



Où en est-on des traitements spécifiques en cours dans les ATTR

Comment adapter le traitement de nos patients à la vue d'HELIOS-B ?

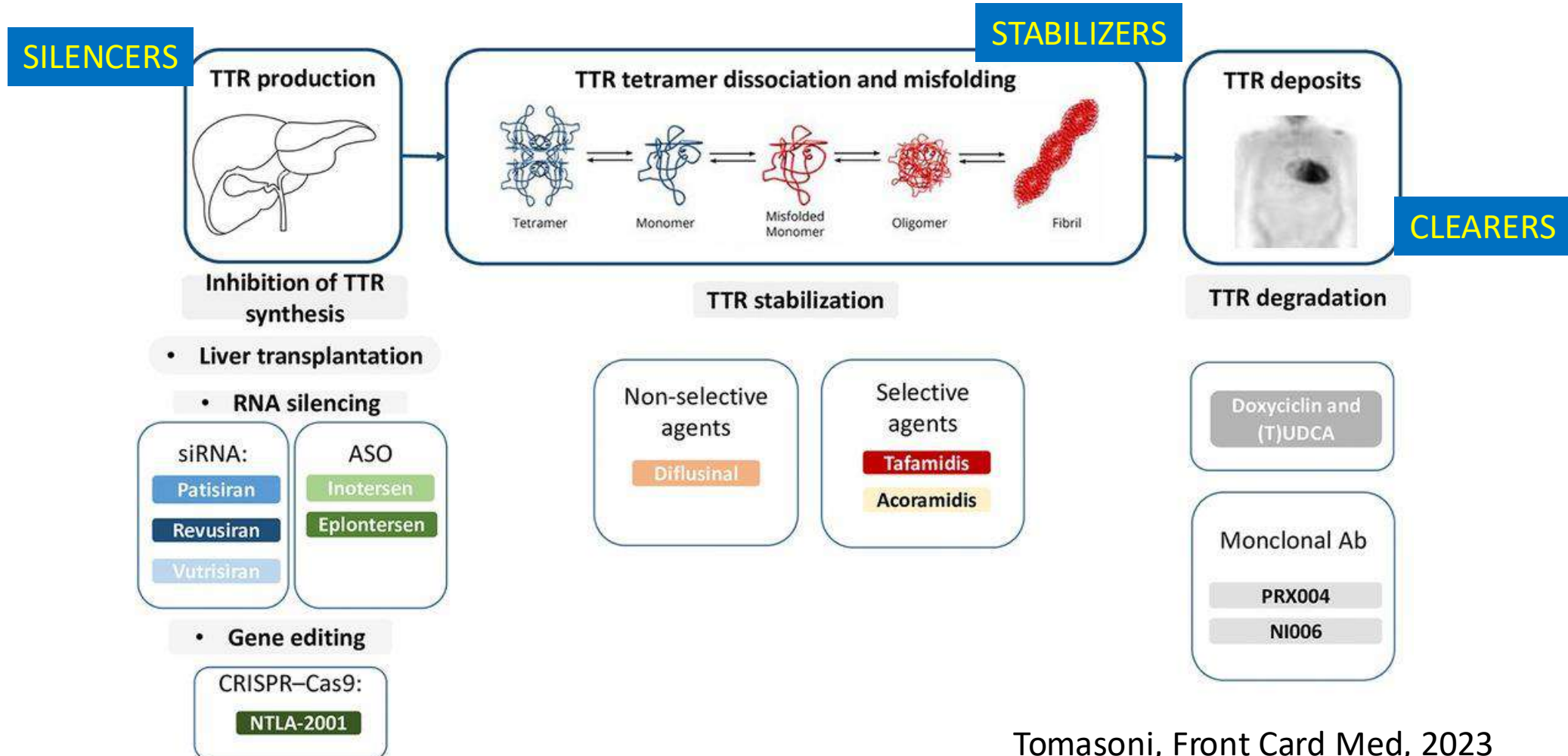
Dr Fabrice BAUER

CHU Bicêtre - Paris-Saclay

UMR – 999 – Innovation thérapeutique en hypertension pulmonaire



Treatment targets in ATTR cardiac amyloidosis



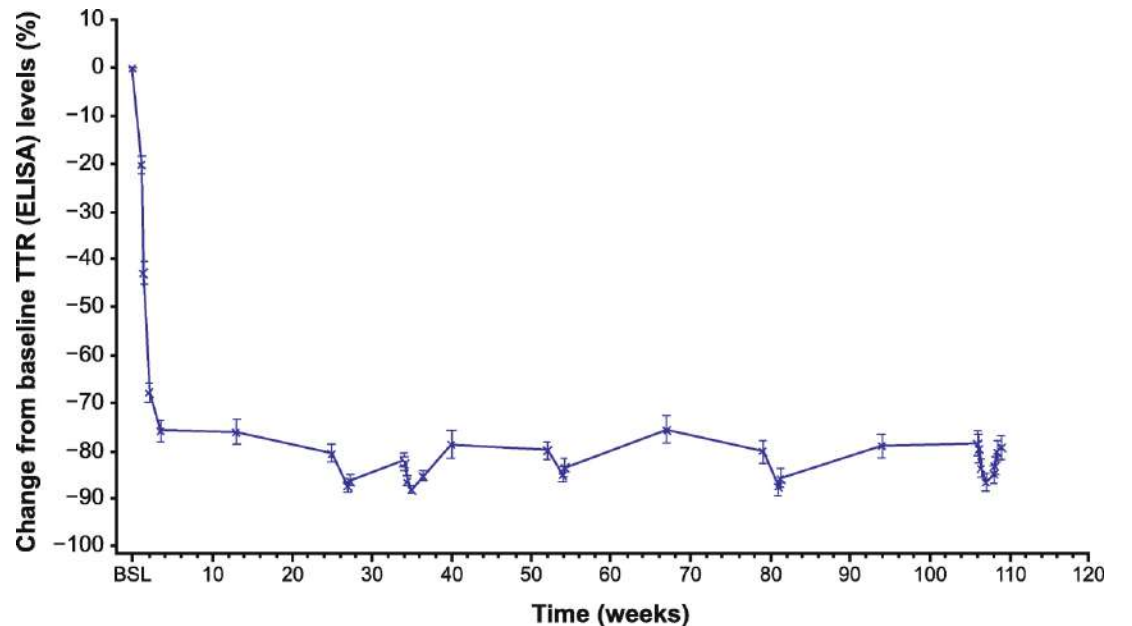


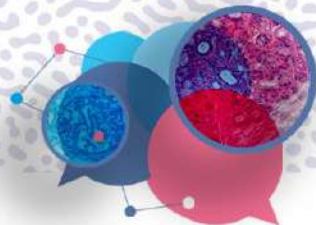
Silencers are early(est) targets in ATTR metabolism

