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En partenariat avec le généraliste

# Nouveaux médicaments dans l'insuffisance cardiaque

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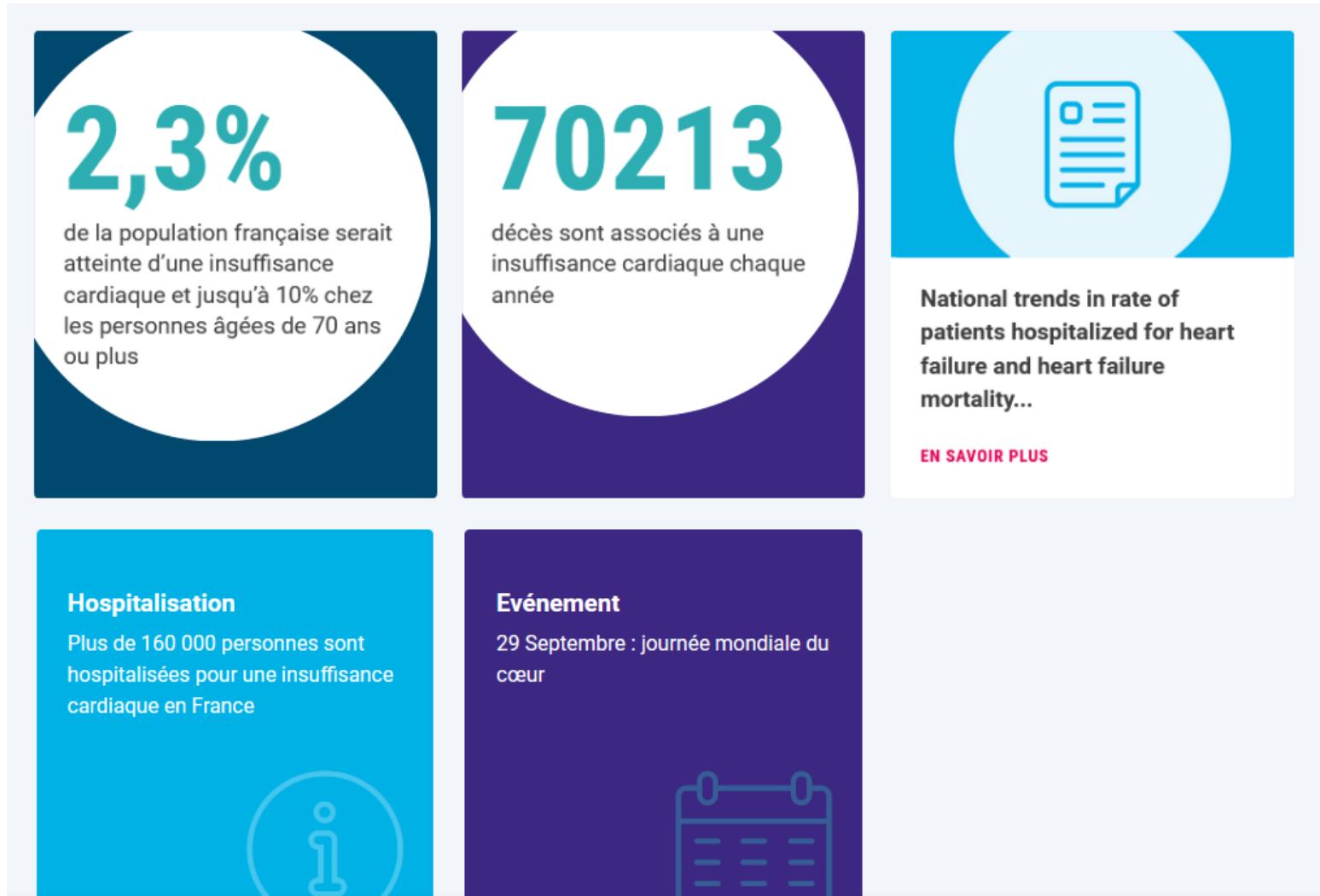


# Financial Disclosure

Novartis (Consultant- Expert)  
Boeringher (Consultant- Expert)  
Bayer (Consultant- Expert)  
AstraZeneca (Consultant- Expert)  
ViforPharma (Consultant- Expert)



