Insuffisance cardiaque terminale quelle alternative?

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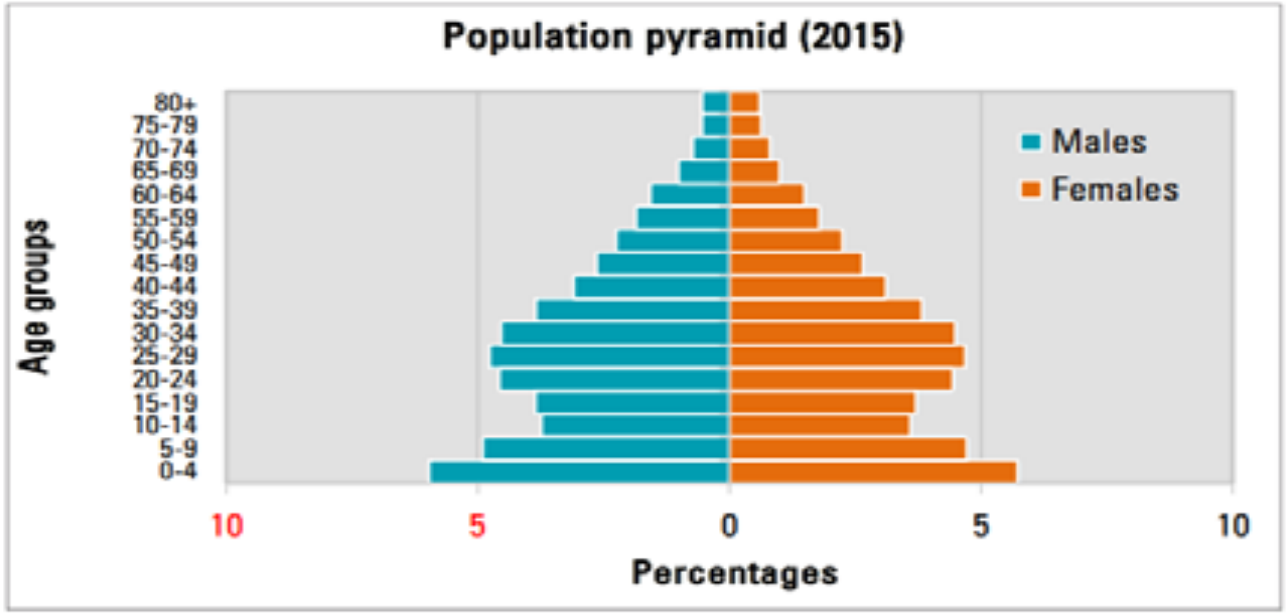
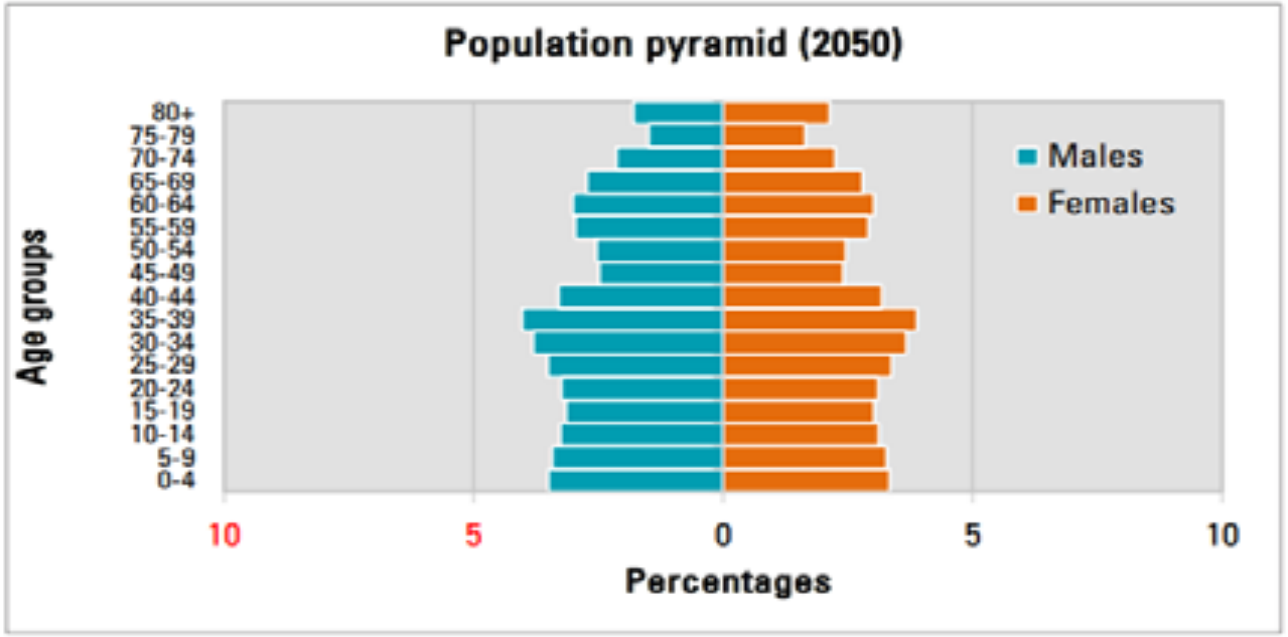
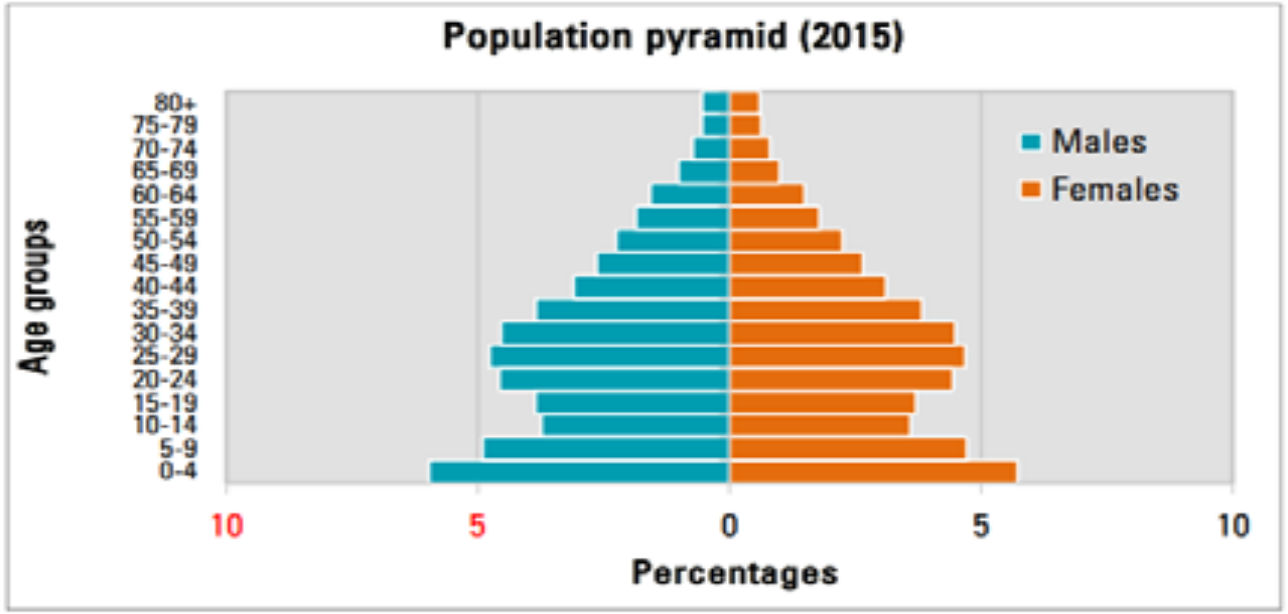
- La population algérienne a connu une croissance notable au cours des dernières décennies, passant de 44,6 millions en 2021 à 46,7 millions en 2024.

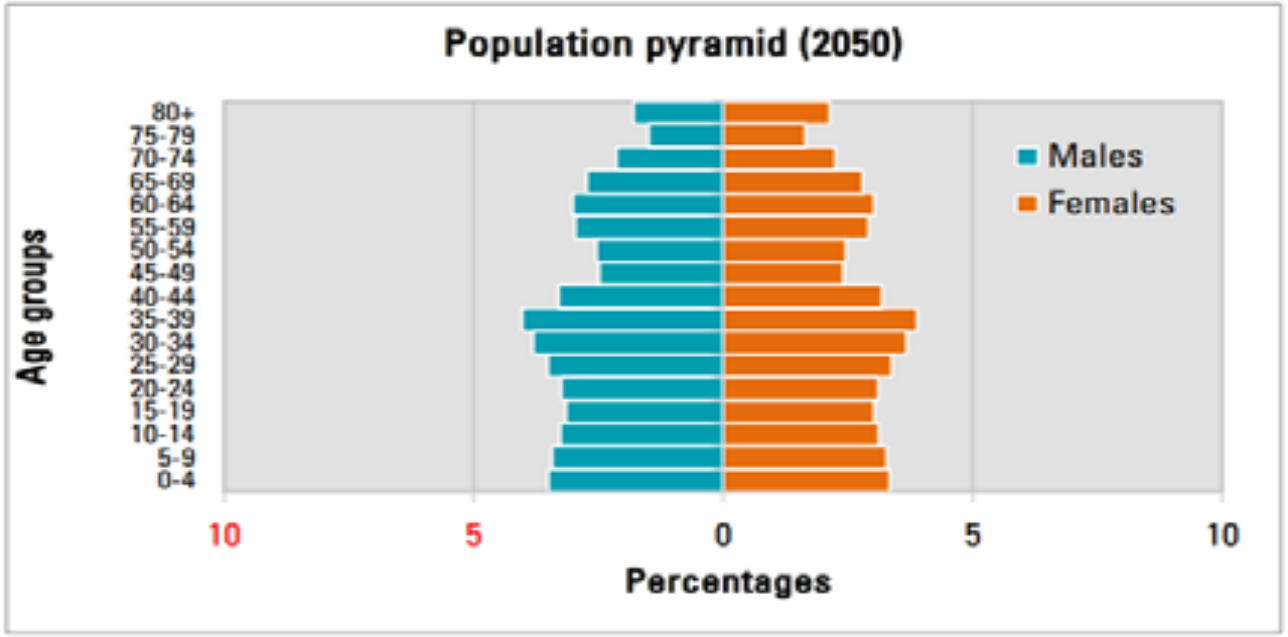




1. WHO Database. 2017. Retrieved Global Health Expenditure Database (who.int)
2. Worldbank. Algeria. Retrieved from https://data.worldbank.org/indicator/SH.MED.BEDS.ZS?locations=DZ
3. UNICEF 2019. Country Fact Sheet. Retrieved from https://www.unicef.org/mena/media/4251/file
4.https://archive.unescwa.org/sites/www.unescwa.org/files/algeria_2017-single_pages_jan_8.pdf
5.Rapport Conseil national économique, social et environnement (CNESE) Lundi, APS, 12 Août 2024

- Espérance de vie à la naissance: Elle a atteint 77,2 ans en 2022, contre 57,4 ans en 1980, plaçant l'Algérie parmi les pays à développement humain élevé.





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3. UNICEF 2019. Country Fact Sheet. Retrieved from https://www.unicef.org/mena/media/4251/file
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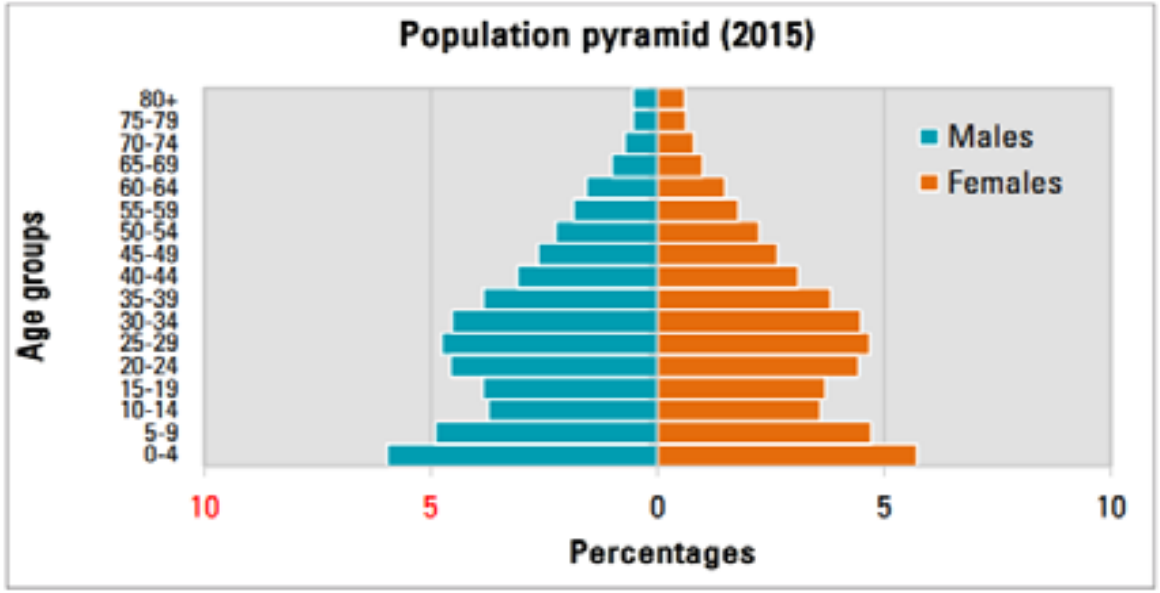
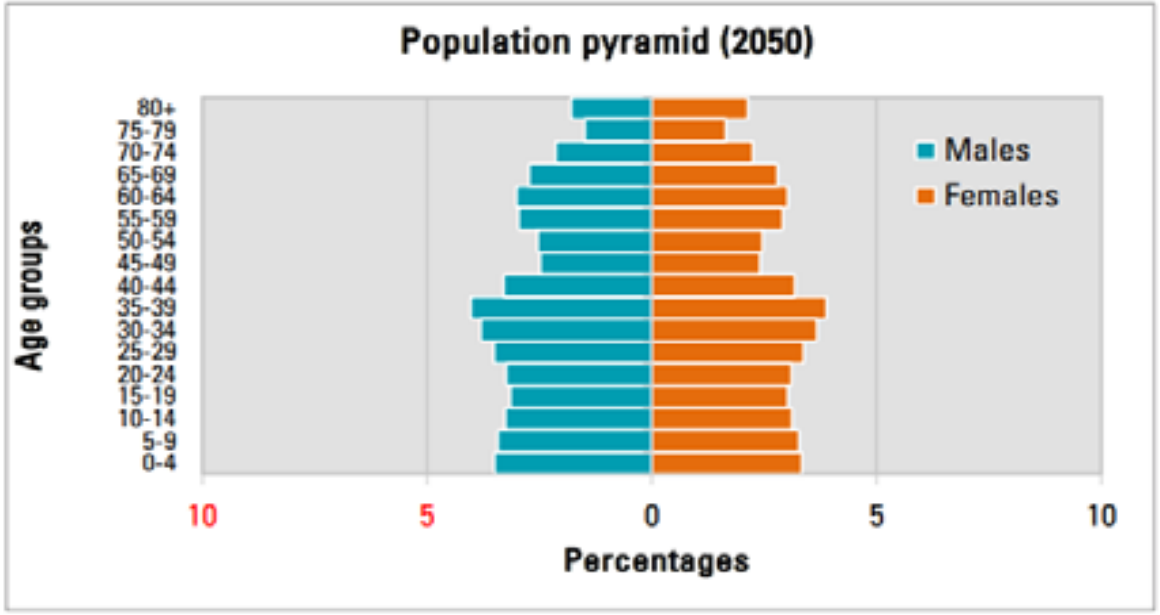
5.Rapport Conseil national économique, social et environnement (CNESE) Lundi, APS, 12 Août 2024

- Dans le secteur public, le nombre de praticiens est passé de 51 595 en 2019 à 58 945 en 2022.
- Dans le secteur privé, il est passé de 43 990 à 49 477 sur la même période.