Targets

- RNA silencing
 - SIRAN
 - PATISIRAN
 - VUTRISIRAN
 - TERSEN
 - INOTERSEN
 - EPLONTERSEN
- Gene editing
 - Crisper-CAS9

Transthyretin concentration with PATISIRAN



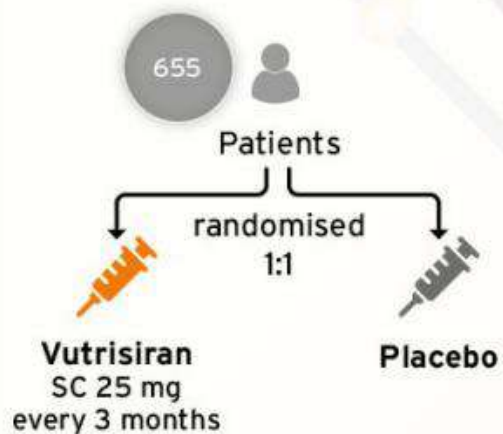


HELIOS B - trial

Study population

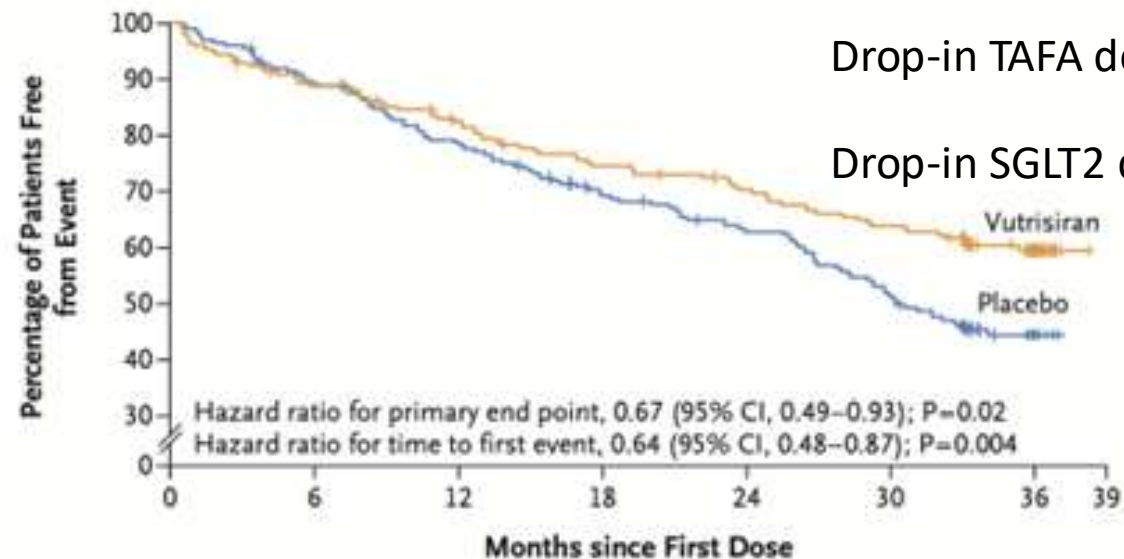
- Wild-type or hereditary ATTR with confirmed cardiomyopathy and symptomatic heart failure (HF)
- Patients on no background therapy (60%) or tafamidis at baseline (40%)

Who and what?