# Epidémiologie de l'Insuffisance cardiaque en France



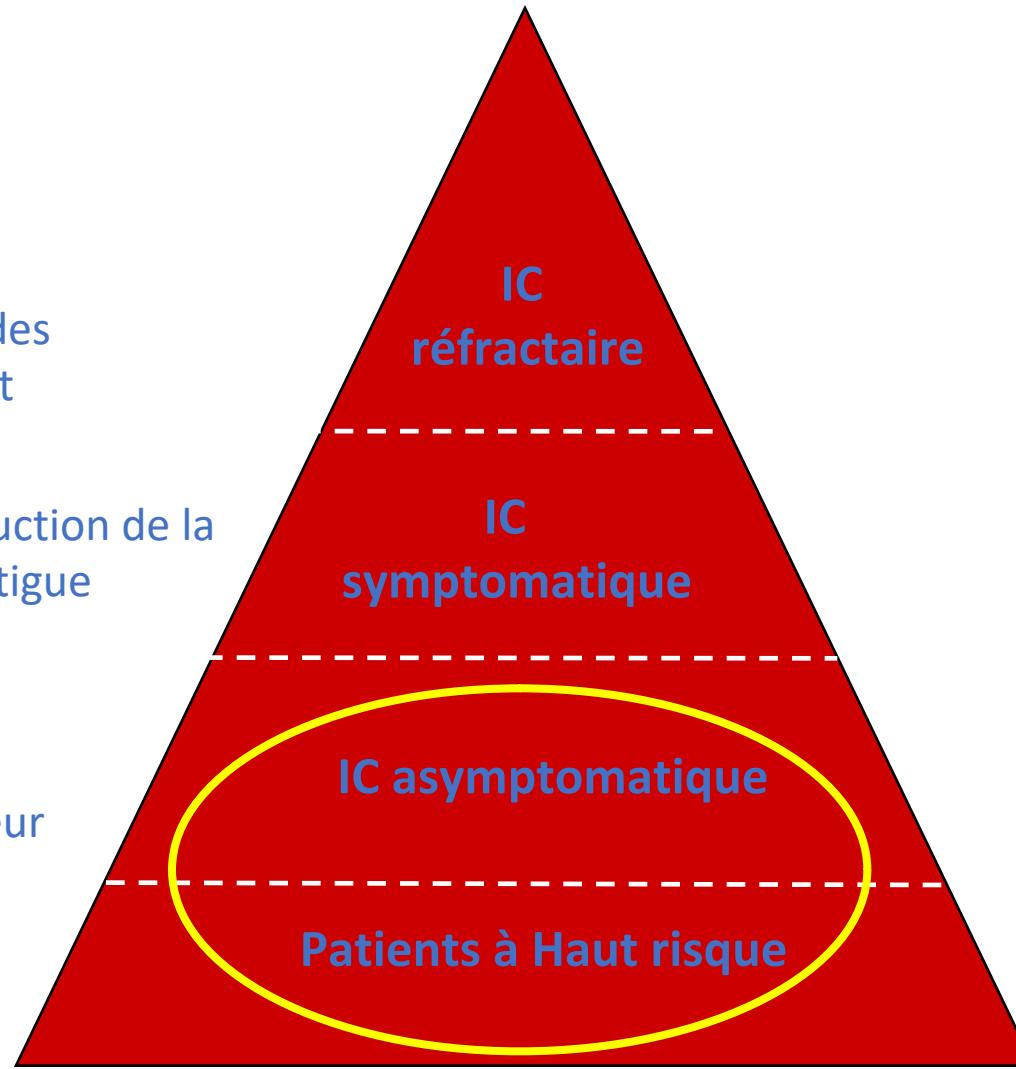
# Stades d'IC

**IC terminale** persistance des symptômes malgré le traitement

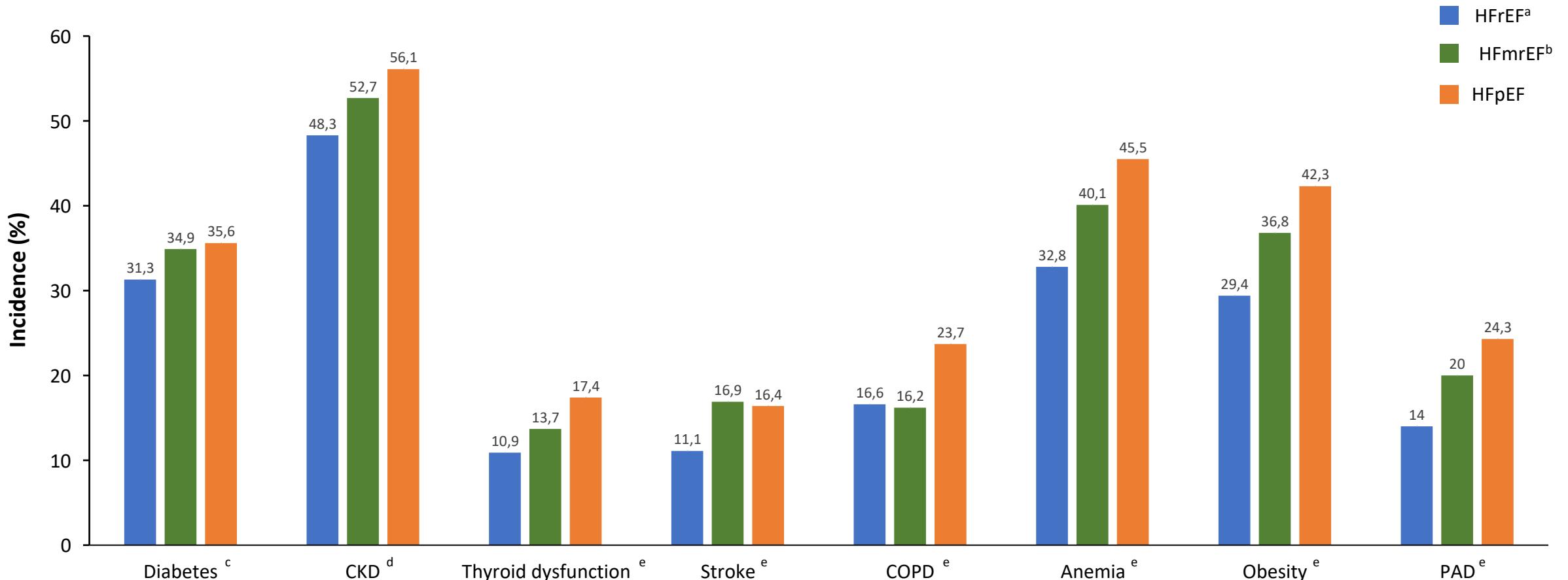
**IC symptomatique** réduction de la capacité d'exercice, dyspnée, fatigue