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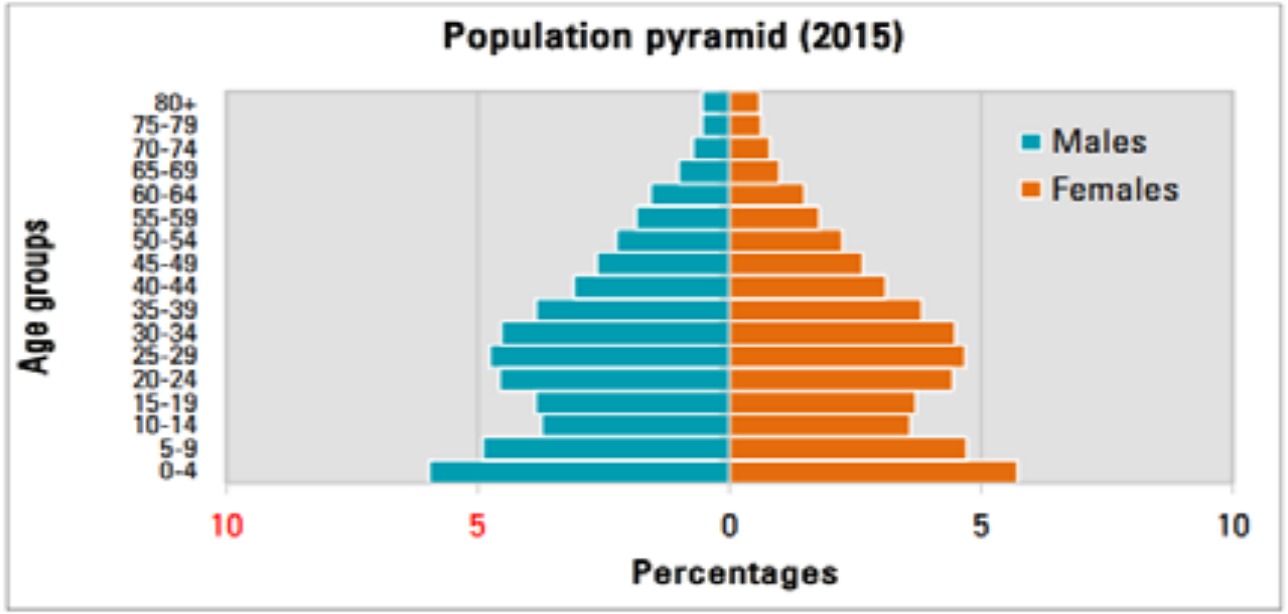
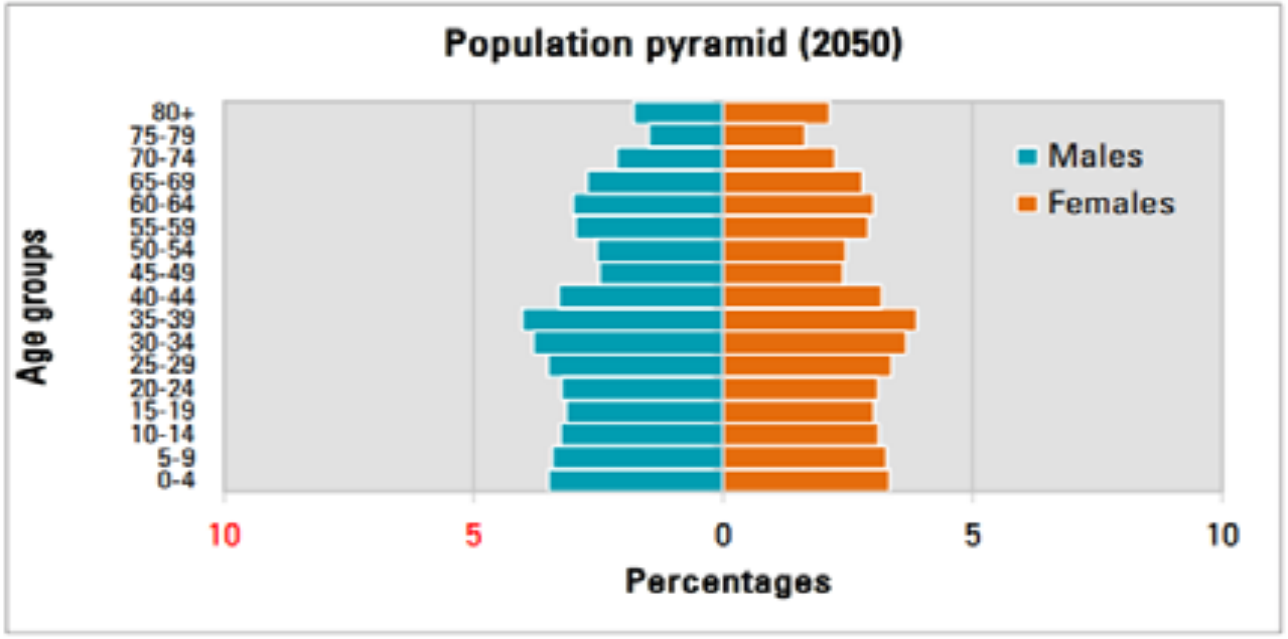
- En 2022, on comptait un médecin spécialiste pour 1 150 habitants, contre 1 449 en 2019, et un médecin généraliste pour 1 181 habitants, contre 1 175 en 2019.





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4.https://archive.unescwa.org/sites/www.unescwa.org/files/algeria_2017-single_pages_jan_8.pdf
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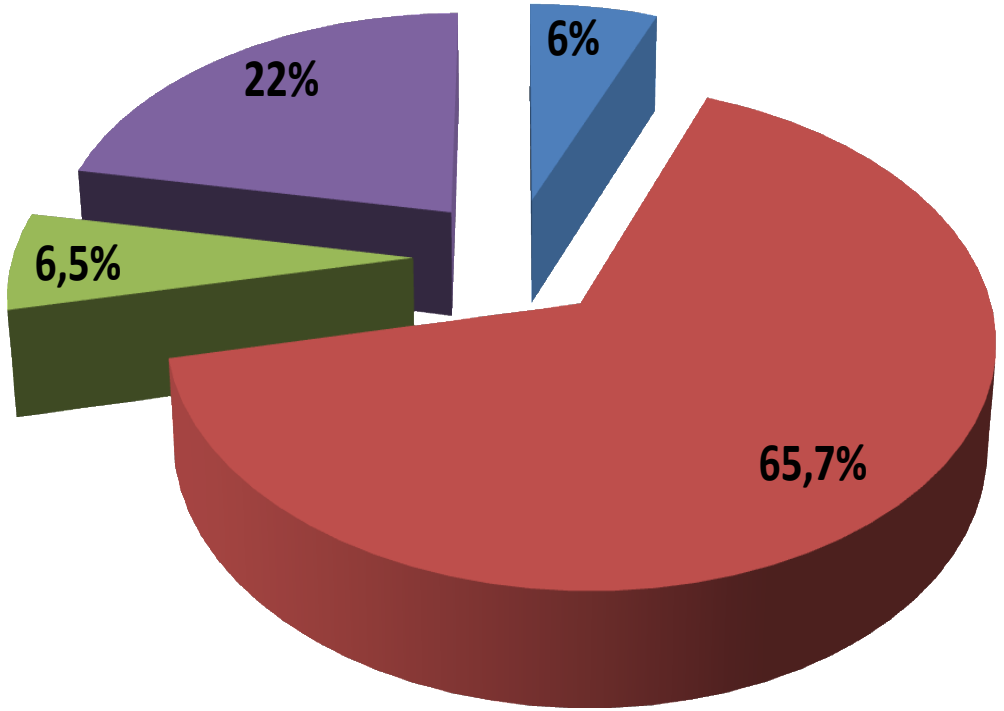
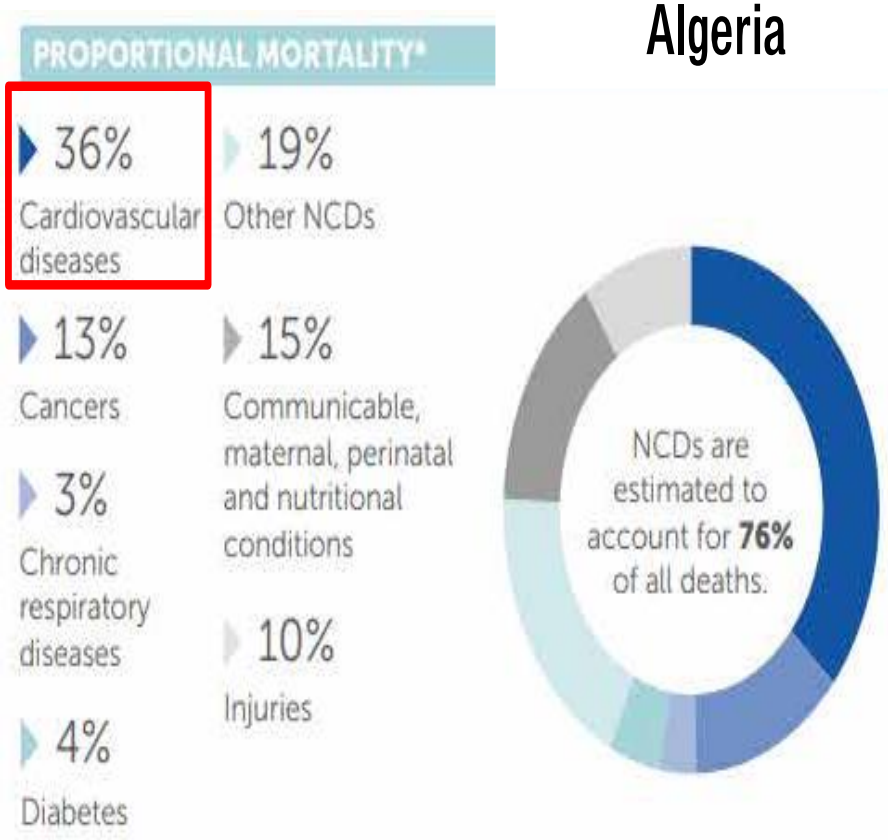
Ces améliorations reflètent les efforts déployés pour renforcer le système de santé en Algérie au cours des dernières années.

Rapport CNESE Lundi, APS, 12 Août 2024

MORTALITES DES SUJETS AGES DE 30-69 ANS EN ALGERIE (INSP)



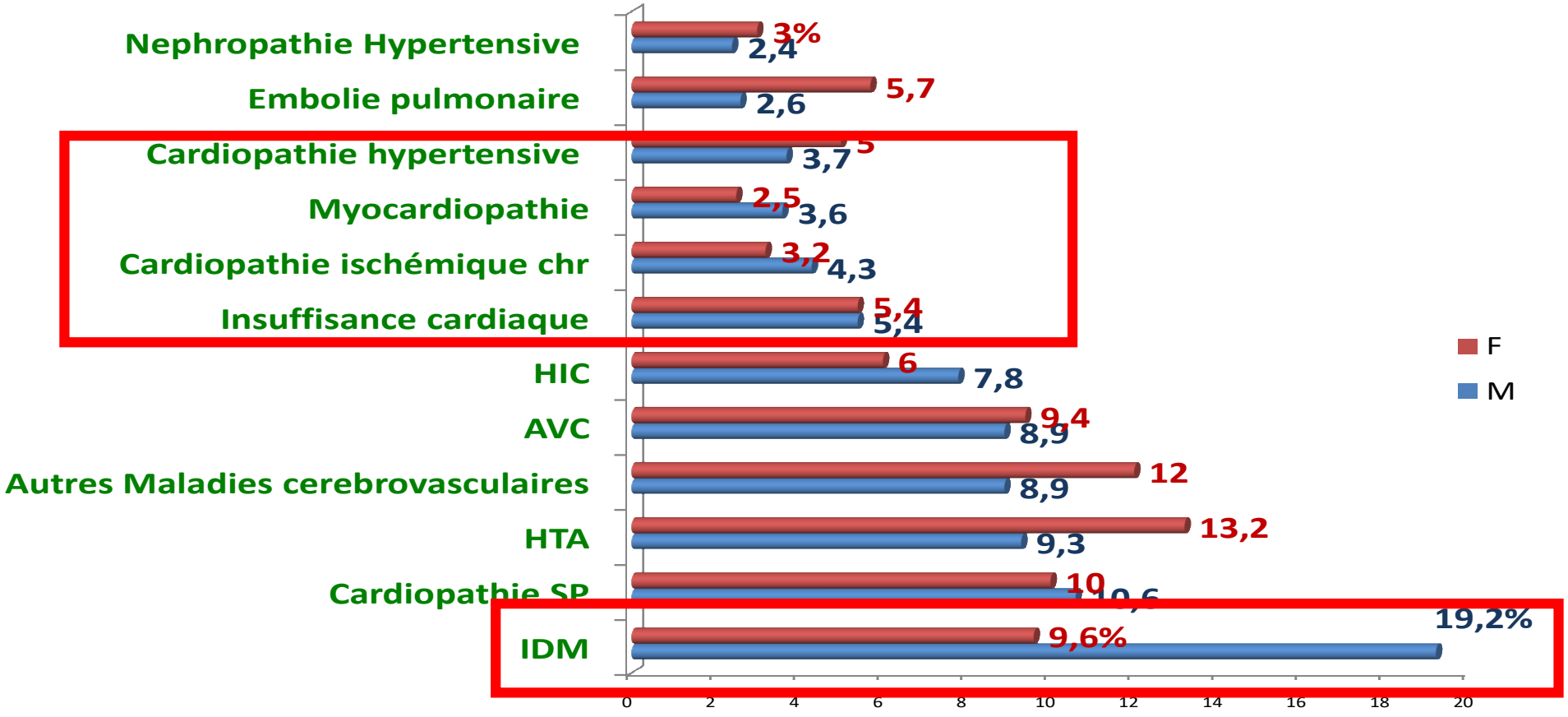


REPARTITION DES DECES SELON CLASSIFICATION DE L'OMS DES SUJETS DE 30-69 ANS
ANNEE 2017 SOURCE: INSP ALGERIE

WHO country profile 2016

Dr S.BELAMRI RESPONSABLE DU SERVICE DES CAUSES MEDICALES DE DECES INSP

PRINCIPALES MALADIES CARDIOVASCULAIRES. EN ALGERIE (INSP)



PRINCIPALES CAUSES CARDIOVASCULAIRES DE DECES PAR SEXE
ANNEE 2017 SOURCE: INSP ALGERIE

Insuffisance cardiaque

64.3 million

Prévalence mondiale de l'IC (2017)