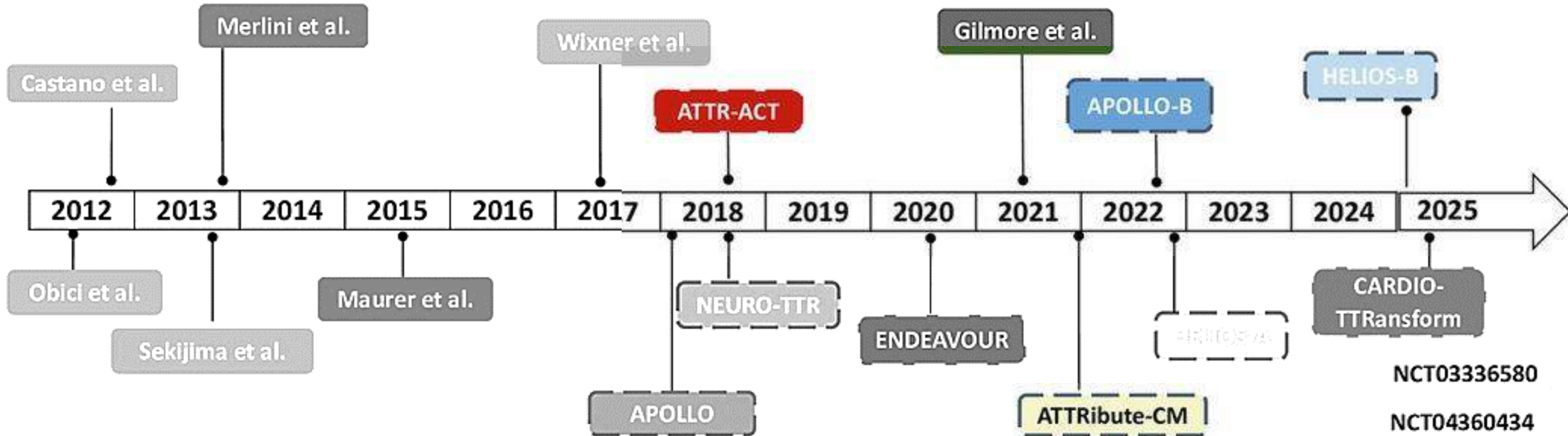
Follow-up
Up to 36 months

B Time to First Event in the Monotherapy Population



No. at Risk (cumulative no. of events)

	0	6	12	18	24	30	36	39
Vutrisiran	196 (0)	172 (22)	157 (34)	141 (49)	131 (57)	119 (69)	32 (76)	0 (76)
Placebo	199 (0)	175 (22)	152 (43)	130 (60)	116 (72)	95 (93)	26 (105)	0 (105)



Patisiran	Diflusal
Revusiran	Acoramidis
Vutrisiran	Tafamidis
Inotersen	Doxyciclin+ (T)UDCA
Eplontersen	mAb
NTLA-2001	