**IC asymptomatique**  
détérioration structurelle du cœur

**Facteurs de risque d'IC** HTA, maladie coronaire, diabète, antécédent familial, dyslipidémie, tabac



# Dans l'IC, certaines comorbidités sont très prévalentes

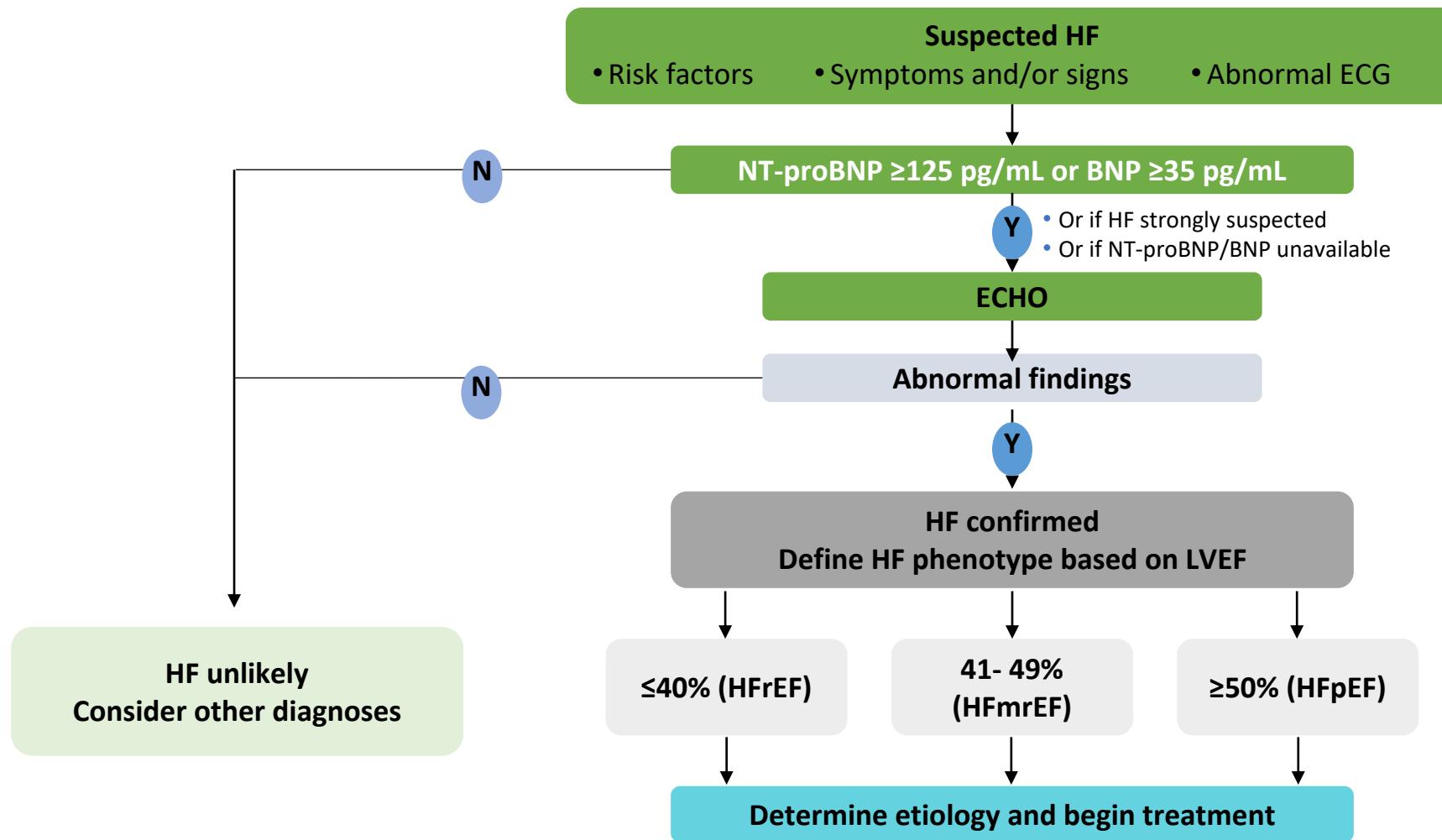


- Data from the BIOlogy Study to TAIlored Treatment in Chronic Heart Failure (BIOSTAT-CHF) study (N=3499). Streng KW et al. *Int J Cardiol.* 2018;271:132-139.

• <sup>a</sup>Reference defines this group as EF <40%; <sup>b</sup>Reference uses the term HF with mid-range EF (EF 40-50%) for this group; <sup>c</sup>p=0.060; <sup>d</sup>p=0.002; <sup>e</sup>p<0.001.

• CKD = chronic kidney disease; COPD = chronic obstructive pulmonary disease; EF = ejection fraction; HFmrEF = heart failure with mildly reduced ejection fraction; HFpEF = heart failure with preserved ejection fraction; HFrEF = heart failure with reduced ejection fraction; PAD = peripheral arterial disease.

# ESC Diagnostic Algorithm for HF



- BNP = B-type natriuretic peptide; ECG = electrocardiogram; ECHO = echocardiography; ESC = European Society of Cardiology; HF = heart failure; HFmrEF = heart failure with mildly reduced ejection fraction; HFpEF = heart failure with preserved ejection fraction; HFrEF = heart failure with reduced ejection fraction; LVEF = left ventricular ejection fraction; NT-proBNP = N-terminal pro-B-type natriuretic peptide.
- McDonagh TA et al. Eur Heart J. 2021;42:3599-3726.

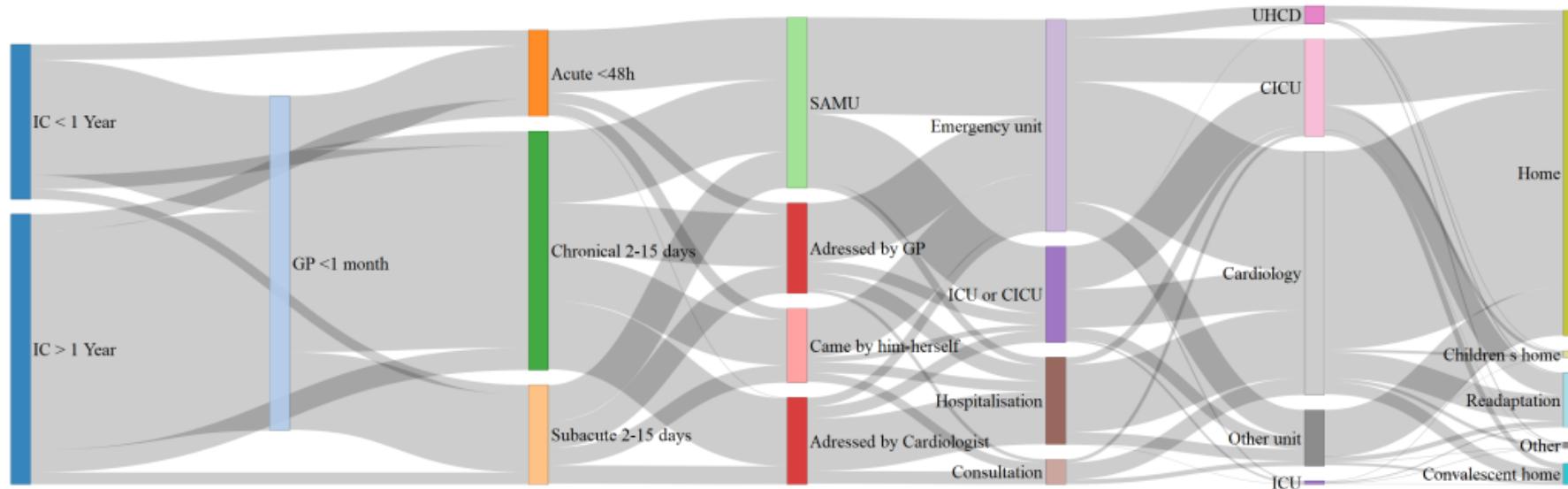
# NTproBNP et seuils

Category	Cutpoint, pg/ml	Sensitivity	Specificity	PPV	NPV	LR+	LR-
Confirmatory ("rule-in") cutpoints							
<50 yrs (n = 462)	450	85.7 (74.1-97.3)	93.9 (91.6-96.2)	53.6 (43.7-63.2)	98.8 (97.3-99.4)	14.08 (8.48-19.67)	0.15 (0.03-0.28)
50-75 yrs (n = 833)	900	79.3 (73.5-85.2)	84.0 (81.2-86.8)	58.4 (53.7-63.0)	93.5 (91.5-95.0)	4.95 (4.00-5.90)	0.25 (0.18-0.32)
>75 yrs (n = 166)	1,800	75.9 (64.8-86.9)	75.0 (66.8-83.2)	62.0 (53.3-70.0)	85.3 (78.4-90.2)	3.03 (1.94-4.13)	0.32 (0.17-0.47)
Rule-in, overall (n = 1,461)		79.4 (74.7-84.2)	86.7 (84.8-88.7)	58.4 (54.5-62.1)	94.7 (93.5-95.8)	5.99 (5.05-6.93)	0.24 (0.18-0.29)
Exclusionary ("rule-out") cutpoint							
All patients (n = 1,461)	300	93.9 (91.0-96.7)	71.7 (69.1-74.3)	43.7 (41.4-46.1)	98.0 (96.9-98.8)	3.32 (3.00-3.63)	0.09 (0.05-0.13)

The sensitivity, specificity, positive and negative predictive values, and positive and negative likelihood ratios are presented as % (95% confidence interval) for the age-dependent rule-in cutoffs of 450, 900, and 1,800 pg/ml for ages <50, 50-75, >75 years, and for the rule-out cutoff of 300 pg/ml, in all enrolled subjects.