- 2% -3% de la population mondiale

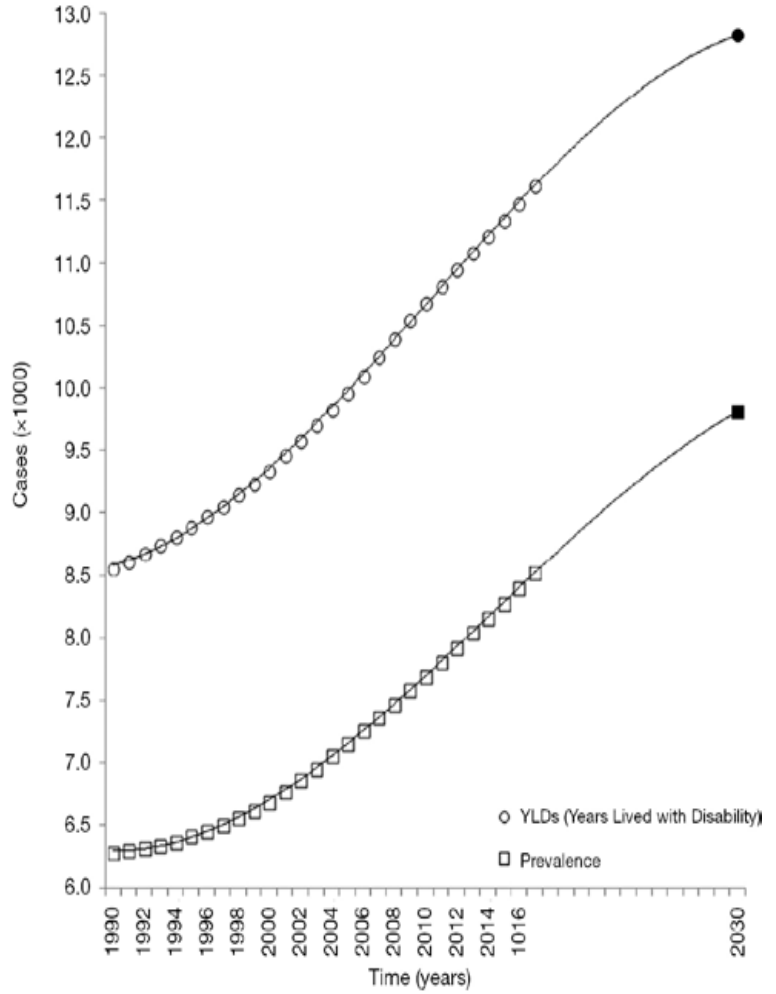
1-2%

De toutes les admissions à l'hôpital sont liées à l'IC, qui est la cause de la plupart des hospitalisations

$ 346 billion

Estimation mondiale de la charge économique du HF

4 millions de nouveaux cas/an



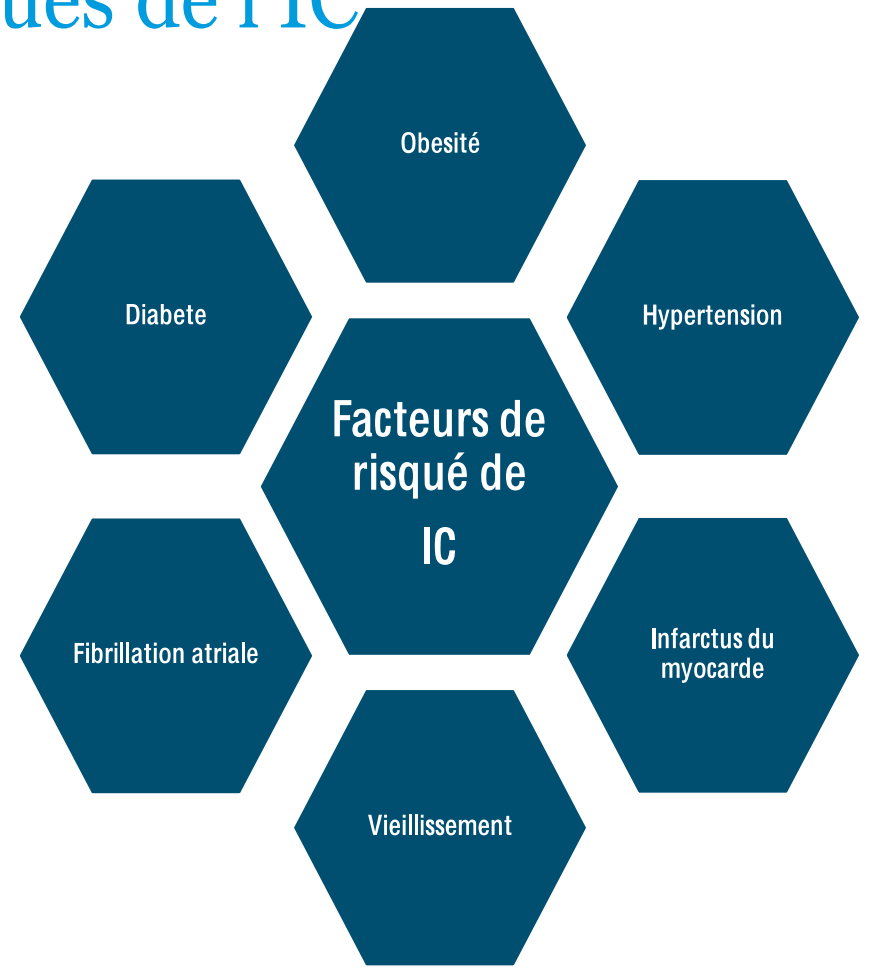
1.Savarese & Lund. Cardiac Failure Review 2017;3(1):7–11. DOI: 10.15420/cfr.2016:25:2 2.Cowie. 2015. The global burden of heart failure. www.escardio/HFA 3.Groenewegen, Rutten, Mosterd & Hoes. European Journal ofProprietary and confidential — do not distribute Heart FailureVolume 22, Issue 8. https://doi.org/10.1002/ejhf.1858 4.World Heart Federation. Retrieved from https://www.world-heart-federation.org/resources/heart-failure-fact-sheet/. 5. Lippi et al. 2020https://amj.amegroups.com/article/view/5475/html . 6. Stewart S et al. Eur J Heart Failure. 2001; 3(3): 315-322

Facteurs de risques de l'IC

Parmi les nouveaux cas d'IC, 76 % souffraient d'hypertension. Le risque d'ICFEp avec l'hypertension est de 1,14 et celui d'ICFEp est de 1,2.

L'infarctus du myocarde augmente le risque d'ICFEp de 1,48 et le risque d'ICFEr de 2,6

La fibrillation auriculaire multiplie par 5 le risque d'IC. 22 à 42 % des patients atteints de FA souffrent d'IC.

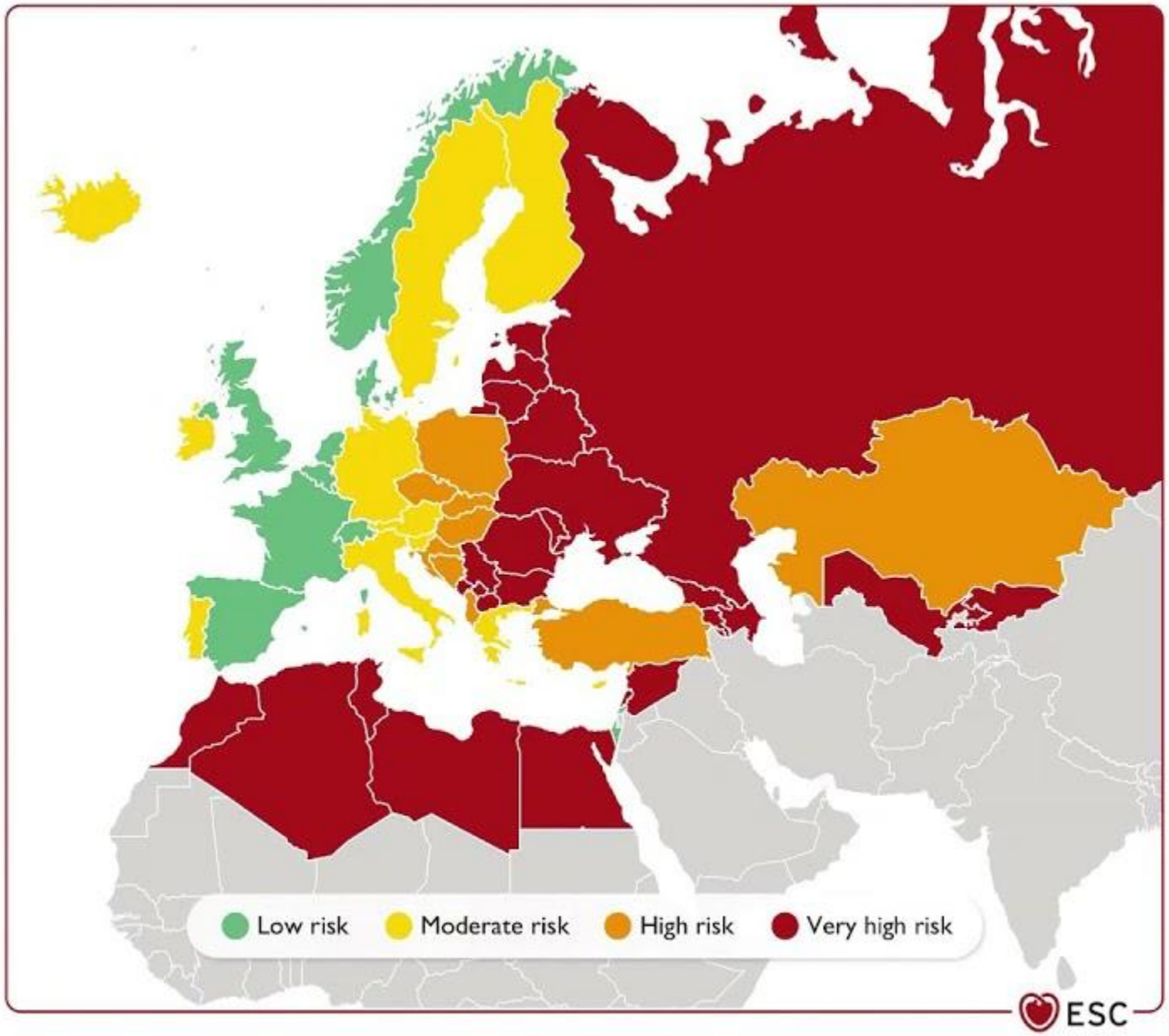


Les patients atteints de diabète sucré ont un risque de 1,83 de développer une ICFEr

L'obésité augmente le risque d'ICFEp de 1,28 et de 1,19 dans l'ICFEr.

Avec l'âge, le risque d'ICFEp augmente de 1,9 par 10 ans et de 1,66 pour l'ICFEr.

1.Heart Org. Retrieved from https://www.heart.org/en/health-topics/heart-failure/causes-and-risks-for-heart-failure/understand-your-risk-for-heart-failure
2.Groenewegen, Rutten, Mosterd & Hoes. European Journal ofHeart FailureVolume 22, Issue 8.
3.Odutayo et al. 2016. BMJ 2016;354:i4482



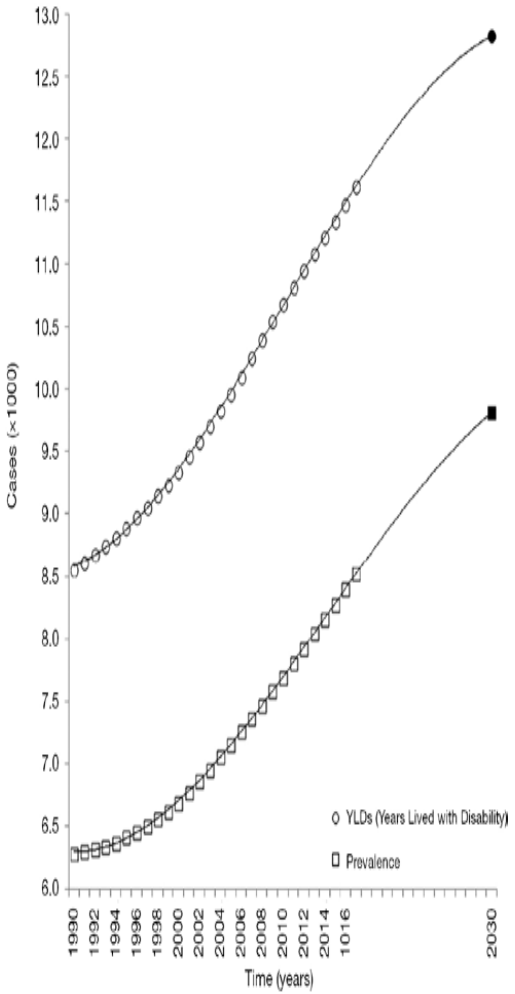
Risk regions based on World Health Organization cardiovascular mortality rates

2021 ESC Guidelines on cardiovascular disease prevention in clinical practice
(European Heart Journal 2021 – doi:10.1093/eurheartj/ehab484)

64.3 million Prévalence mondiale de l'IC (2017)

1-2% De toutes les admissions à l'hôpital sont liées à l'IC, qui est la cause de la plupart des hospitalisations

$ 346 billion Estimation mondiale de la charge économique du HF



2016 European Guidelines on cardiovascular disease prevention in clinical practice

2.3.4.2 What are high-risk and very-high-risk countries?

High-risk countries are Bosnia and Herzegovina, Croatia, Czech Republic, Estonia, Hungary, Lithuania, Montenegro, Morocco, Poland, Romania, Serbia, Slovakia, Tunisia and Turkey.

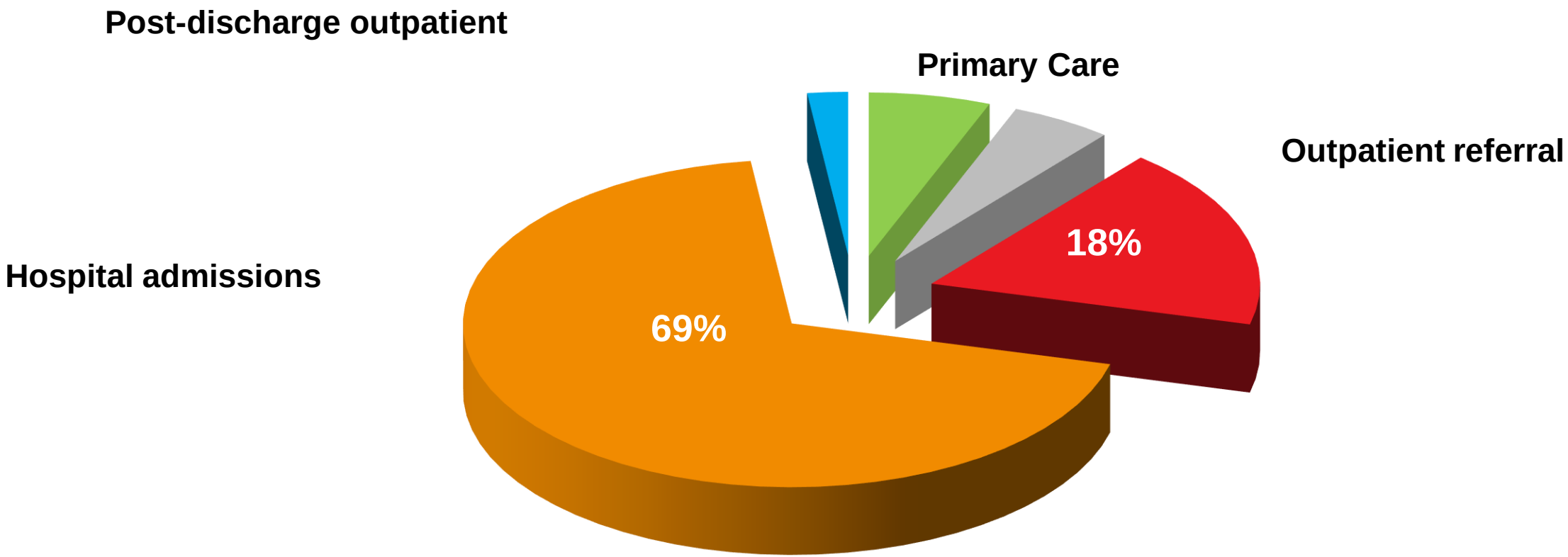
Very-high-risk countries present levels of risk that are more than double that of low-risk countries (i.e. CVD mortality >450/100 000 for men and >350/100 000 for women). Additionally, the male:female ratio is smaller than in low-risk countries, suggesting a major problem for women. The very high-risk countries are Albania, Algeria, Armenia, Azerbaijan, Belarus, Bulgaria, Egypt, Georgia, Kazakhstan, Kyrgyzstan, Latvia, former Yugoslav Republic of Macedonia, Moldova, Russian Federation, Syrian Arab Republic, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

