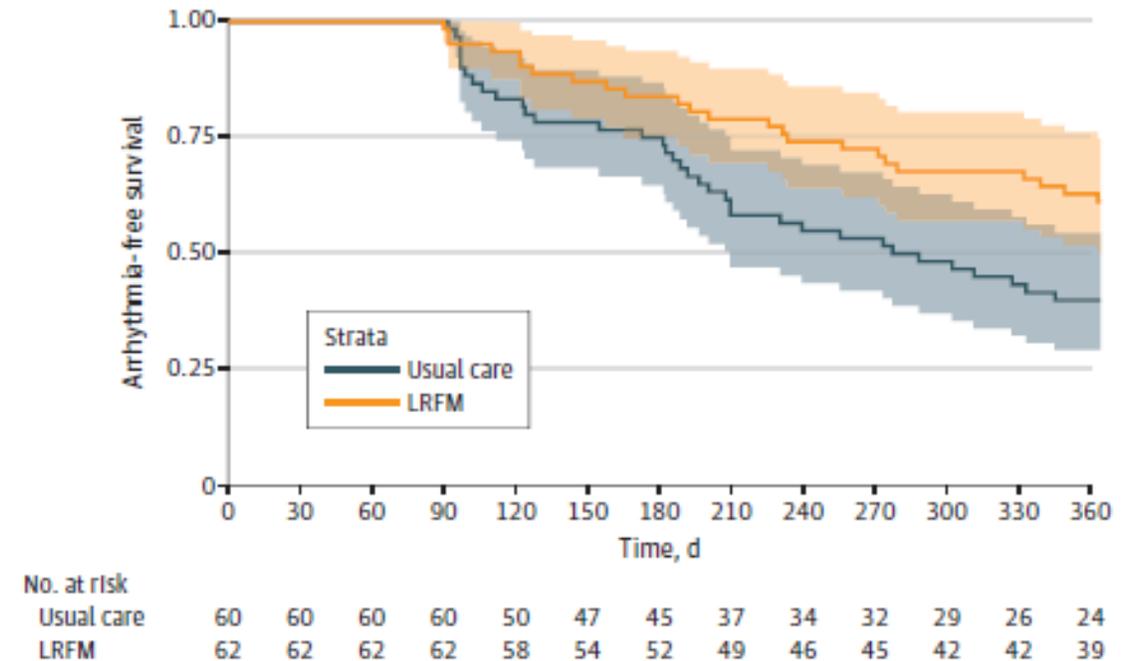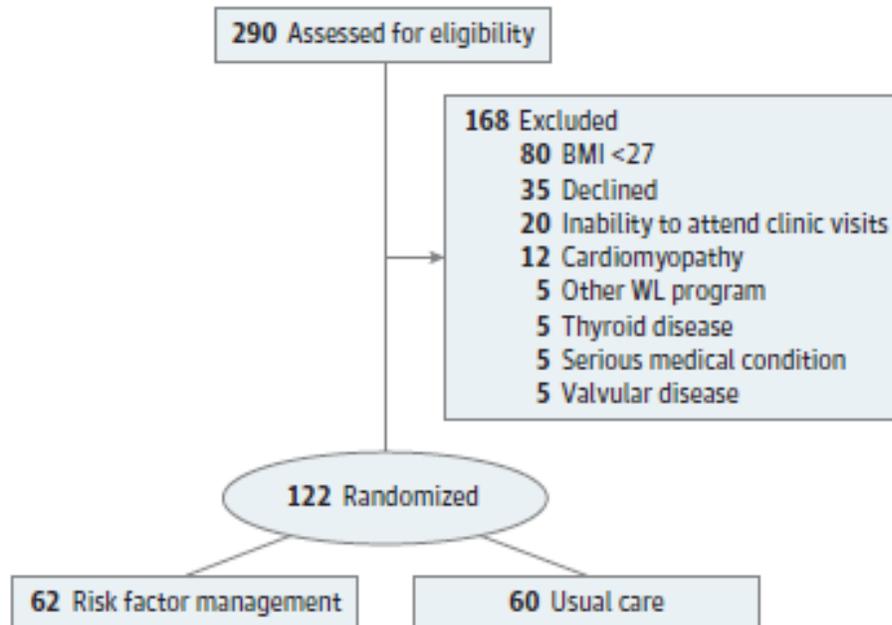

NEJM 2008

Lancet 2013

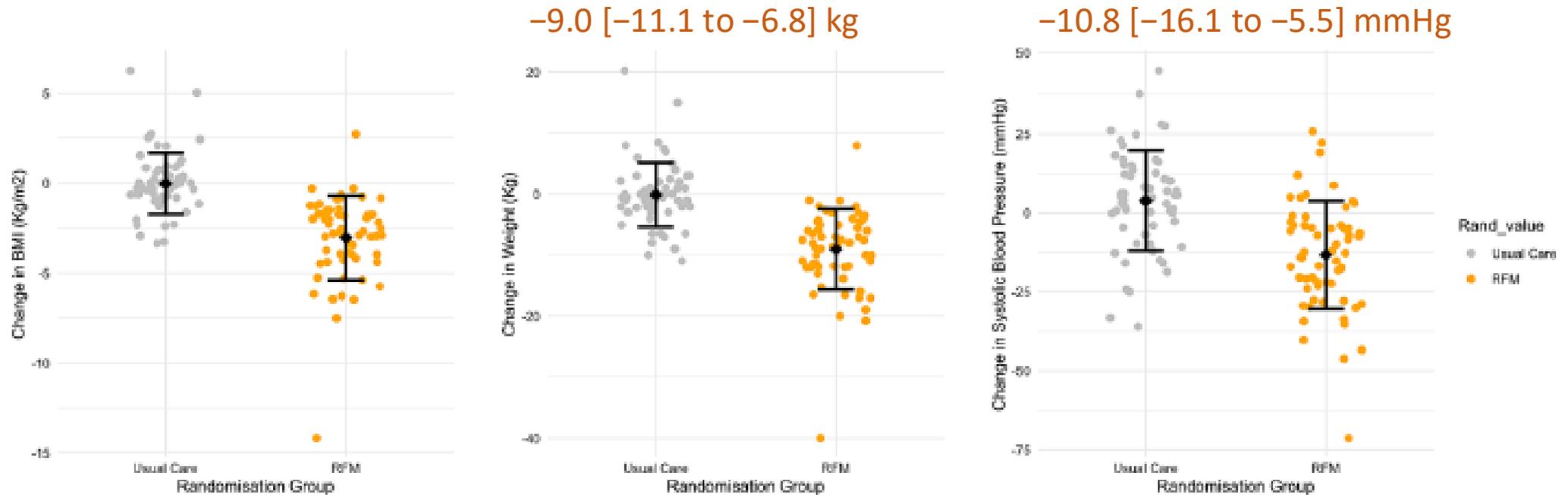# Impact de la perte de poids

The Legacy trial
N= 355

Impact d'une stratégie combinée

The ARREST-AF Randomized Clinical Trial

Pathak et al. JAMA Cardiol 2025

The ARREST-AF Randomized Clinical Trial

−9.0 [−11.1 to −6.8] kg

−10.8 [−16.1 to −5.5] mmHg

Pathak et al. JAMA Cardiol 2025

Autres approches

Central figure with the main findings:

CARDIOMETABOLIC EFFECTS OF GLP-1 ANALOGS IN OBESE AND OVERWEIGHT PATIENTS WITH PREEXISTING CARDIOVASCULAR DISEASE: A SYSTEMATIC REVIEW AND META-ANALYSIS
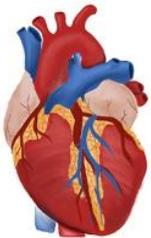
53% Lower heart failure hospitalizations

18% Lower all-cause mortality

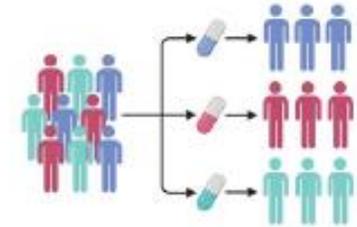7.02 cm waist circumference reduced

30% Lower risk of serious adverse events

3.32 mmHg Lower systolic blood pressure

Impact of Semaglutide on New Onset of Atrial Fibrillation

26 RCTs were included in this meta-analysis, comprising 48,583 participants

Endpoint: Number of new onset events of AF in patients treated with semaglutide vs control (placebo or active comparator)

Semaglutide

1.0 mg s.c. OW — 14 mg PO OD — 2.4 mg s.c. OW

-17% of new onset of AF

OR 0.83 (95% CI, 0.70-0.98; p = 0.03)

Cesaro et al., European Journal of Preventive Cardiology 2025

Collège National des Cardiologues des Hôpitaux

Avec le parrainage de la SFC

Conclusions/guidelines

Suggested approach and targets

Key targets

Integrated management	Identify and actively manage all risk factors and comorbidities (Class I)
Hypertension	Blood pressure treatment with target 120–129 mmHg / 70–79 mmHg in most adults (or as low as reasonably achievable) (Class I)
Heart failure	Optimize with diuretics to alleviate congestion appropriate, medical therapy for reduced LVEF, and SGLT2 inhibitors for all LVEF (Class I)
Diabetes	Effective glycaemic control with diet/medication(s) (Class I)
Obesity	Weight loss programme if overweight /obese, with 10% or more weight loss (Class I)
Sleep apnoea	Management of obstructive sleep apnoea to minimize apnoeic episodes (Class IIb)
Physical activity	Tailored exercise programme aiming for regular moderate/vigorous activity (Class I)
Alcohol intake	Reduce alcohol consumption to 3 or less standard drinks per week (Class I)