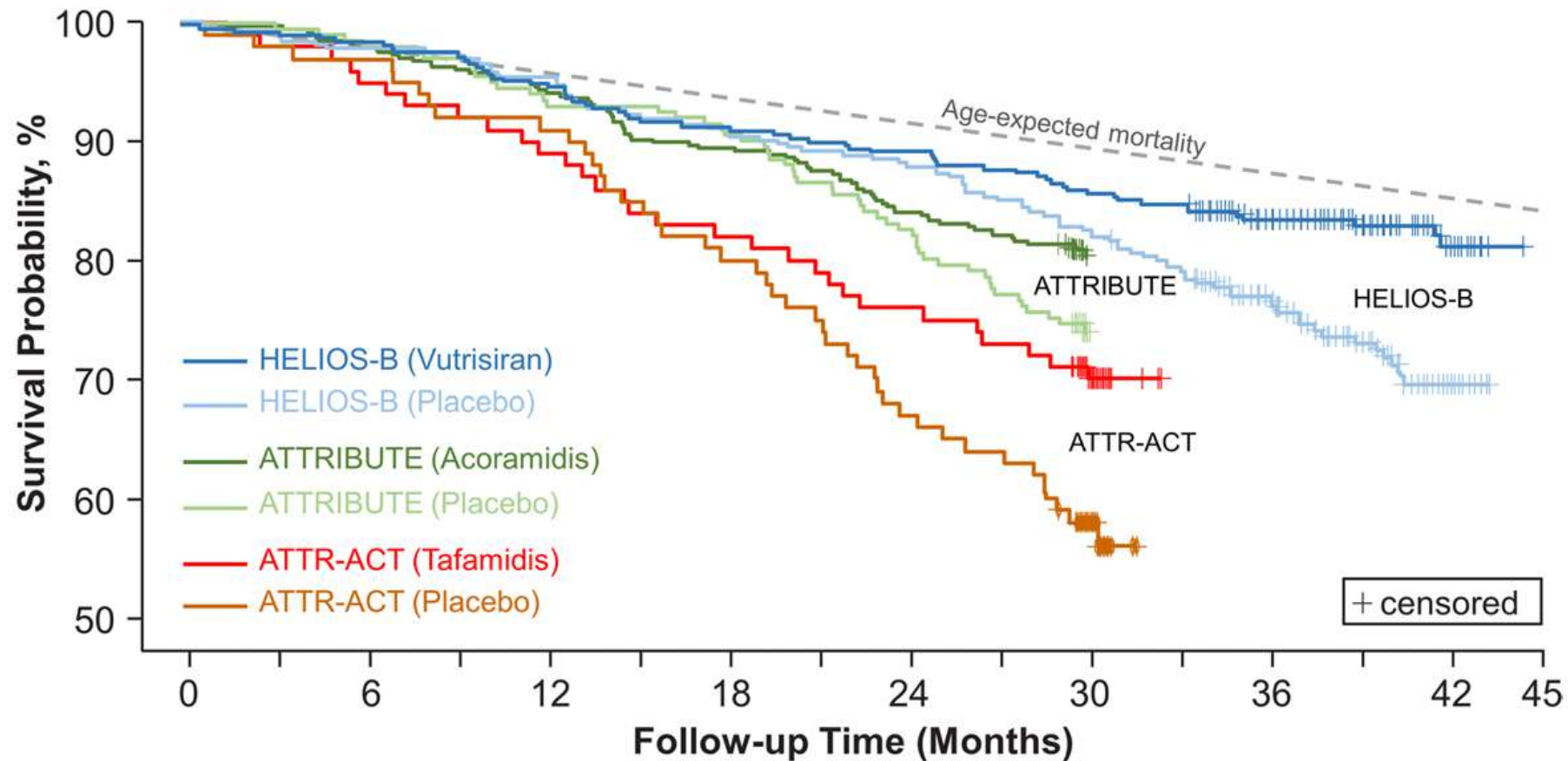


Comparison to other approved therapy

- ATTR-ACT → TAFAMIDIS
- ATTRIBUTE-CM → ACORAMIDIS
- HELIOS-B → VUTRISIRAN



Not only the primary end-point to look @





Question addresses with VUTRISIRAN

Beijin, Summer olympics 2008

VUTRISIRAN FIRST



U Bolt

VUTRISIRAN COMBO
« SIMULTANEOUSLY »



Nickel Ashmead

VUTRISIRAN COMBO
« SEQUENTIALLY »



Shelly Ann Fraser



Question addresses with VUTRISIRAN

Beijin, Summer olympics 2008

VUTRISIRAN FIRST



We do not know !!

VUTRISIRAN COMBO
« SIMULTANEOUSLY »



We do not know !!

VUTRISIRAN COMBO
« SEQUENTIALLY »



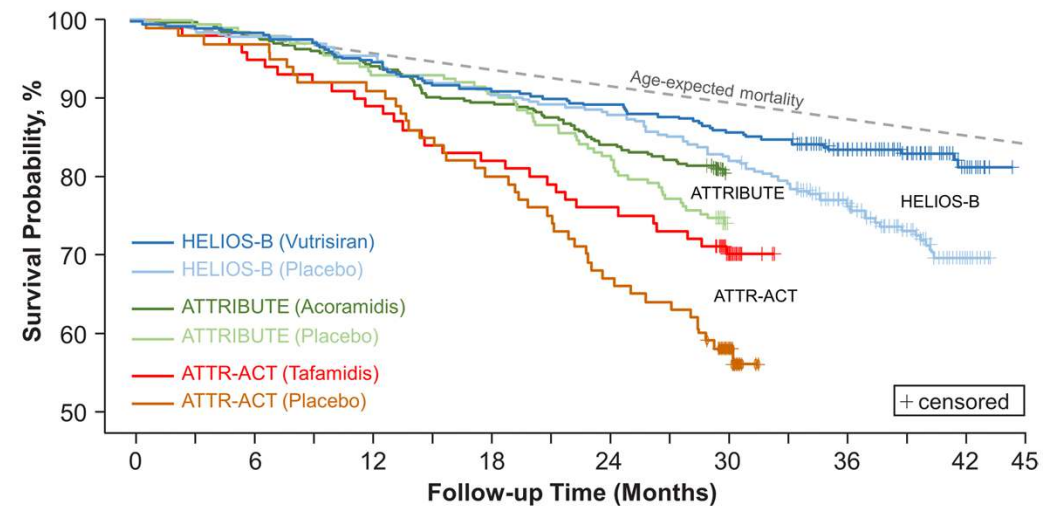
Possibly



VUTRISIRAN FIRST ?!