990,000

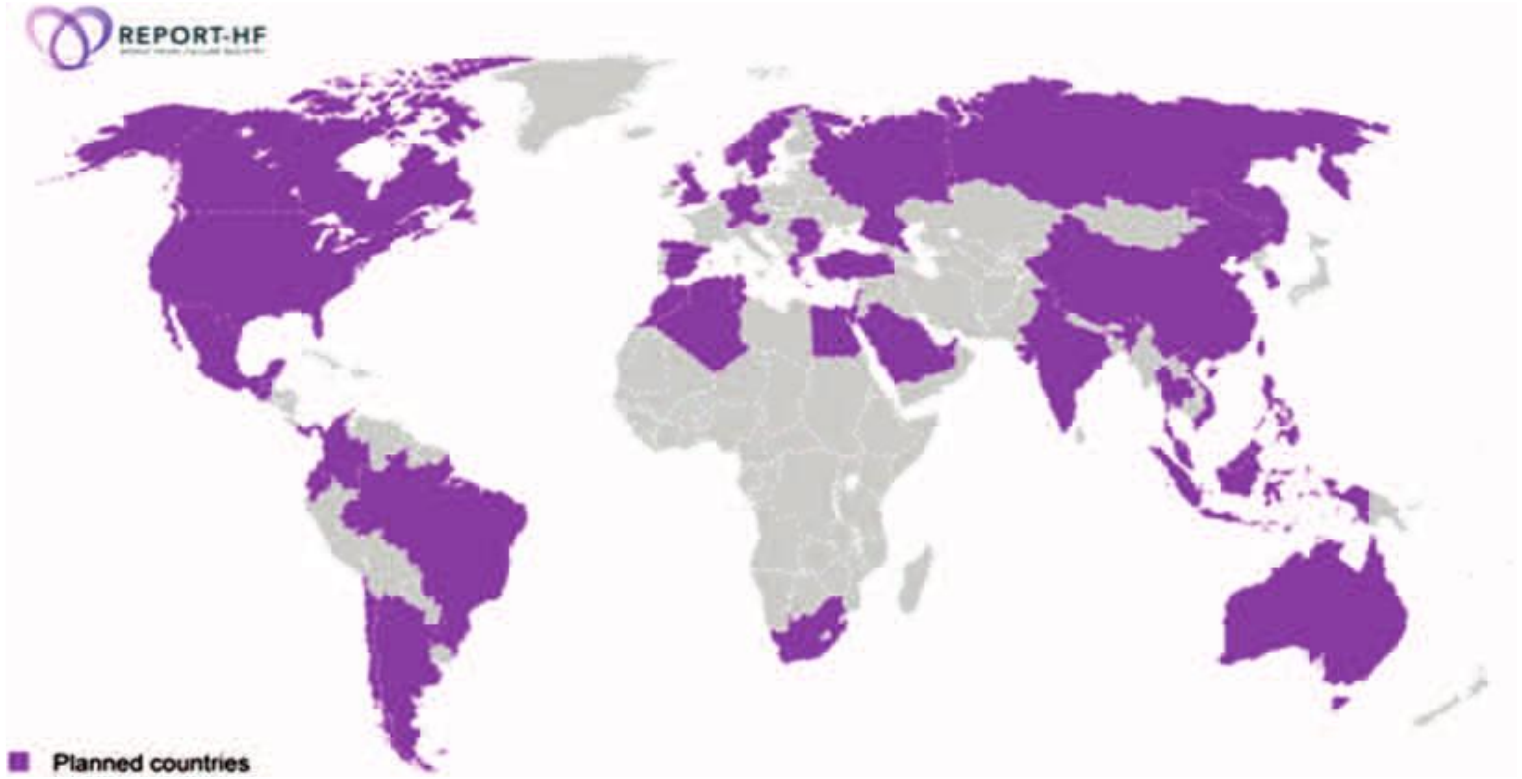
Prévalence estimée de l'IC en Algérie

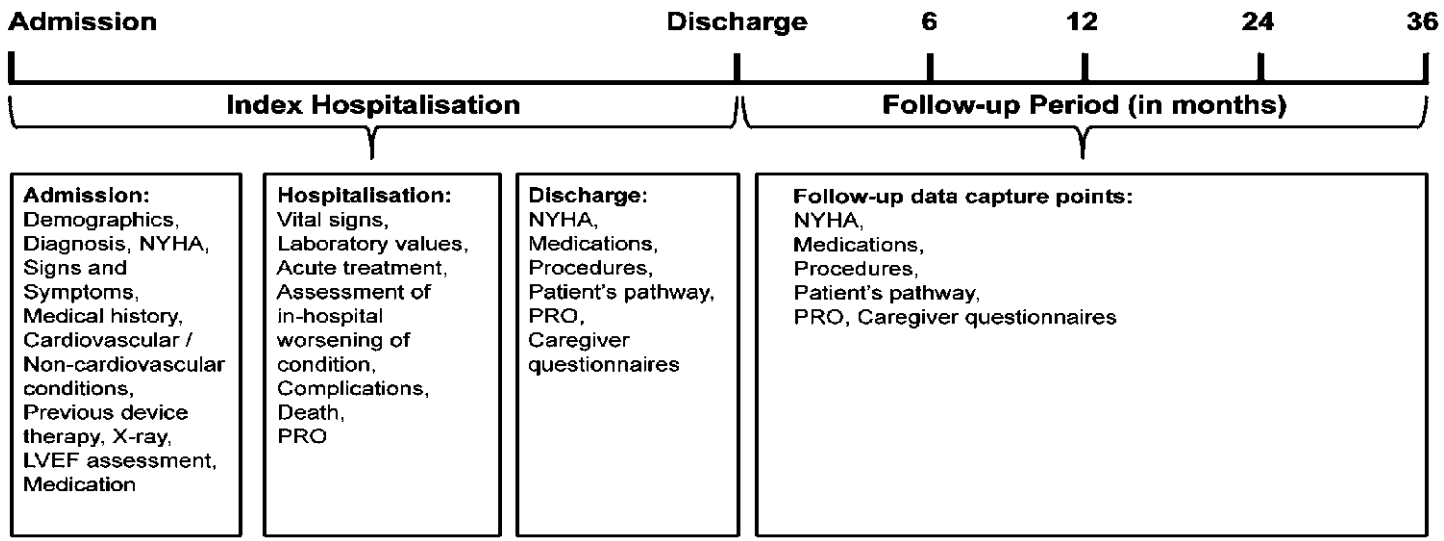
1.Savarese & Lund. Cardiac Failure Review 2017;3(1):7–11. DOI: 10.15420/cfr.2016:25:2 2.Cowie. 2015. The global burden of heart failure. www.escardio/HFA 3.Groenewegen, Rutten, Mosterd & Hoes. European Journal ofProprietary and confidential — do not distribute Heart FailureVolume 22, Issue 8. https://doi.org/10.1002/ejhf.1858 4.World Heart Federation. Retrieved from https://www.world-heart-federation.org/resources/heart-failure-fact-sheet/. 5. Lippi et al. 2020https://amj.amegroups.com/article/view/5475/html . 6. Stewart S et al. Eur J Heart Failure. 2001; 3(3): 315-322

Impact économique de l’insuffisance cardiaque chronique



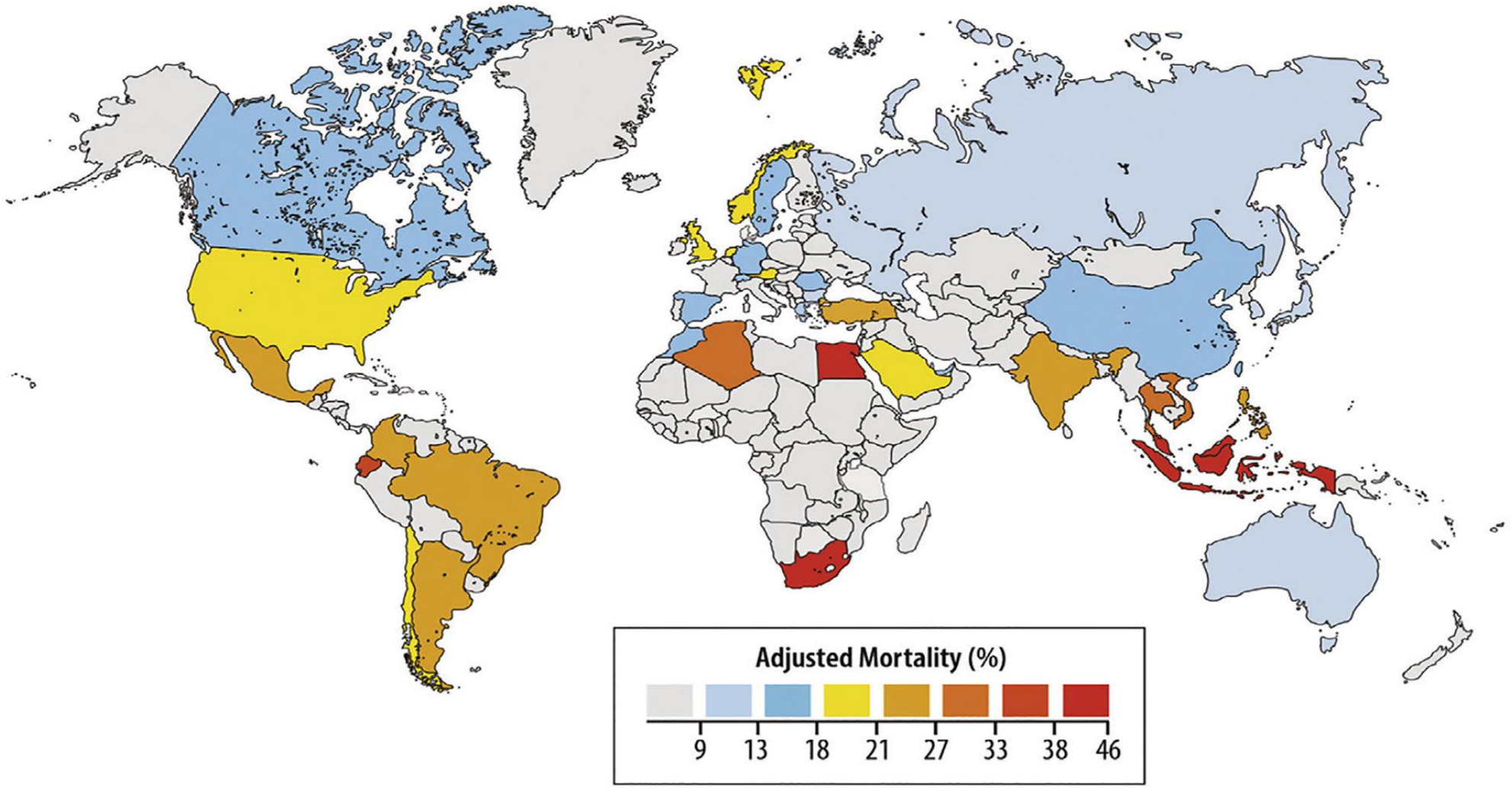
Hospitalization accounts for most CHF-associated costs





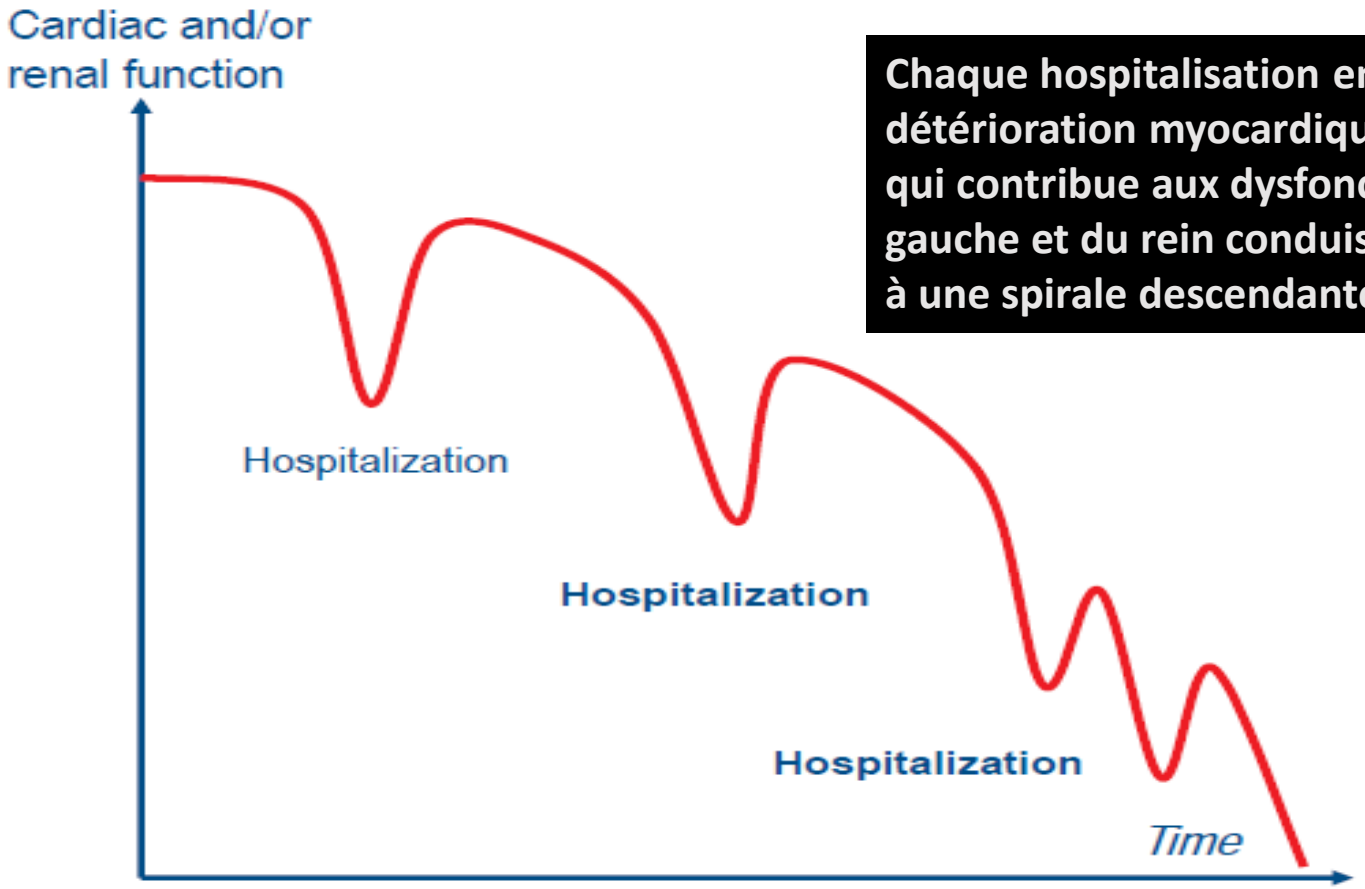
European Journal of Heart Failure (2015)

WORLD MAP SHOWING 1 YEAR MORTALITY RATES ADJUSTED FOR AGE, HEART FAILURE DIAGNOSIS, AND NEW YORK HEART ASSOCIATION CLASS (NYHA)



the REPORT-HF Registry. Eur J Heart Fail 2022;24:645–52.

Les hospitalisations récurrentes…
Importantes pour plusieurs raisons



Chaque hospitalisation engendre une détérioration myocardique et rénale qui contribue aux dysfonctions progressives du ventricule gauche et du rein conduisant à une spirale descendante inévitable

Gheorghiade M, et al. *Am J Cardiol*. 2005;96:11-17.