HF = heart failure; LR+ = positive likelihood ratio; LR- = negative likelihood ratio; NPV = negative predictive value; NT-proBNP = N-terminal pro-B-type natriuretic peptide; PPV = positive predictive value.

# Retard au diagnostic : enquête ICPS2

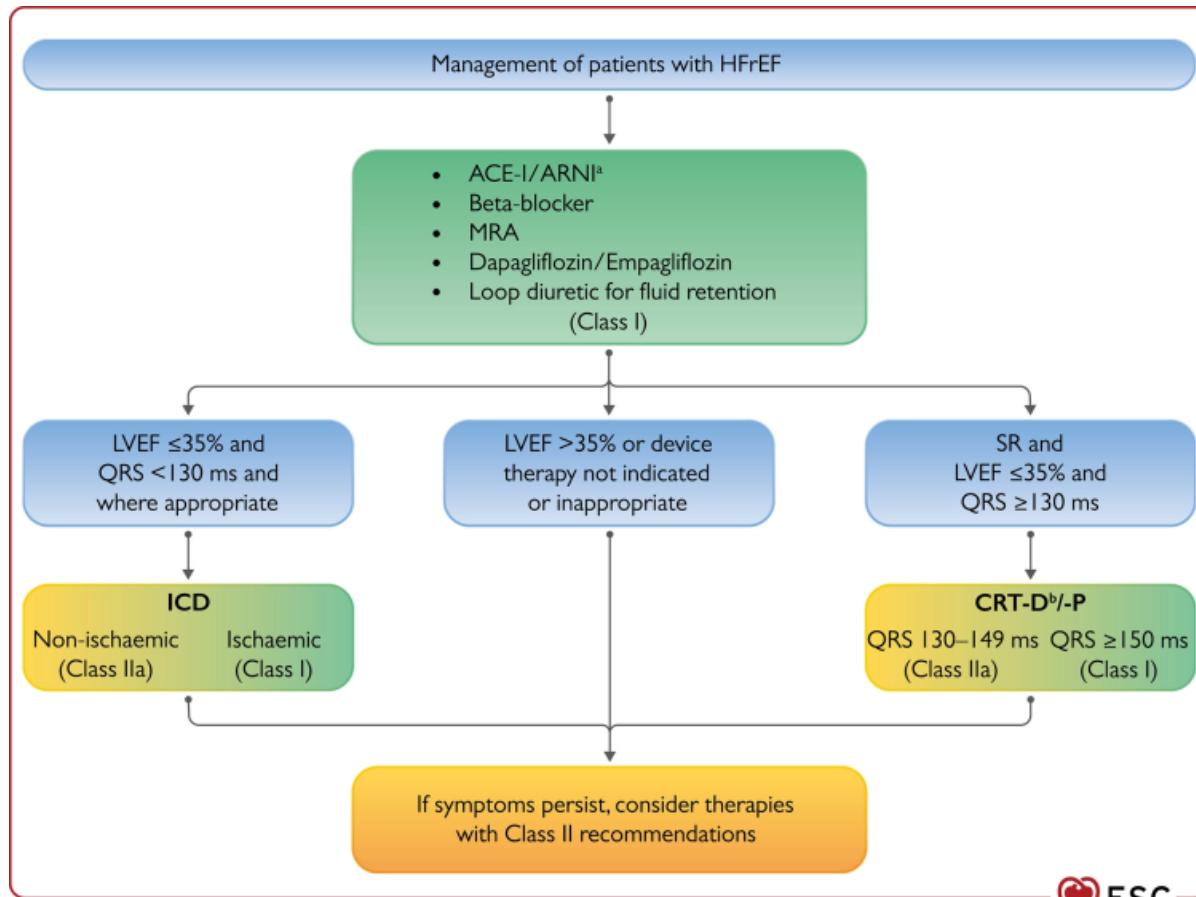


- 793 patients were included,
- 1/3 unaware of their diagnosis
- Mean age ;  $72.9 \pm 14.5$  years.
- The symptoms : dyspnea (64.7%) and lower limb edema (27.7%).
- 1/2 had already experienced symptoms for 15 days; 1/3 of them for 2 months.
- Referral to hospital was made by the emergency medical assistance service (SAMU, 41.6%), a general practitioner (GP, 22.3%), a cardiologist (19.5%), or the patient (16.6%).