	ATTR-ACT [10, 14, 17] Tafamidis (n=264)	ATTRIBUTE-CM [7] Acoramidis (n=421)	HELIOS-B [15] Vutrisiran (n=326)
Age, years	75 (range 46–88)	77.4 ± 6.5	77.0 (range 45–85)
Sex			
Males	91.3%	91.2%	91.7%
Females	8.7%	8.8%	8.3%
Race			
White	79.9%	87.4%	85.0%
Black	14.0%	4.8%	7.1%
Genotype			
Wild type	76.1%	90.3%	88.7%
Variant	23.9%	9.7%	11.3%
NYHA class			
I	9.1%	12.1%	15.0%
II	61.4%	69.6%	76.7%
III	29.5%	18.3%	8.3%
NT-proBNP, pg/mL	2995.9 (752–4862)	2326 (1332–4019)	2021 (1138–3312)
NAC stage			
1	45.1%	57.2%	63.8%
2	36.0%	31.8%	30.7%
3	18.9%	10.9%	5.5%

"Silencers vs. stabilizers trials would certainly have addressed this question, but they will definitely not be conducted."





Another difficulties in comparing these studies

- Timing, inclusion criteria, baseline characteristics different
- Cross-trail comparison impossible
 - Different endpoints
 - Different statistical methodology
 - HELIOS-B: event-driven
 - ATTR-ACT: win ratio
 - ATTRIBUTE-CM: win ratio
 - Duration
 - HELIOS-B: 36 mois
 - ATTR-ACT: 30 mois
 - ATTRIBUTE-CM: 30 mois



VUTRISIRAN COMBO SIMULTANEOUSLY ?!

“single vs. dual combination therapy trials would certainly have addressed this question, and could be definitely be conducted.”



In ATTR-ACT, ATTRIBUTE-CM and HELIOS-B, there is a signal that « less sick » patients had better outcomes.



VUTRISIRAN COMBO SEQUENTIALLY ?!

No trial but a signal

	ATTR-ACT [10, 14, 17] Tafamidis (n = 264)	ATTRIBUTE-CM [7] Acoramidis (n = 421)	HELIOS-B [15] Vutrisiran (n = 326)
Tafamidis use			
Baseline	N/A	0%	40%
Drop-in	N/A	14.5%	13.5%

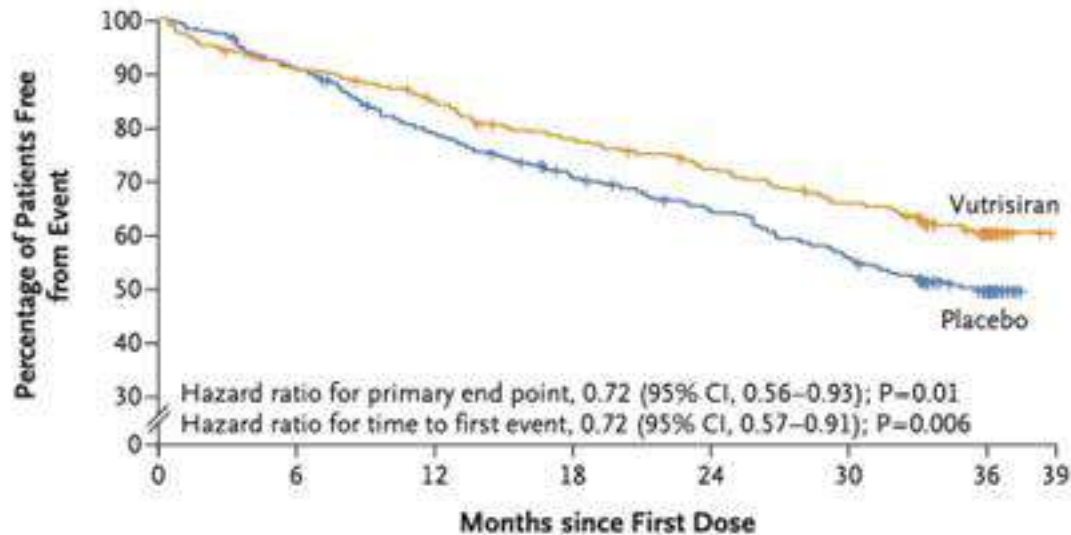




VUTRISIRAN COMBO SEQUENTIALLY ?!