Etudes cliniques dans HFrEF

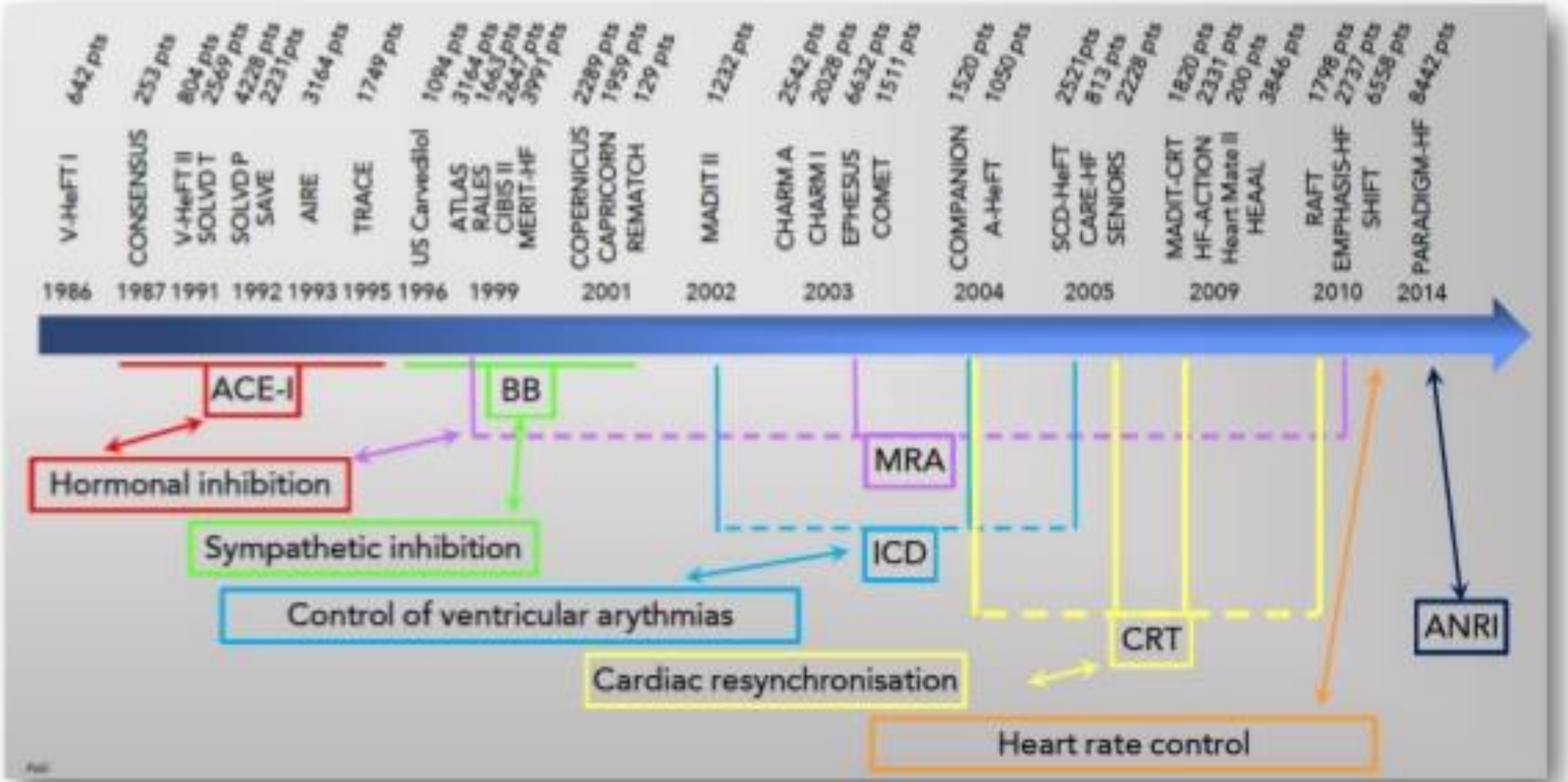
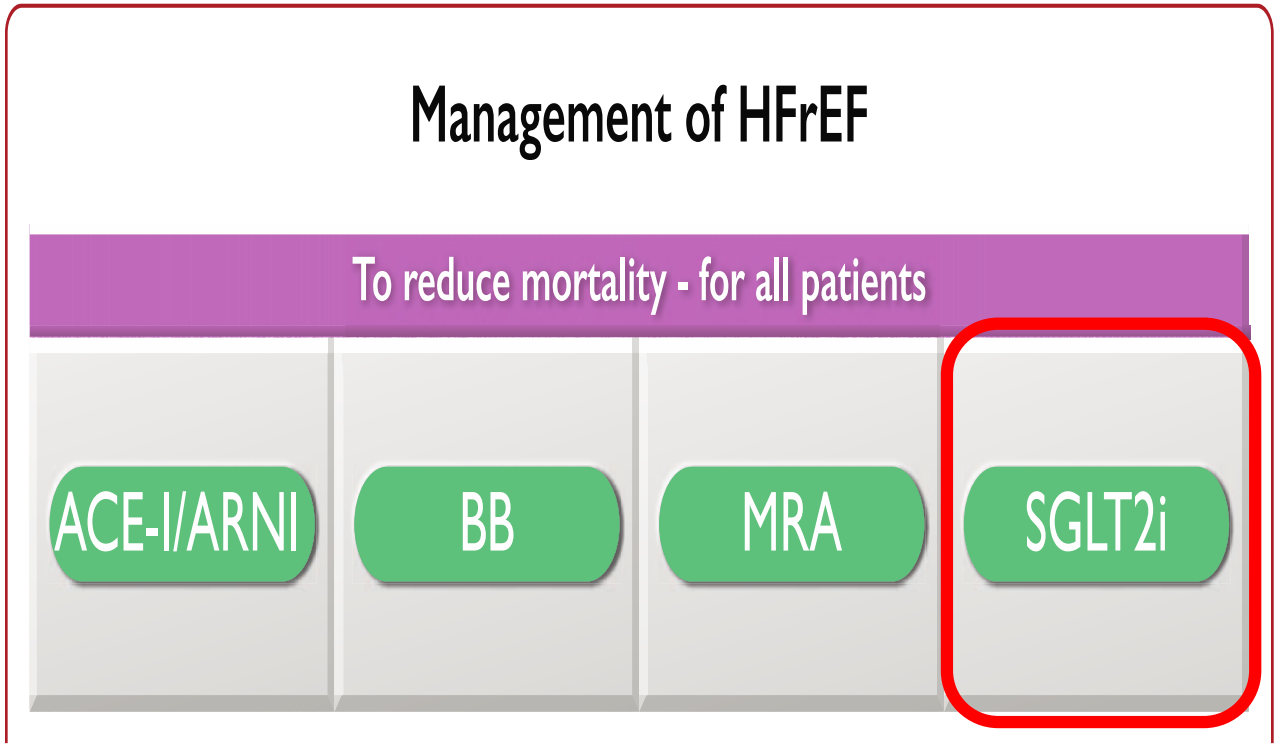
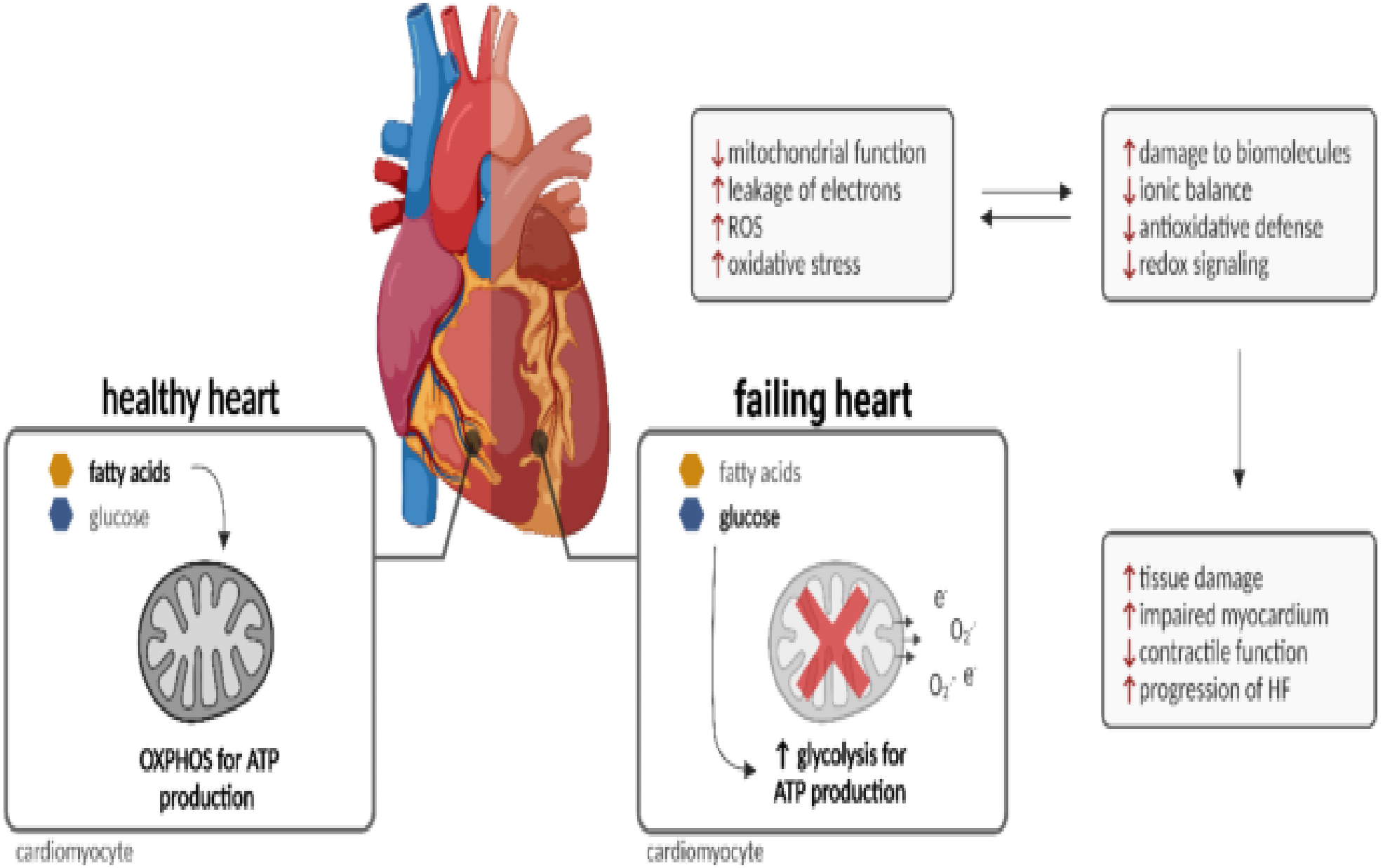


Table 8 **Evidence-based doses of disease-modifying drugs in key randomized trials in patients with heart failure with reduced ejection fraction**

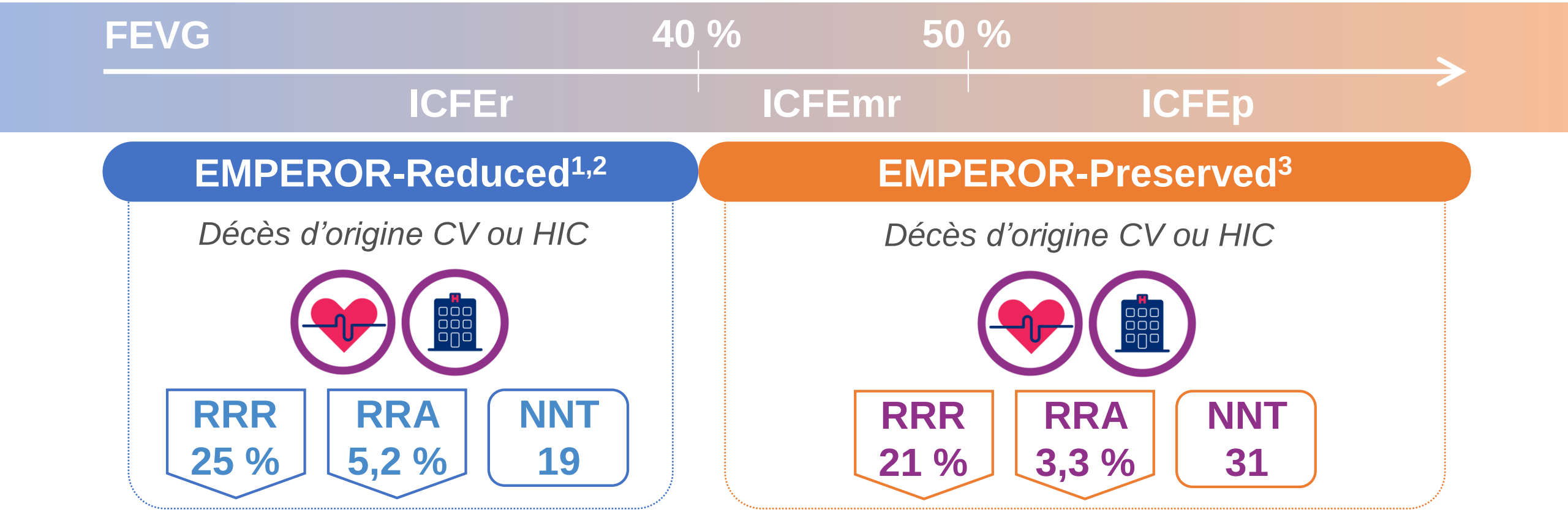
	Starting dose	Target dose
ACE-I		
Captopril[a]	6.25 mg *t.i.d.*	50 mg *t.i.d.*
Enalapril	2.5 mg *b.i.d.*	10—20 mg *b.i.d.*
Lisinopril[b]	2.5—5 mg *o.d.*	20—35 mg *o.d.*
Ramipril	2.5 mg *b.i.d.*	5 mg *b.i.d.*
Trandolapril[a]	0.5 mg *o.d.*	4 mg *o.d.*
ARNI		
Sacubitril/valsartan	49/51 mg *b.i.d.*[c]	97/103 mg *b.i.d.*
Beta-blockers		
Bisoprolol	1.25 mg *o.d.*	10 mg *o.d.*
Carvedilol	3.125 mg *b.i.d.*	25 mg *b.i.d.*[e]
Metoprolol succinate (CR/XL)	12.5—25 mg *o.d.*	200 mg *o.d.*
Nebivolol[d]	1.25 mg *o.d.*	10 mg *o.d.*
MRA		
Eplerenone	25 mg *o.d.*	50 mg *o.d.*
Spironolactone	25 mg *o.d.*[f]	50 mg *o.d.*
SGLT2 inhibitor		
Dapagliflozin	10 mg *o.d.*	10 mg *o.d.*
Empagliflozin	10 mg *o.d.*	10 mg *o.d.*