**Acute Heart Failure HealthCare PathWay**

# Peut-on initier le traitement rapidement ?

HFREF



## 7.7. Preserved EF (HFpEF) ACC/AHA

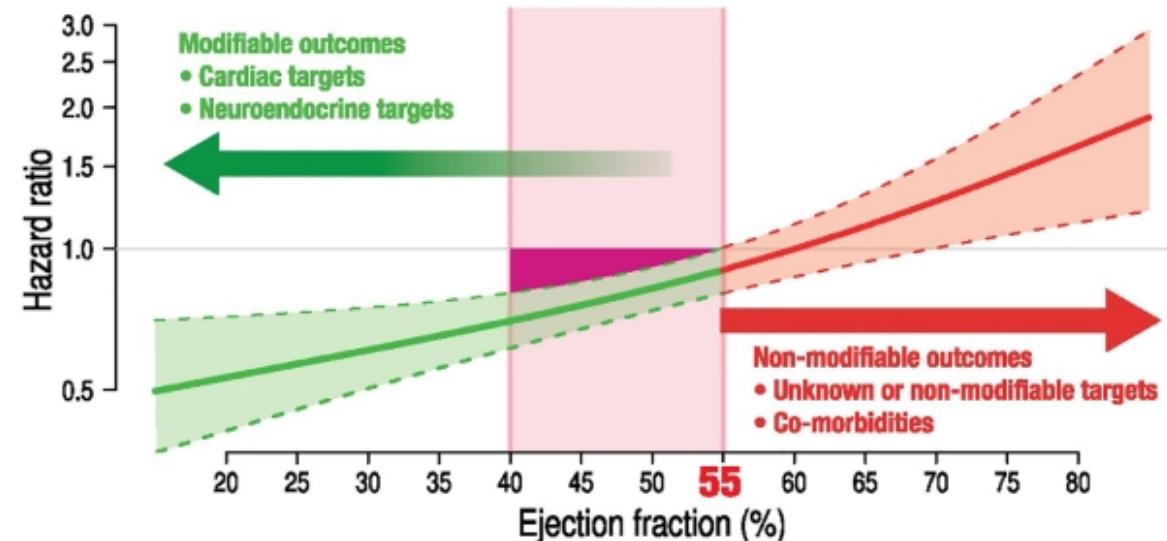
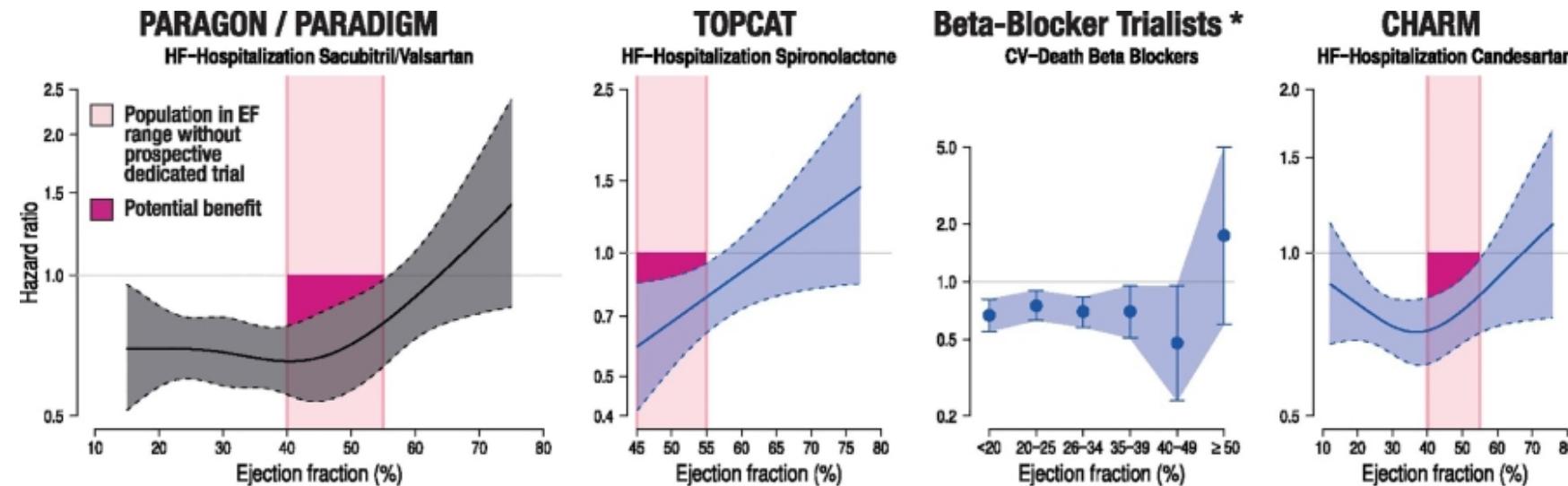
### 7.7.1. HF With Preserved Ejection Fraction

Recommendations for HF With Preserved Ejection Fraction\*  
Referenced studies that support the recommendations are summarized in the Online Data Supplements.

COR	LOE	Recommendations
1	C-LD	1. Patients with HFpEF and hypertension should have medication titrated to attain blood pressure targets in accordance with published clinical practice guidelines to prevent morbidity. <sup>1–3</sup>
2a	B-R	2. In patients with HFpEF, SGLT2i can be beneficial in decreasing HF hospitalizations and cardiovascular mortality. <sup>4</sup>
2a	C-EO	3. In patients with HFpEF, management of AF can be useful to improve symptoms.
2b	B-R	4. In selected patients with HFpEF, MRAs may be considered to decrease hospitalizations, particularly among patients with LVEF on the lower end of this spectrum. <sup>5–7</sup>
2b	B-R	5. In selected patients with HFpEF, the use of ARB may be considered to decrease hospitalizations, particularly among patients with LVEF on the lower end of this spectrum. <sup>8,9</sup>
2b	B-R	6. In selected patients with HFpEF, ARNi may be considered to decrease hospitalizations, particularly among patients with LVEF on the lower end of this spectrum. <sup>10,11</sup>
3: No-Benefit	B-R	7. In patients with HFpEF, routine use of nitrates or phosphodiesterase-5 inhibitors to increase activity or QOL is ineffective. <sup>12,13</sup>

\*See Section 7.2, "Diuretics and Decongestion Strategies in Patients with HF" and Section 10.2, "Management of Atrial Fibrillation (AF) in HF" for recommendations for use of diuretics and management of AF in HF.