Not a trial but a signal

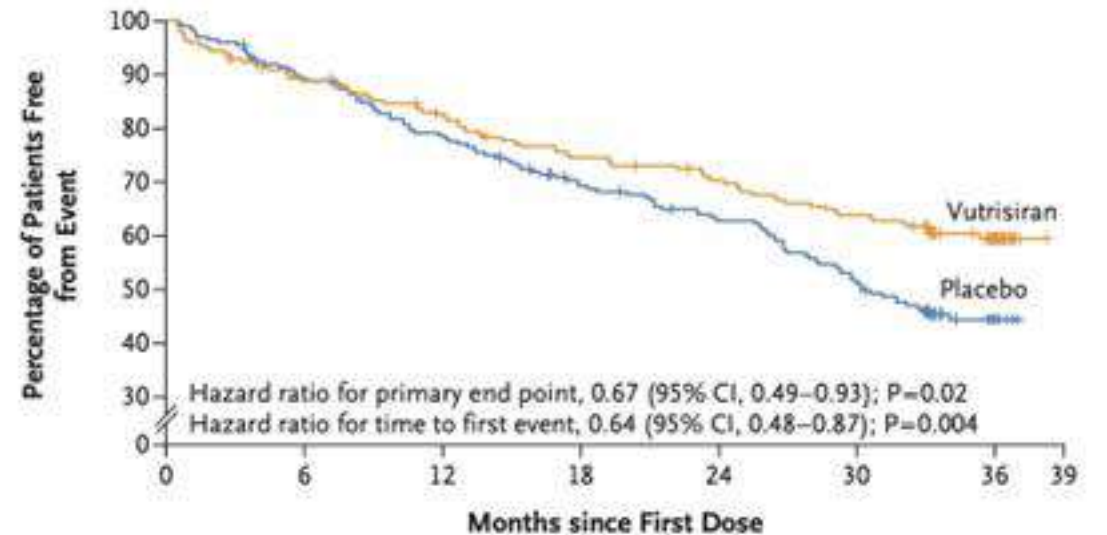
A Time to First Event in the Overall Population



No. at Risk (cumulative no. of events)

Vutrisiran	326 (0)	294 (30)	271 (50)	247 (72)	227 (90)	206 (110)	62 (125)	0 (125)
Placebo	328 (0)	295 (31)	253 (70)	221 (96)	199 (115)	172 (142)	52 (159)	0 (159)