European Heart Journal (2021) 42, 35993726

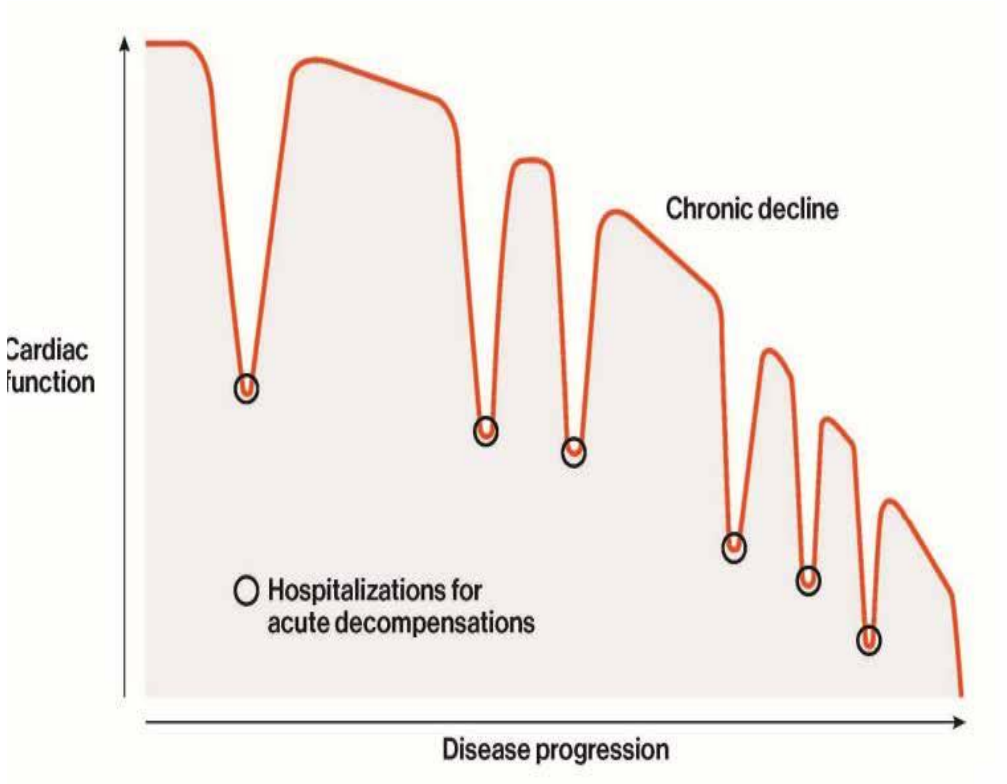

healthy heart
fatty acids
glucose
OXPHOS for ATP production
cardiomyocyte
failing heart
fatty acids
glucose
e⁻
O2
O2⁻ e⁻
↑ glycolysis for ATP production
cardiomyocyte
↓mitochondrial function
↑leakage of electrons
↑ROS
↑oxidative stress
↑damage to biomolecules
↓ionic balance
↓antioxidative defense
↓redox signaling
↑tissue damage
↑impaired myocardium
↓contractile function
↑progression of HF

L’empagliflozine est le premier et le seul traitement approuvé en Algérie dont il a été démontré qu’il améliore les résultats cardiovasculaires de l’ensemble des patients atteints d’IC, y compris les patients ayant une FEVG >40 %



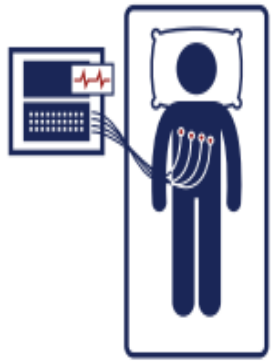
ARR, absolute risk reduction; CV, cardiovascular; HF, heart failure; HFmrEF, heart failure with mildly reduced ejection fraction; HFpEF, heart failure with preserved ejection fraction; HFrEF, heart failure with reduced ejection fraction; HHF, hospitalization for heart failure; LVEF, left ventricular ejection fraction; NNT, number needed to treat; RRR, relative risk reduction.

1. Packer M *et al. N Engl J Med*. 2020;383:1413; 2. Butler J *et al. Eur J Heart Fail*. 2020;22:1991; 3. Anker SD *et al. N Engl J Med.* 2021;385:1451.



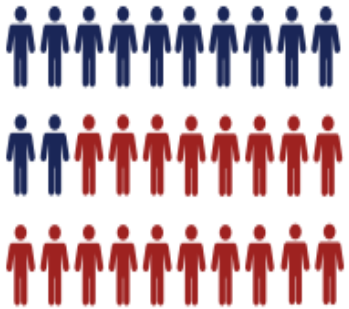
5 YEAR

SURVIVAL RATE FOR **HEART FAILURE** IS **WORSE** THAN BREAST OR PROSTATE CANCER[vi]



UP TO **40%**

of people diagnosed with heart failure die within one year.[viii]



THE MORTALITY

of patients hospitalised with heart failure remains high overall at **10.1%**[vii]

Case Report

Patient Information

- K.A, 26 years old (Born: 23/08/1996) Man
- Residence: Algiers

- Diagnostic : Heart Failure due to dilated cardiopathy with severe LV dysfunction.

Medical History

- 2013: Diagnosed with acute leukemia, treated with chemotherapy, complicated by cardiotoxicity, leading to severe left ventricular dysfunction.
- Followed up in pediatrics and later by a private cardiologist.
- 2023: Referred to our consultation.
- February 21, 2024: Hospitalized for the management of global heart failure decompensation.
- Hospitalized multiple times for episodes of heart failure.

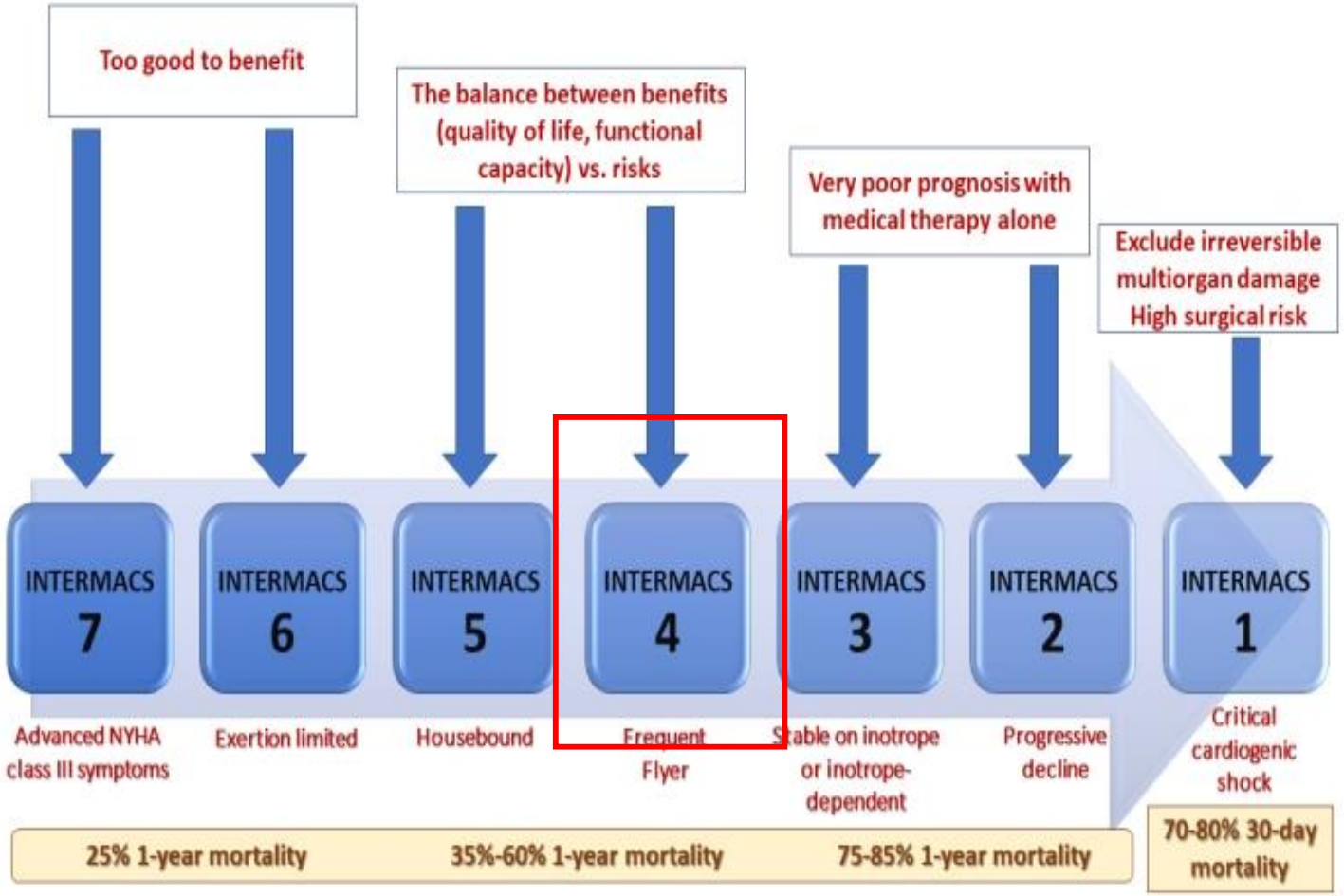
	Clinical examination
General Status (GS)	- Blood Pressure (BP): 88/60 mmHg - Heart Rate (HR): 90 bpm - Oxygen Saturation (SpO2): 98% on room air - T°: 37,2°C - Weight: 83 kg, Heigh : 180 cm BMI: 25,6 kg/m²
Functional Status (FS)	Dyspnea: NYHA Class IV

	Clinical examination
Physical Signs (SP)	**Cardiac Examination:** - Heart sounds are audible. **Pulmonary Auscultation**: - crackles present at both lung bases. **Peripheral Circulation:** - Peripheral pulses are present and symmetric. **Other Findings:** - No signs of right-sided heart failure. - No significant abnormalities detected on general examination.

INTERMACS profils

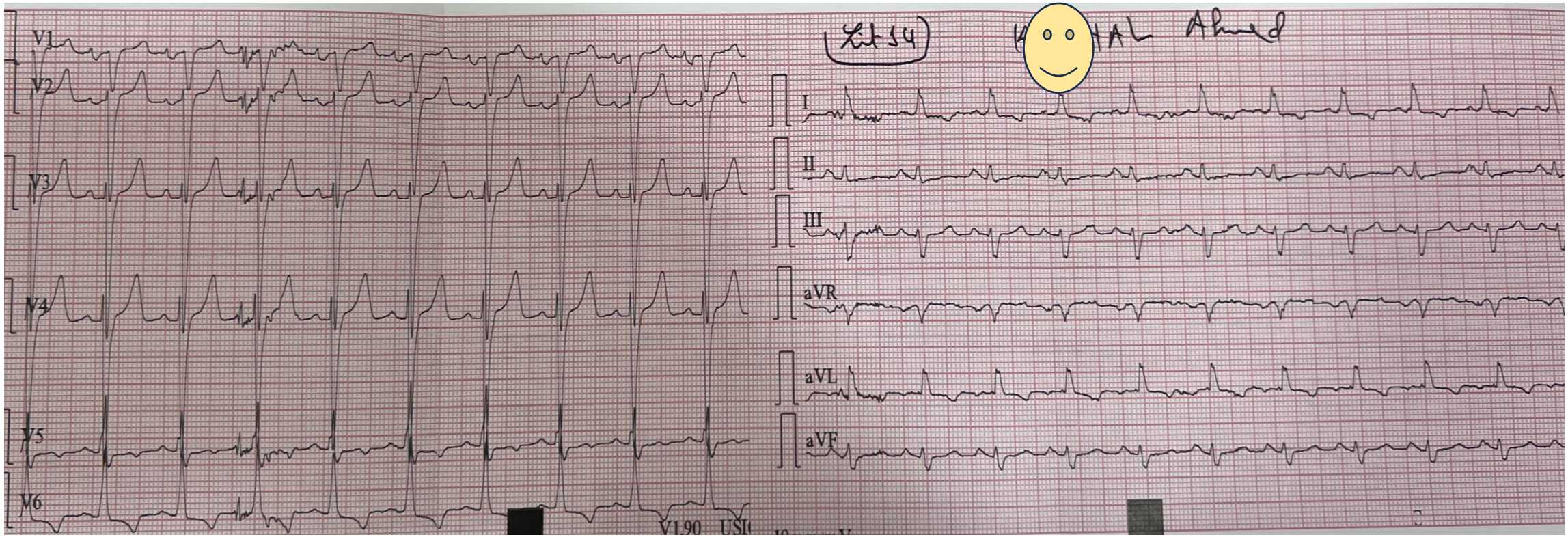
Profils	Descriptions	Indications à l'assistance circulatoire chronique
1	Choc cardiogène critique	– (*)
2	Péjoration progressive malgré inotropes	± (*)
3	Stable mais non sevrable des inotropes	+
4	Symptômes de repos à domicile sous thérapie orale maximale	+
5	Intolérance complète à tout exercice	±
6	Limitation lors de tout exercice	–
7	Classe NYHA III avancée	–

(*) indication à l'assistance circulatoire de courte durée, par exemple en pont à une assistance de plus longue durée (Bridge to bridge, BTB) ou en pont à la décision (Bridge to decision, BTD).
INTERMACS: Interagency registry for mechanically assisted circulatory support; NYHA: New York Heart Association.

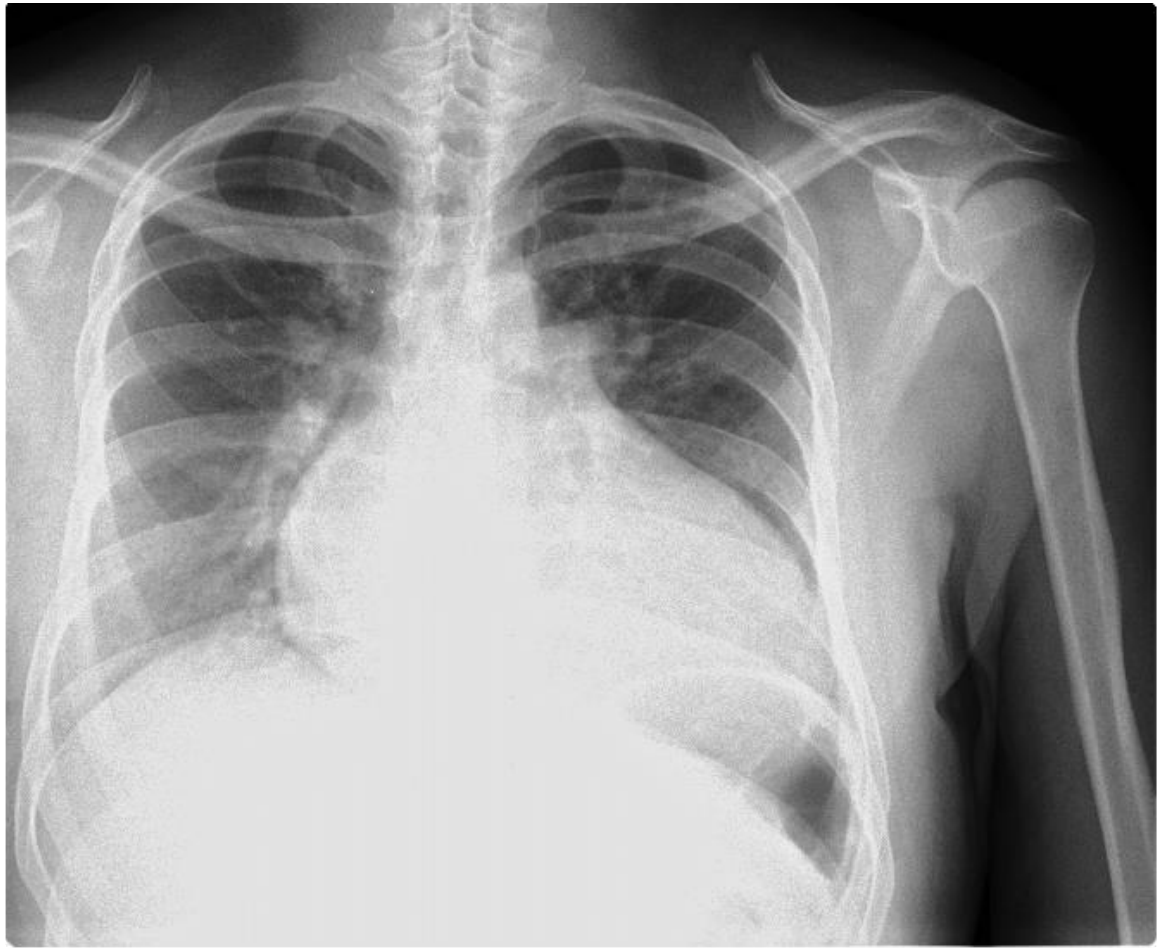


Electrocardiogram (ECG)

- Rhythm: Regular sinus rhythm , HR 90 bpm.
- Incomplete left bundle branch block (LBBB).