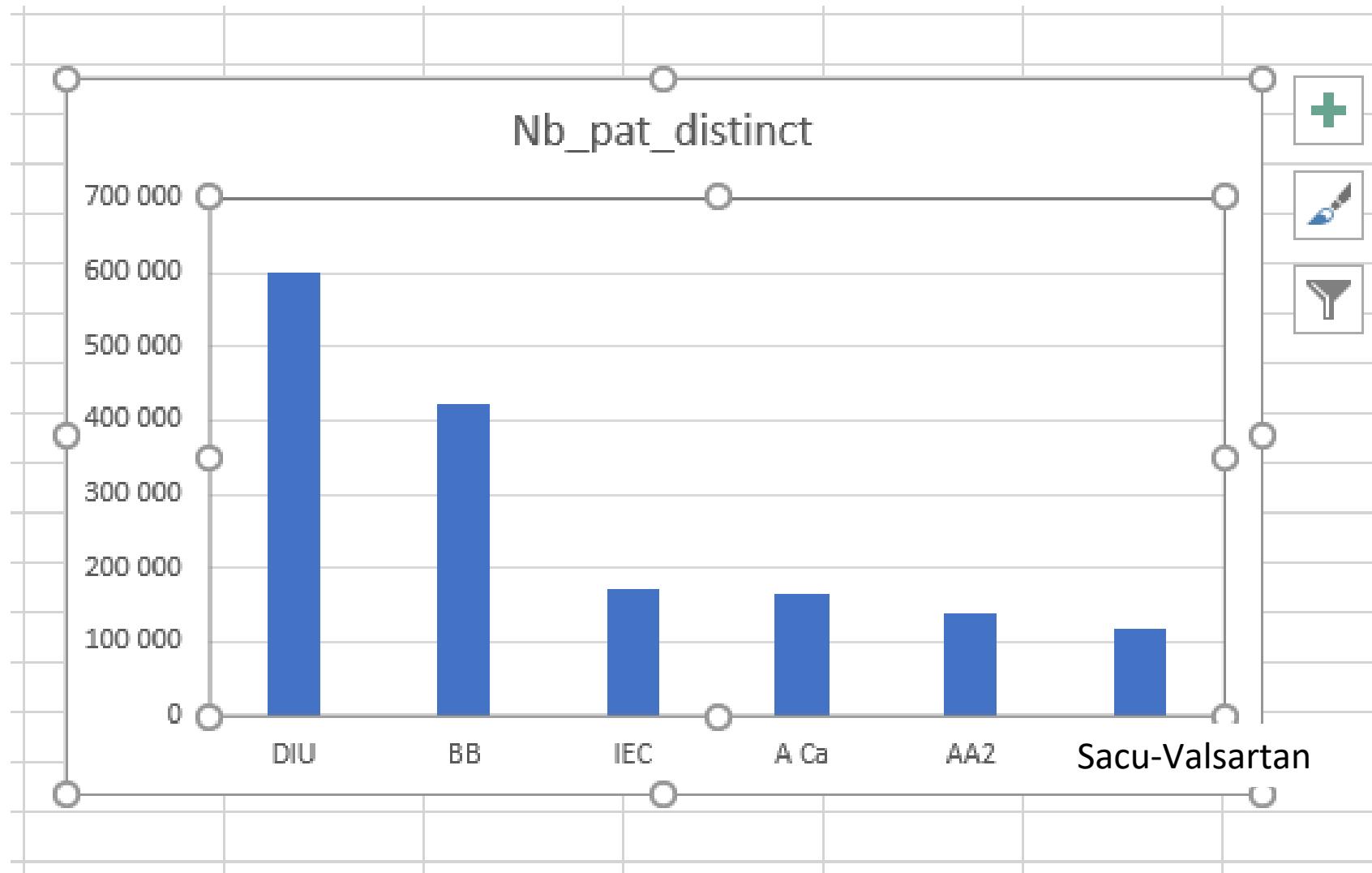


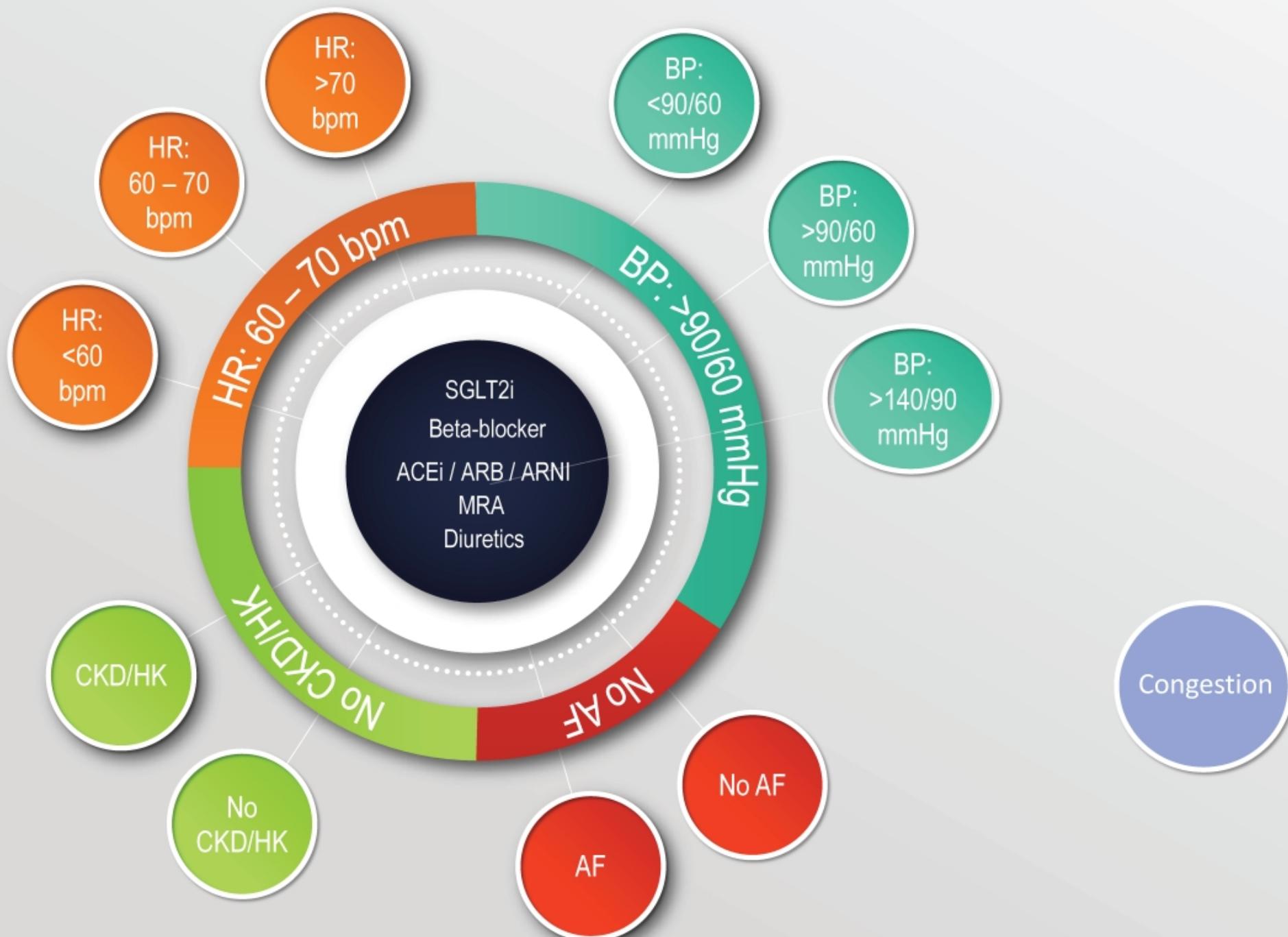
Stolfo et al, EJIM 2022

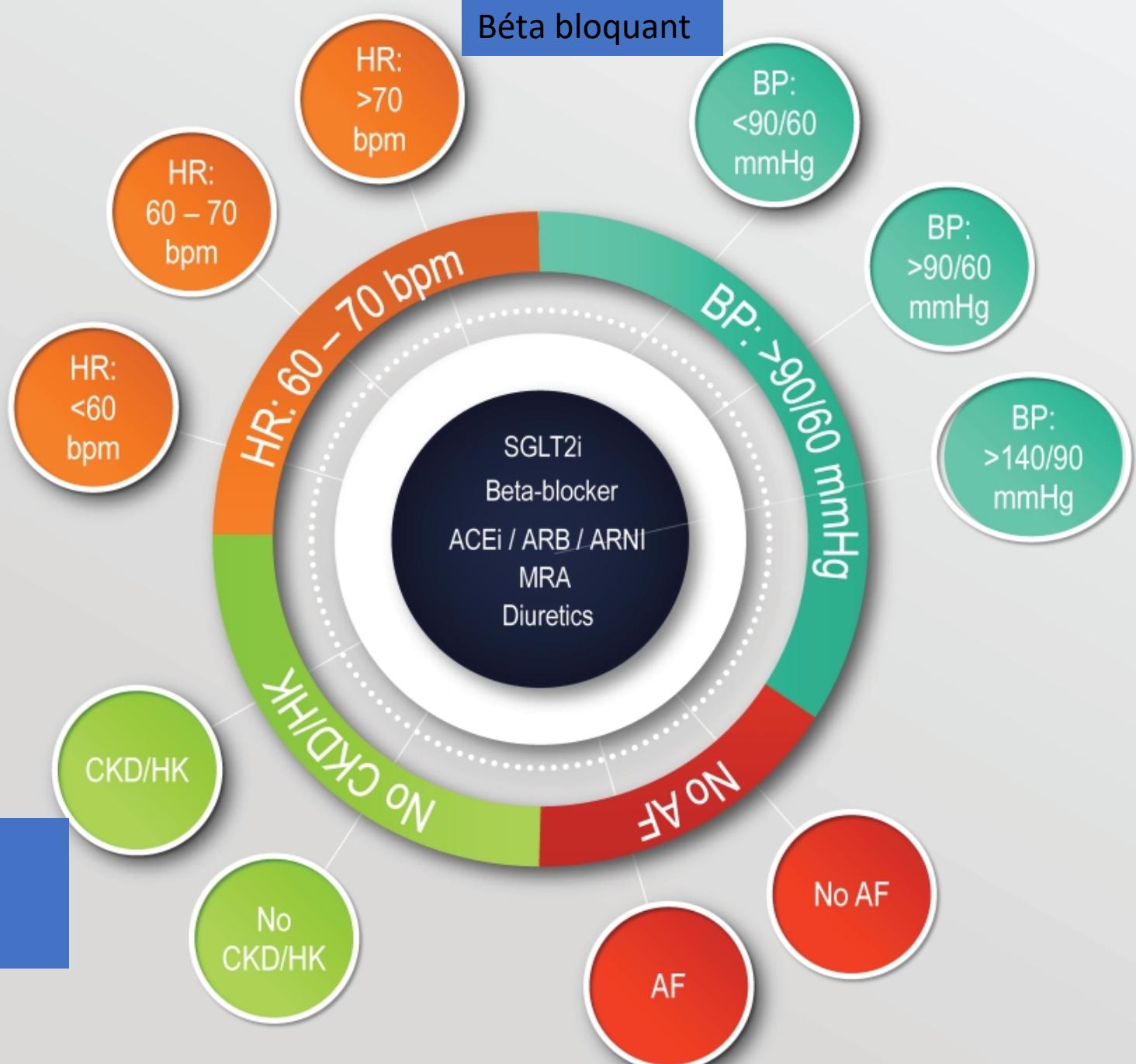
# Les 5 fantastiques

Type	Molécule	Effets
Les diurétiques de l'anse	Furosémide	Luttent contre la congestion
Les bloqueurs du SRAA	IEC : Triatec, Coversyl AA2 : Kenzen, Cozaar	Diminuent le remodelage, Inh du SRAA
Les béta bloquants	Bisoprolol, metaprolol, carvedilol, nebivolol	« Economisateur » Inh du SNA
Les Gliflozines	Dapagliflozine, Empagliflozine	Inh pompe Na Glc Effet Inh GMPc
Les antialdostérones	Aldactone Finerenone Eplerenone	Inh du SRAA Antiarythmique