B Time to First Event in the Monotherapy Population

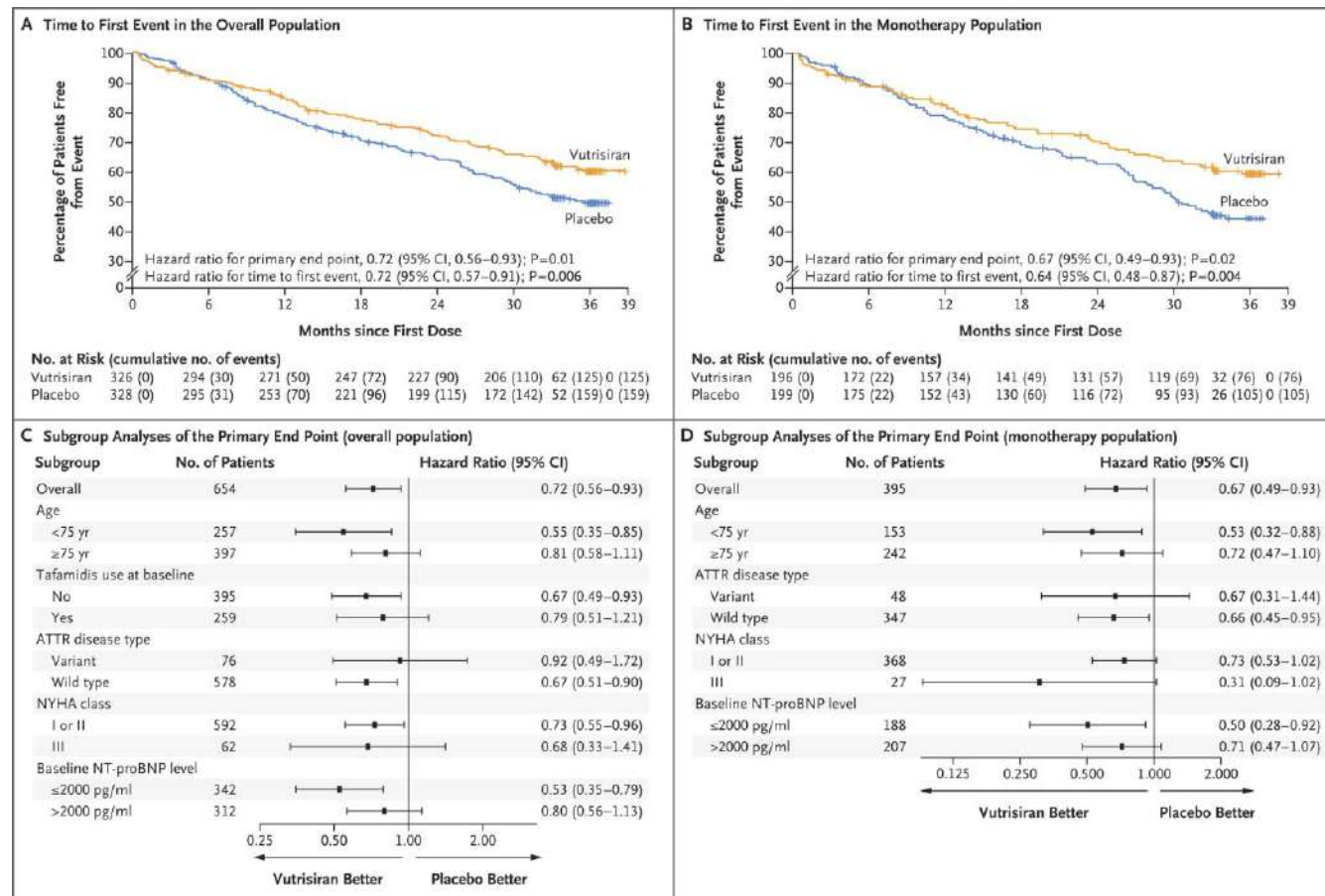


No. at Risk (cumulative no. of events)

Vutrisiran	196 (0)	172 (22)	157 (34)	141 (49)	131 (57)	119 (69)	32 (76)	0 (76)
Placebo	199 (0)	175 (22)	152 (43)	130 (60)	116 (72)	95 (93)	26 (105)	0 (105)



Do not expect from data what they did not tell you





HELIOS-B: not treatment-naïve patients

Inclusion Criteria:

- Age between 18 and 85 years.
- Diagnosis of genetic or wild-type transthyretin (TTR) cardiac amyloidosis (confirmed by histology or bone scintigraphy with cardiac uptake and no evidence of gammopathy).
- Septal thickness on echocardiography (TTE) greater than 12 mm.
- **At least one hospitalization for heart failure or clinical signs of heart failure.**
- NT-proBNP > 300 pg/mL and < 8500 pg/mL.
- Six-minute walking distance greater than 150 meters.
- Tafamidis treatment is possible at the time of inclusion.

Exclusion Criteria:

- NYHA class 4 or NYHA class 3 with NAC 3 amyloidosis.
- Severe polyneuropathy.
- Other causes of cardiomyopathy.
- Glomerular filtration rate (GFR) < 30 mL/min/m²