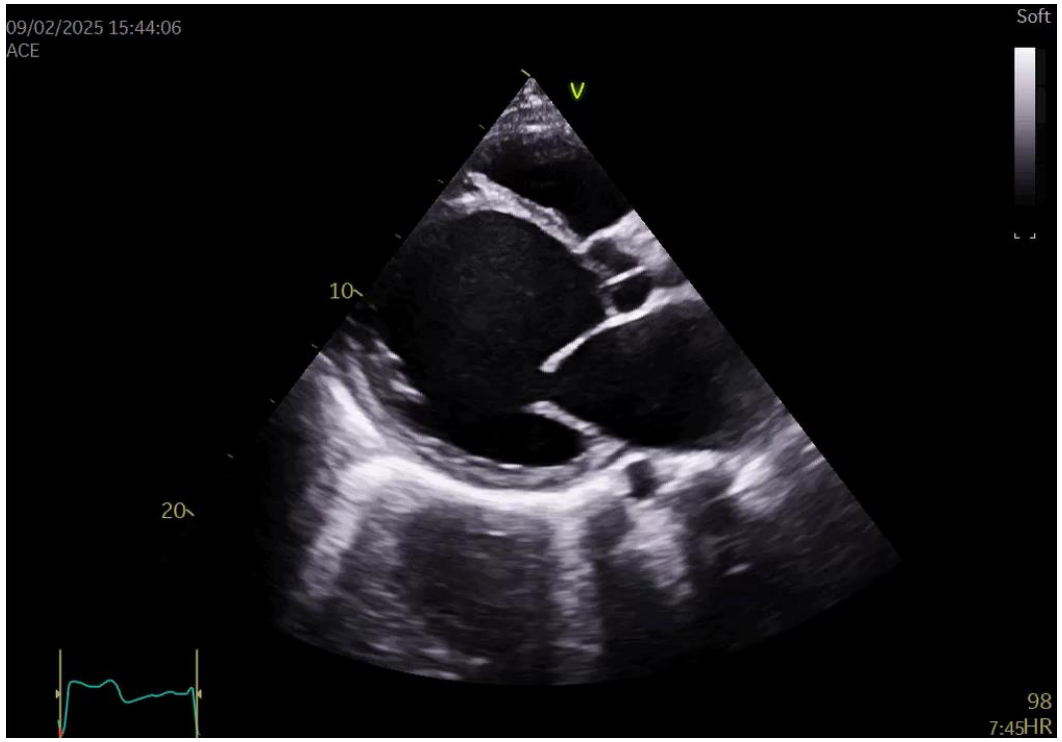
Chest X ray

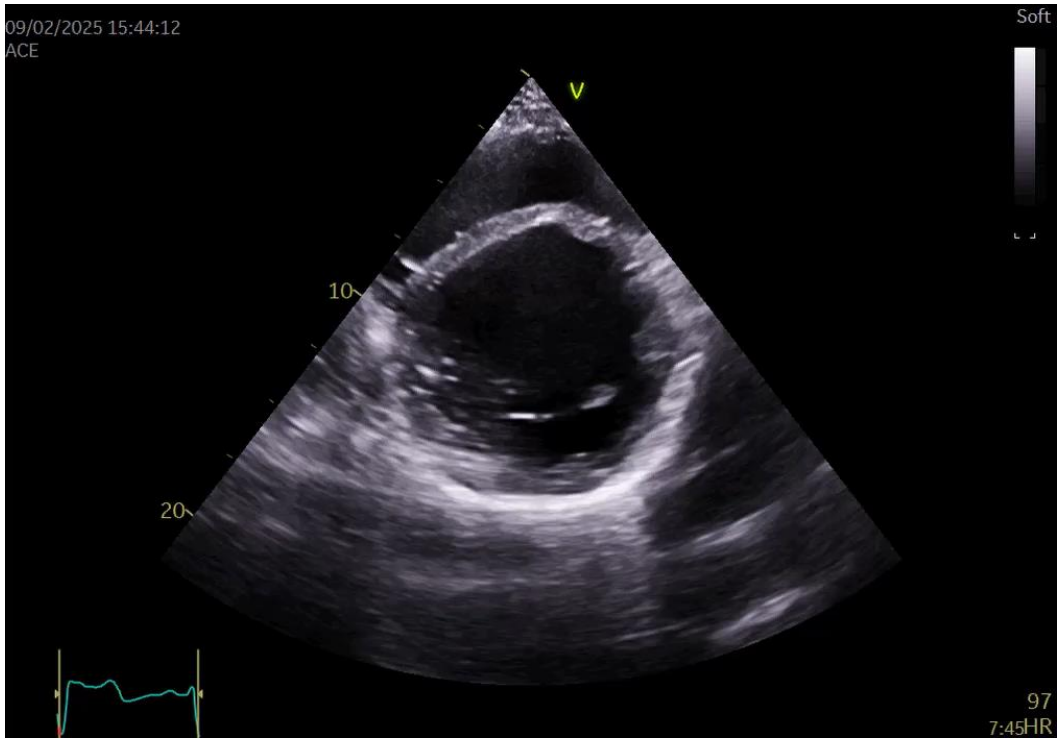


Laboratory testing

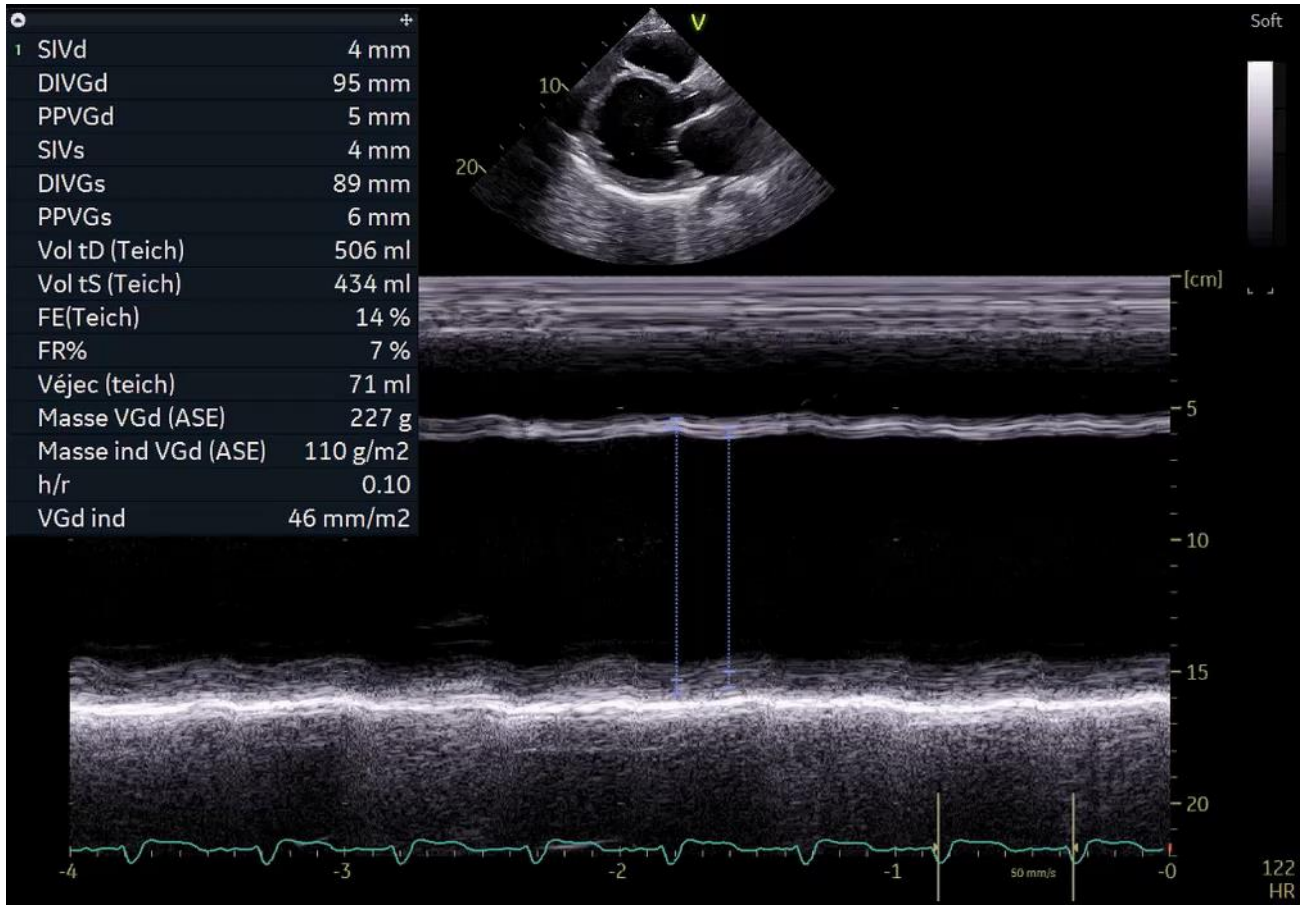
Complete Blood Count (CBC)	White Blood Cells (WBC): 10700/mm³	Hemoglobin (Hb): 12 g/dL Hte: 34.2 %	Platelets (Plt): 244000 /mm³
Serum Electrolytes	Na+: 132	K+: 4.1	
Renal Function	Urea: 0.44 g/L	Créat: 10 mg/l GFR: 68 ml/min/1,73 m2	
Biomarqueurs cardiaques	Troponine -	**NTproBNP: 16816 pg/ml**	
Hemostase	Prothrombin Time (PT): 32 %	INR: 2.1	
Other Investigations	- Infectious Workup: - Liver Function Tests: Normal. - Thyroid-Stimulating Hormone (TSH): Normal. - Serologies: Negative.	C-Reactive Protein (CRP): 63 g/l	