# Fréquence d'utilisation

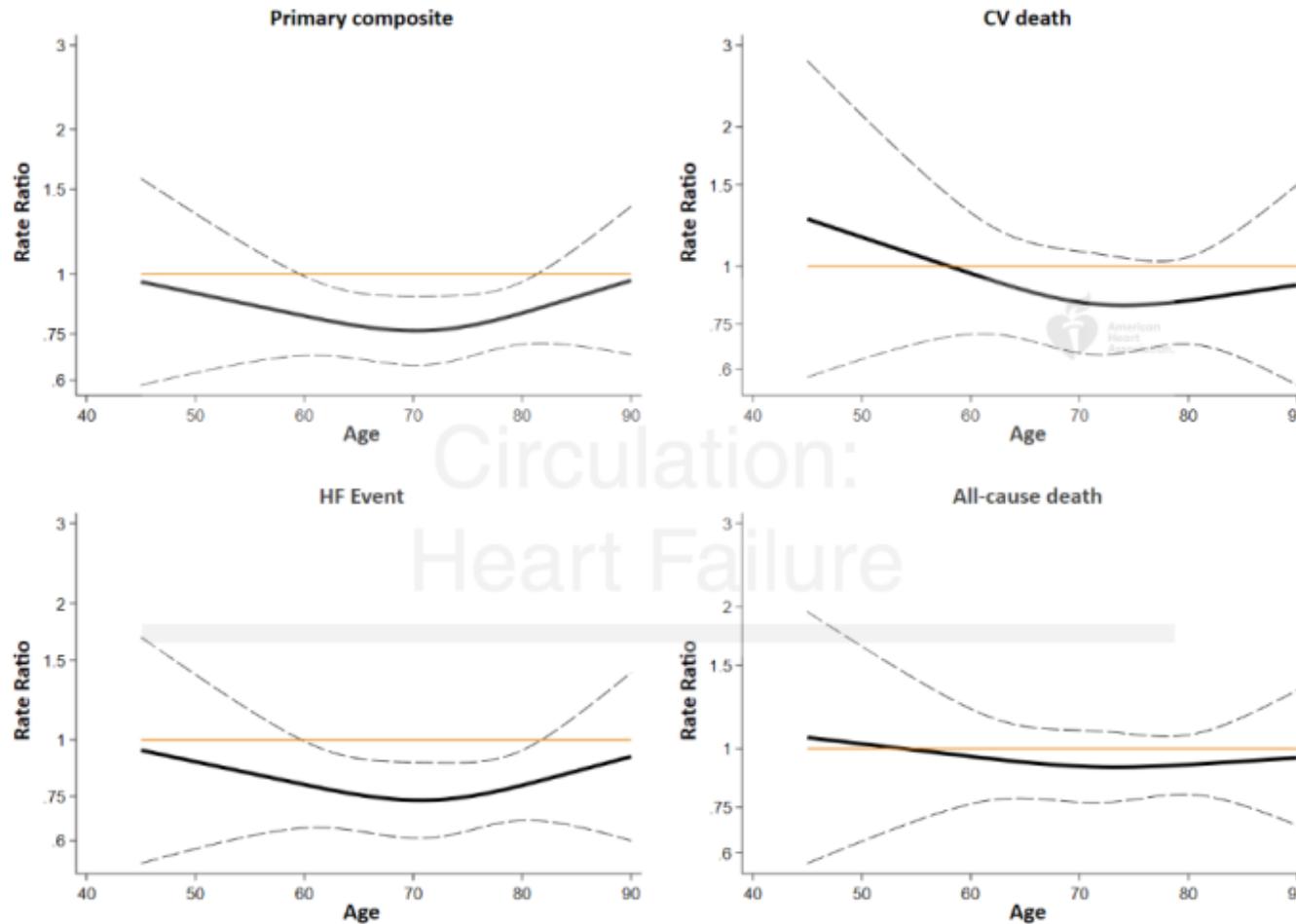






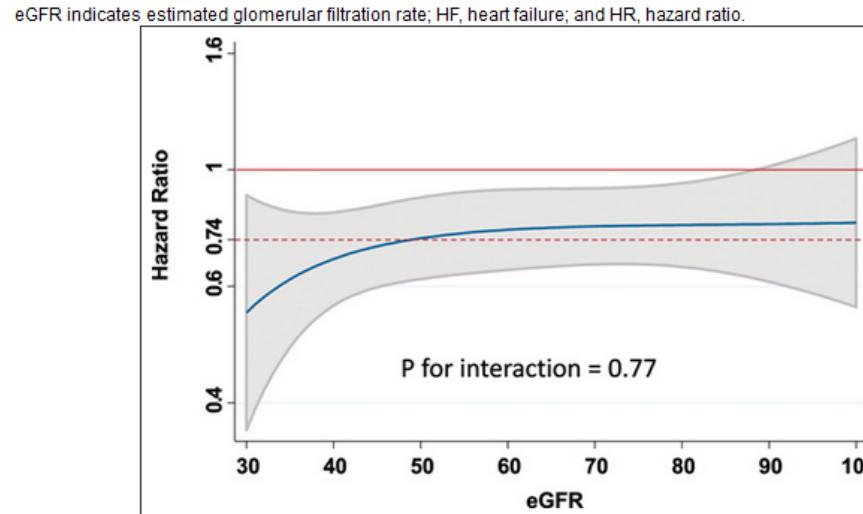
# Age

## Efficacy and Safety of Dapagliflozin in Heart Failure with Reduced Ejection Fraction According to Age: The DAPA HF trial

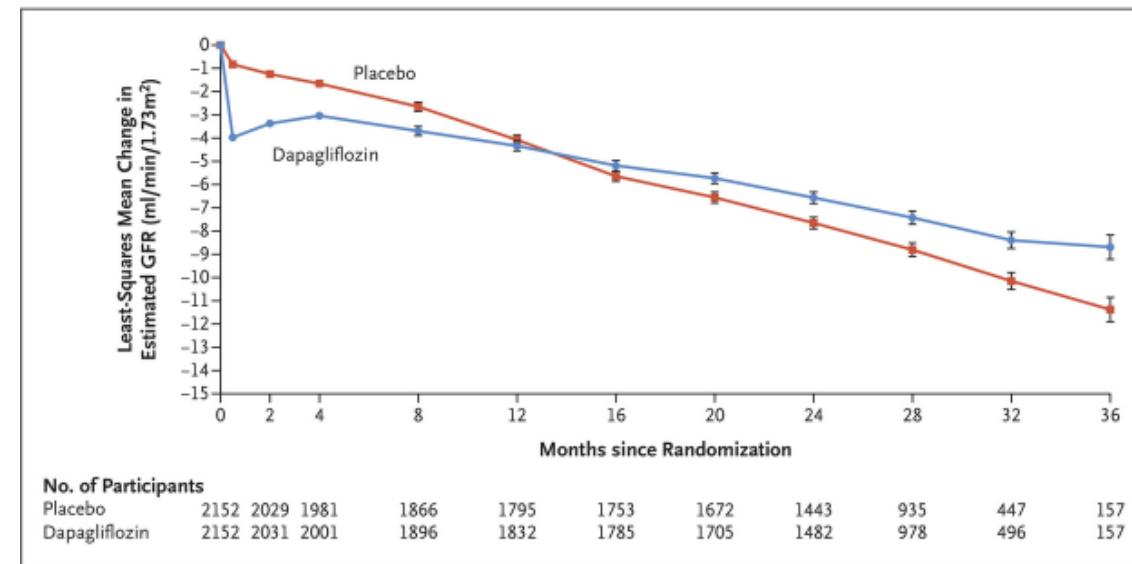


Martinez A., et al. "Efficacy and safety of dapagliflozin in heart failure with reduced ejection fraction according to age: insights from DAPA-HF." *Circulation* 141.2 (2020): 100-111.

# Fonction rénale?



**Figure 1. Effect of dapagliflozin on the primary outcome by eGFR at baseline.** The blue line represents continuous hazard ratio, and the gray area represents the 95% CI with the overall hazard ratio for the effect of dapagliflozin on the primary outcome given by the dashed red line. eGFR indicates estimated glomerular filtration rate.



Change from Baseline in Estimated GFR.

Heerspink et al. NEJM. 2020; 383:1436-1446

DAPA-HF

DAPA CKD : Circulation. 2021;143:438–448

# Conclusion

- Insuffisance cardiaque : un syndrome, des phénotypes.
- Retard au diagnostic important
- Outil de diagnostic : EPOF / NTproBNP / ETT
- Screening chez les populations à risque
  - Risque de développer une insuffisance cardiaque en fonction des comorbidités
  - Profils différents en fonction de l'IC à FEVG réduite et IC à FEVG préservée
  - Evolution de la maladie : l'IC stable n'existe pas
- Penser à instaurer un traitement précoce chez les patients à haut risque

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Dr Emmanuelle Berthelot

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