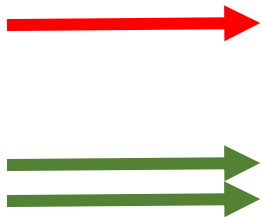
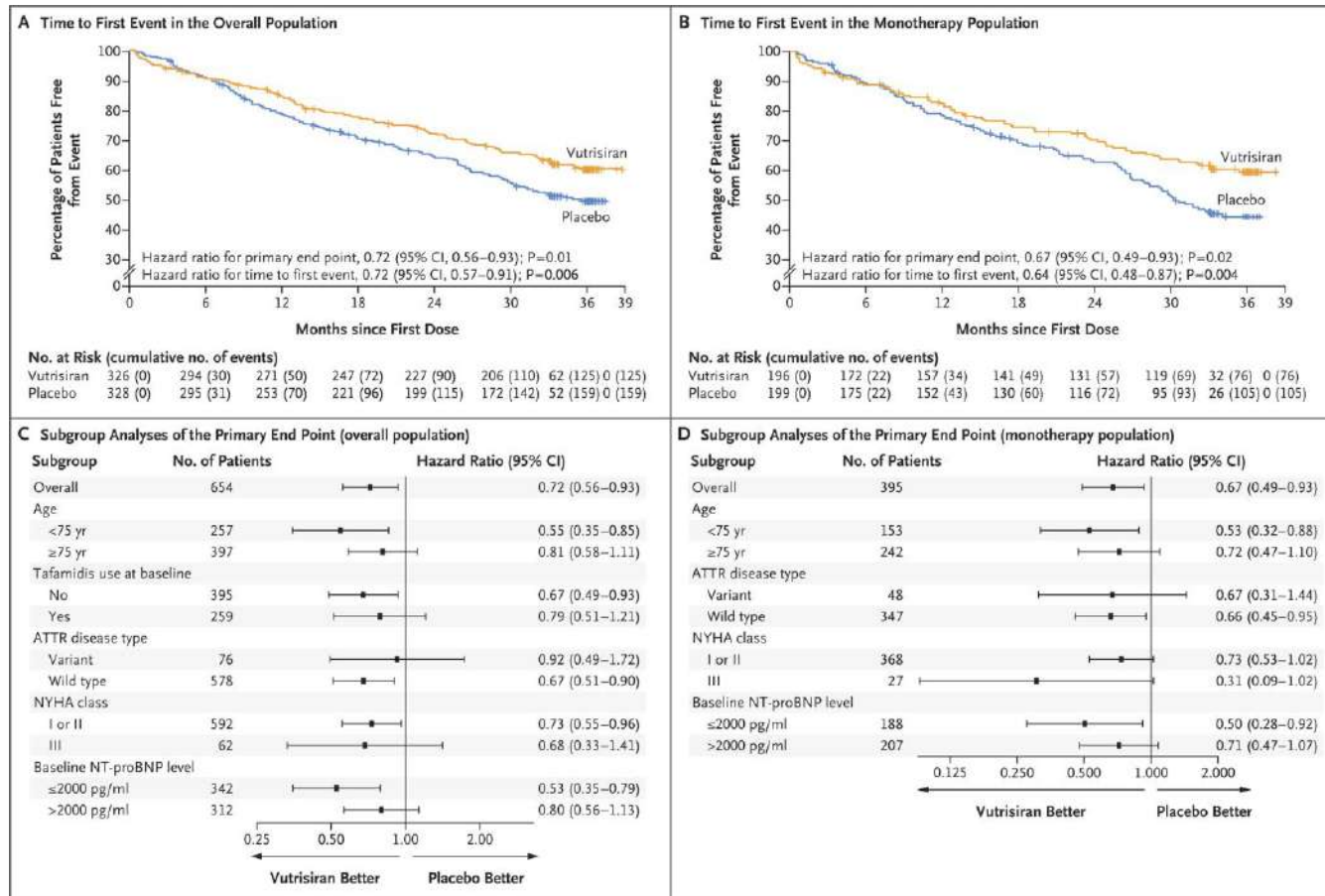


Eligibility for PATISIRAN nowadays: progression-based

EVALUATION DE LA PROGRESSION SOUS TAFAMIDIS 61mg selon le consensus de l'ESC ATTR-CM de 2021		
<i>1 paramètre minimum par domaine doit être coché</i>		
Clinique	Biologique	Imagerie
<input type="checkbox"/> Nouvelle Hospitalisation pour IC en l'absence de facteurs déclenchants modifiables (inobservance, régime hyposodé, inobservance du traitement diurétique, fibrillation atriale paroxystique, infection)	<input type="checkbox"/> Augmentation de NT-proBNP (30% ou 300pg/mL)	<input type="checkbox"/> Augmentation de l'épaisseur myocardique (2mm)
<input type="checkbox"/> Augmentation de Classe NYHA	<input type="checkbox"/> Augmentation de Troponine (30%)	<input type="checkbox"/> Augmentation du grade de fonction diastolique
<input type="checkbox"/> Dégradation de Qualité de vie (déclin de 5-10 pts KCCQ ou 10% EQ-5D)	<input type="checkbox"/> Augmentation du Score NAC	<input type="checkbox"/> Changement de la fonction systolique (≥5% déclin de la FEVG, ≥5mL de déclin du VES, ≥1% augmentation du SLG)
<input type="checkbox"/> Déclin du TDM6 (30-40m)		<input type="checkbox"/> Apparition ou aggravation de troubles conductifs
<input type="checkbox"/> Majoration de la dose de diurétique de plus de 80 mg au cours des 12 mois précédents		



Do not expect from data what they did not tell you, but sometimes make your mind up





In reality, In all 3 studies, there is a signal that “less sick” patients (i.e., based upon younger age, lower NTproBNP, lower NYHA class) had better outcomes. A cross-trial comparison highlights the fact that enrolling less sick patients at earlier stage disease in treatment trials from ATTR-ACT to ATTRIBUTE-CM and HELIOS-B has led all-cause mortality to approach the population expected 3-year rate



Conclusion:

How to adapt our patients' treatment in light of HELIOS-B?

- **Medical history is shaped by treatment timelines and evidence-based medicine.**
- **In CA, the paradigm should shift from titration based on disease worsening to a treat-to-target approach, aiming to address less severely ill patients.**
- **Therefore, VUTRISIRAN**
 1. *does not currently appear as a first-line therapy*
 2. *Should be initiated as soon as possible if risk stratification is not appropriate after FLT was started*
- ***A lot to do, a lot to learn ... and still a lot to investigate before to conclude***