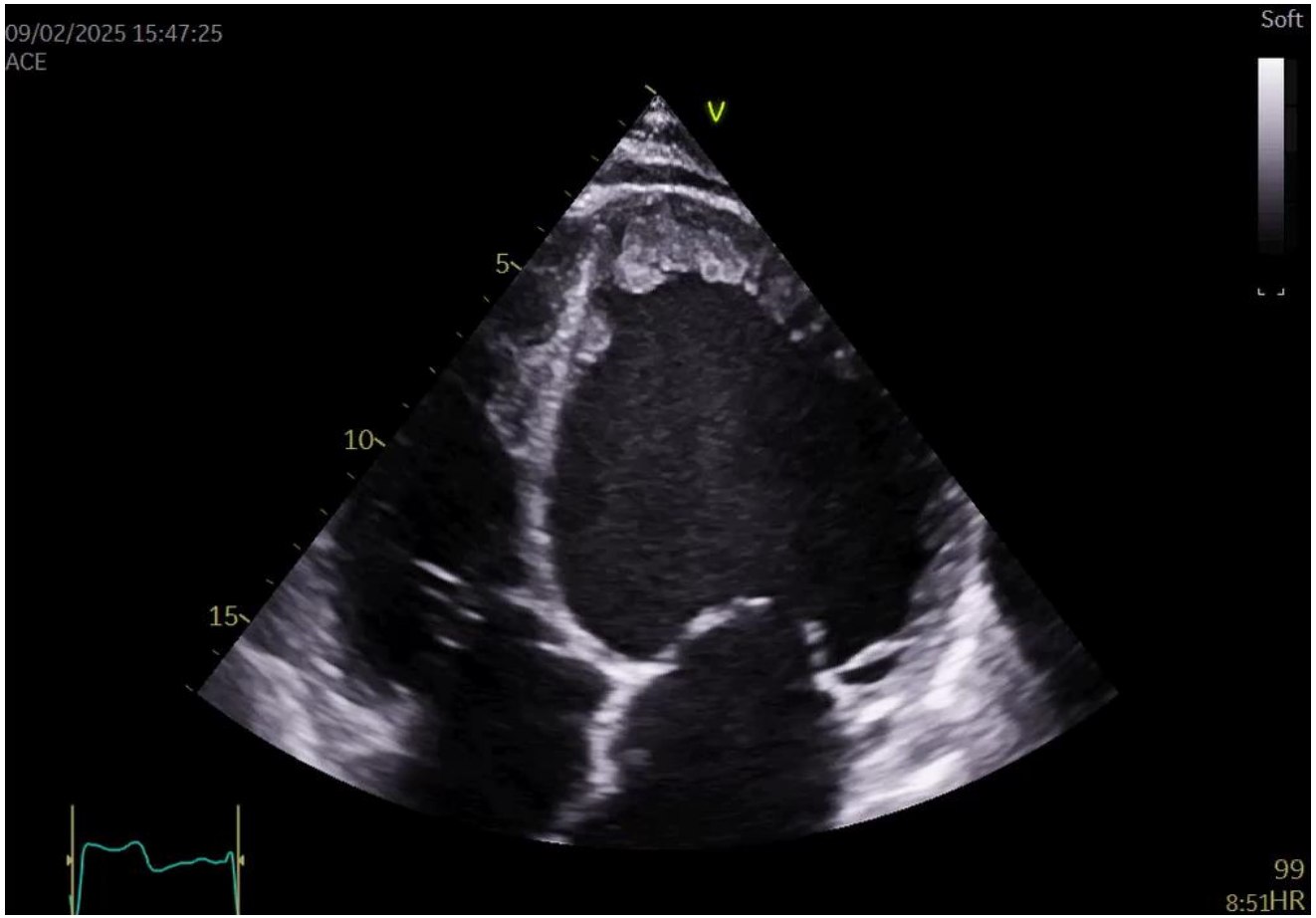
Echocardiography

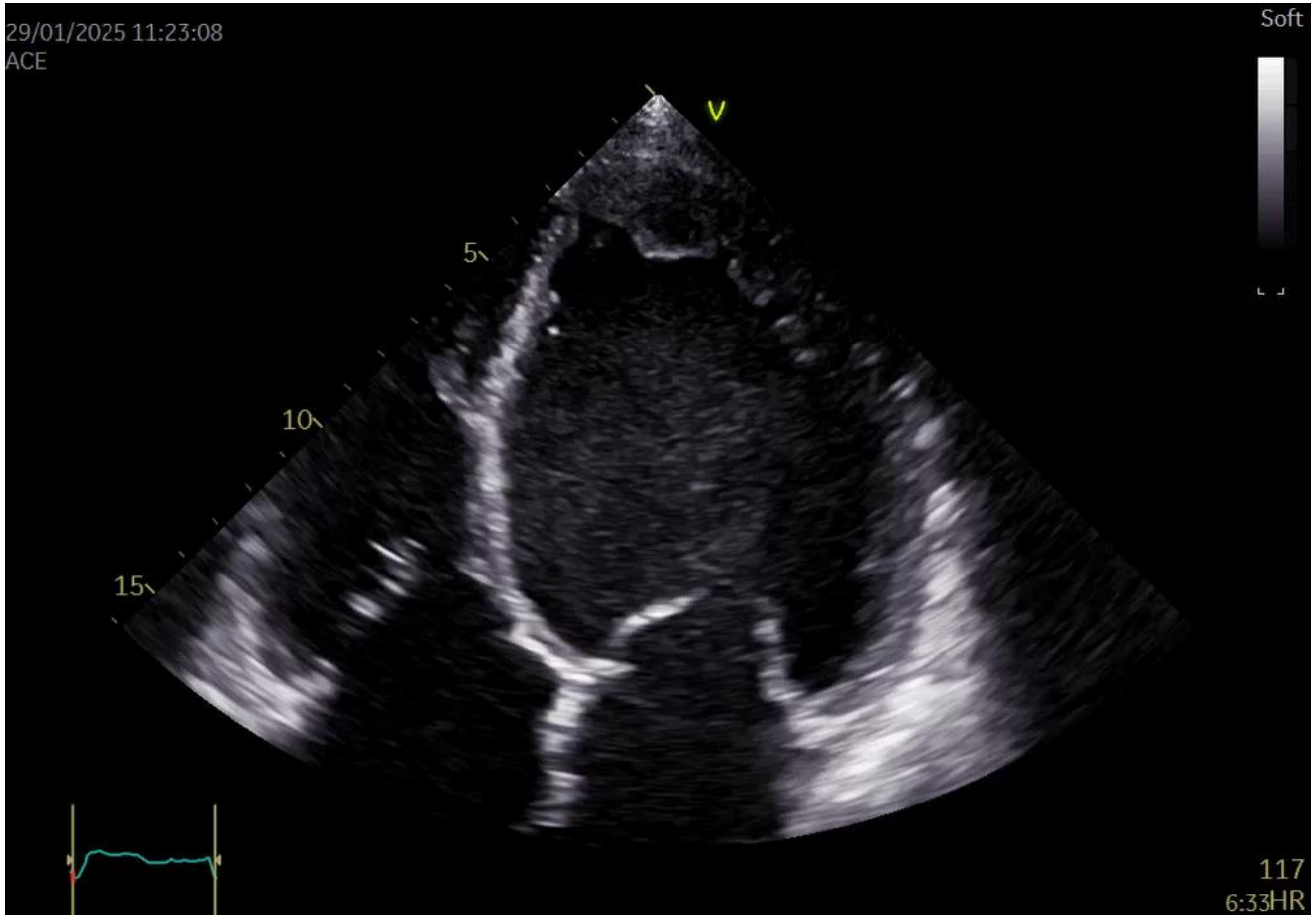


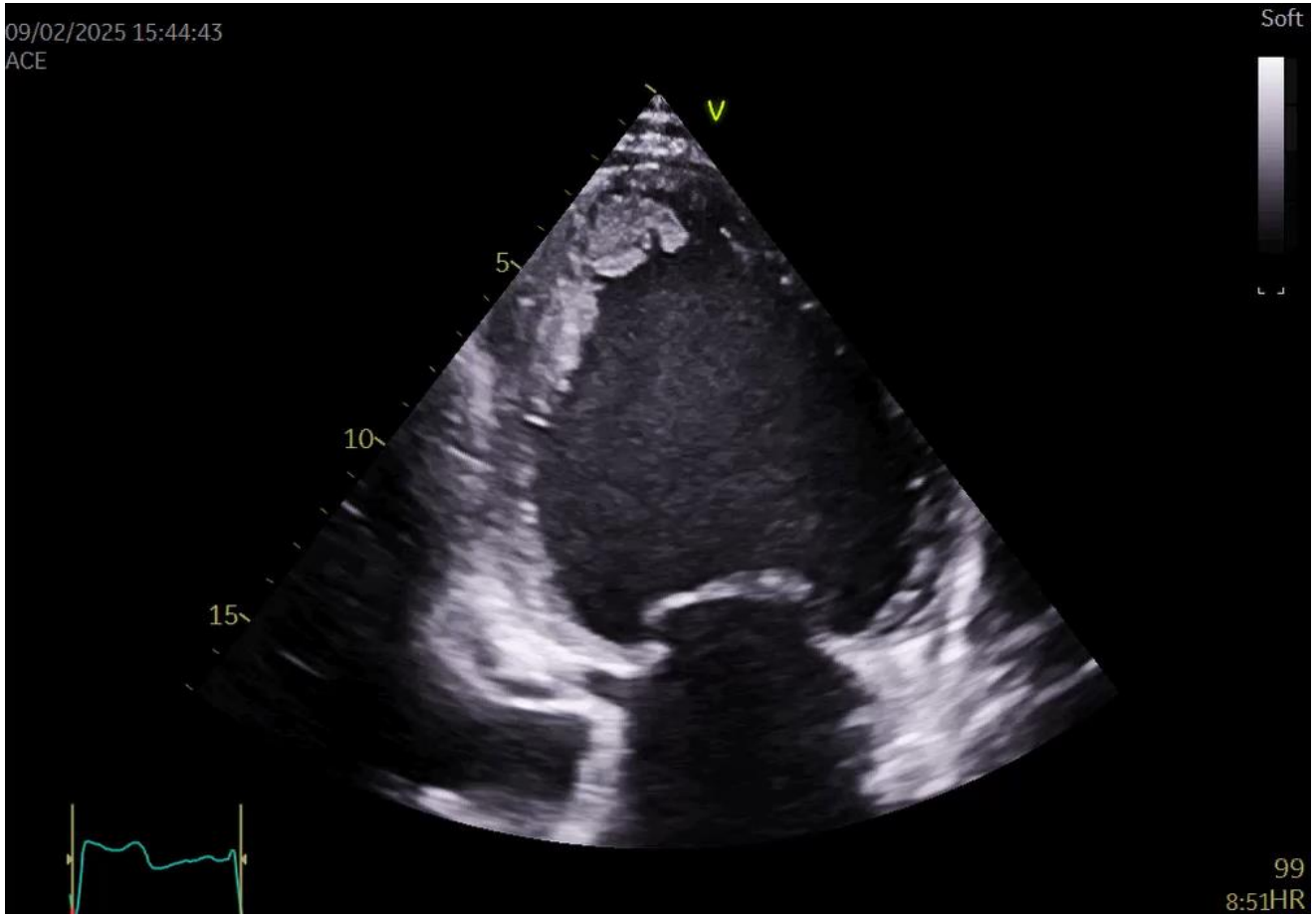


LV dimensions




09/02/2025 15:47:25
ACE
Soft
V
5
10
15
99
8:51HR


29/01/2025 11:23:08
ACE
Soft
5
10
15
117
6:33HR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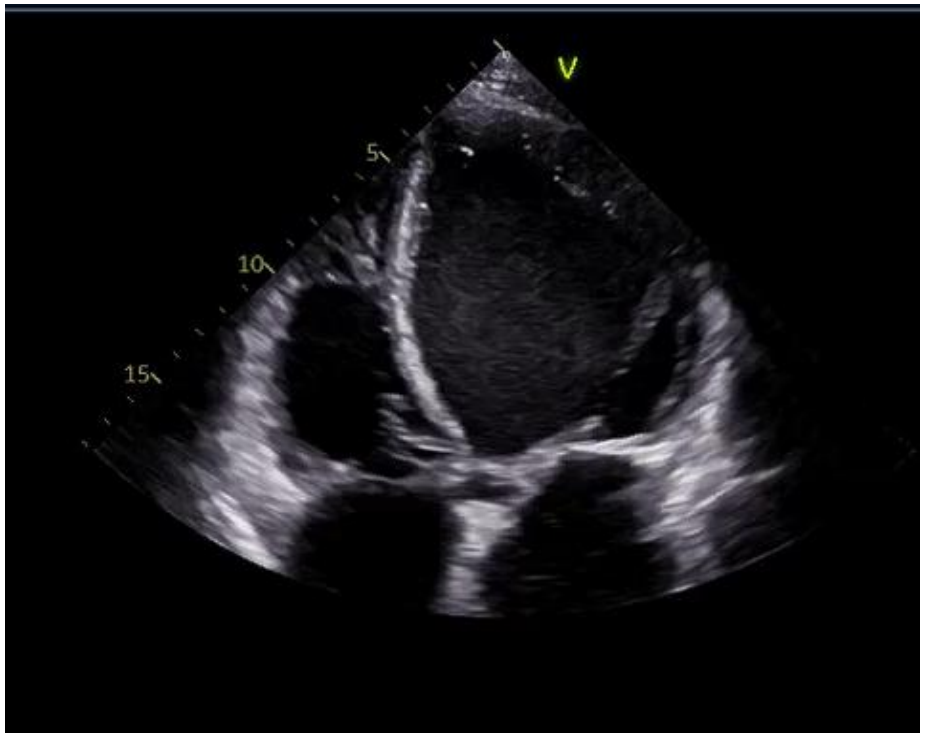
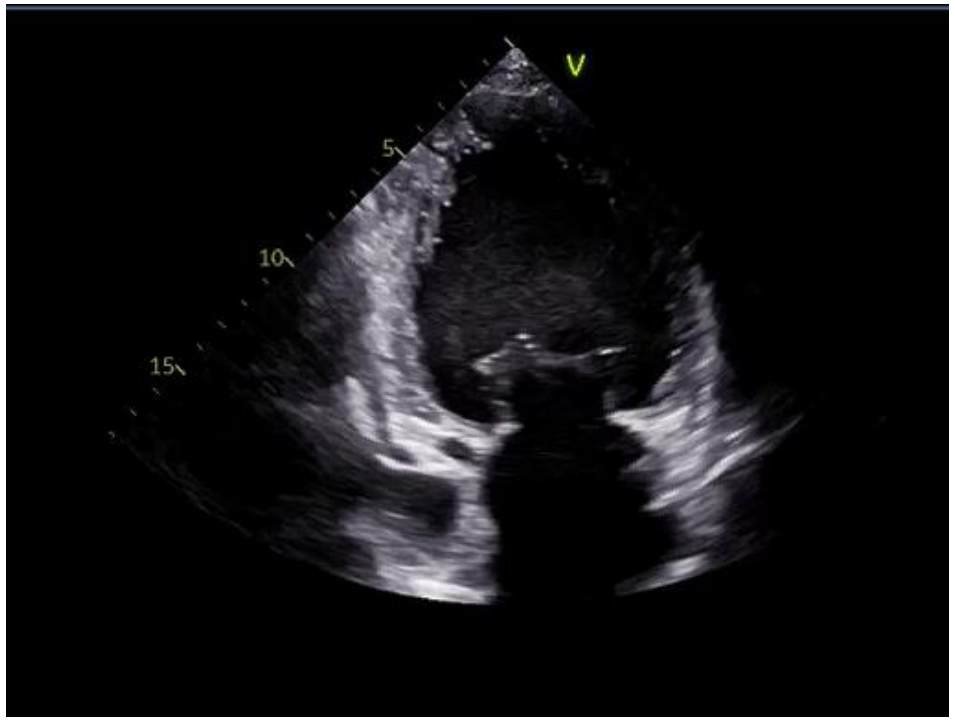
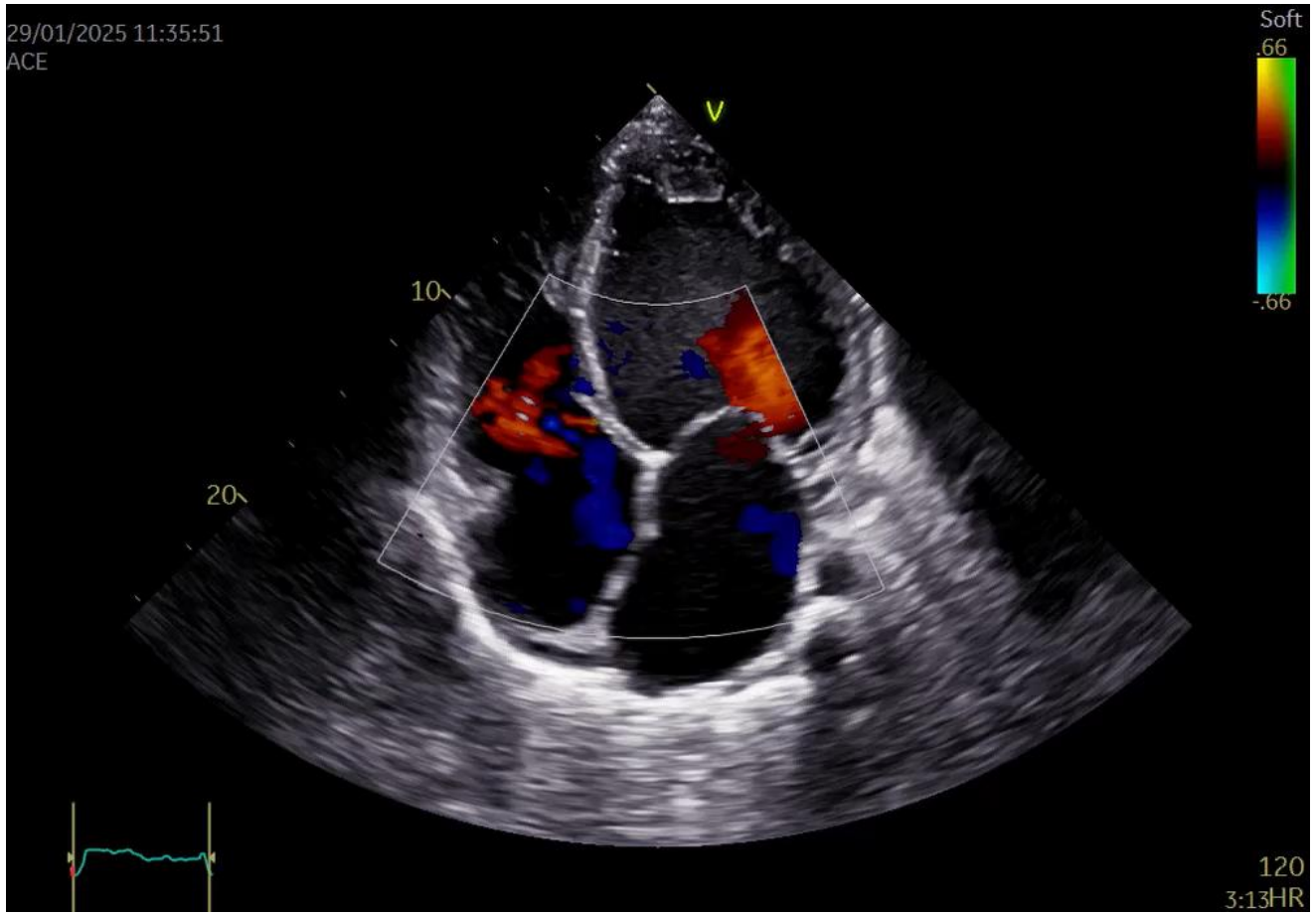
ACE
Soft
V
5
10
15
99
8:51HR

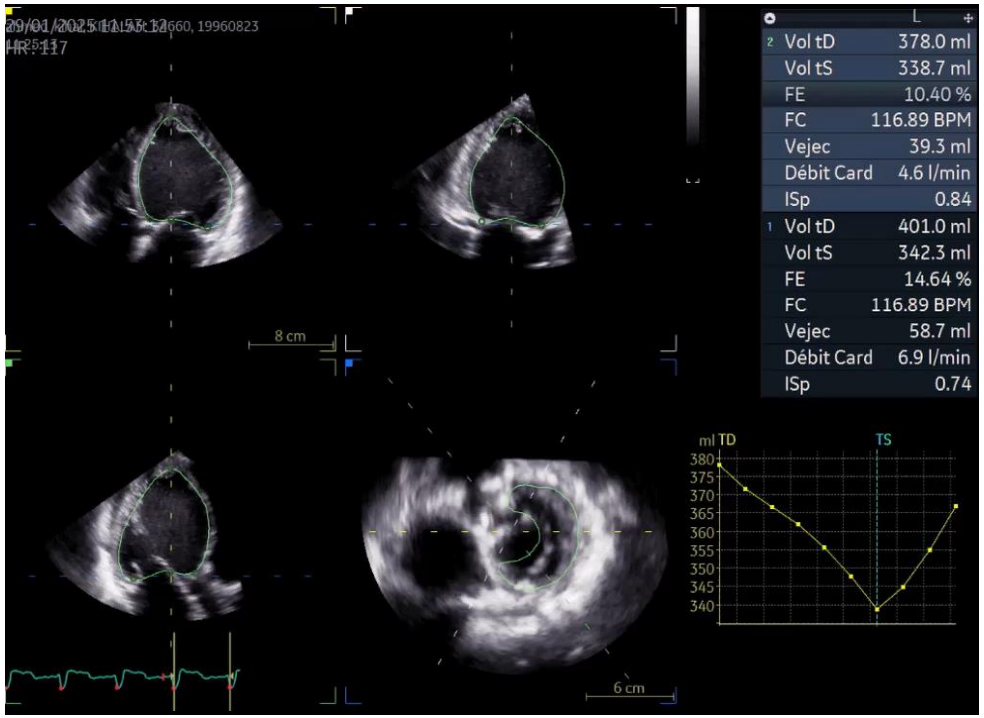


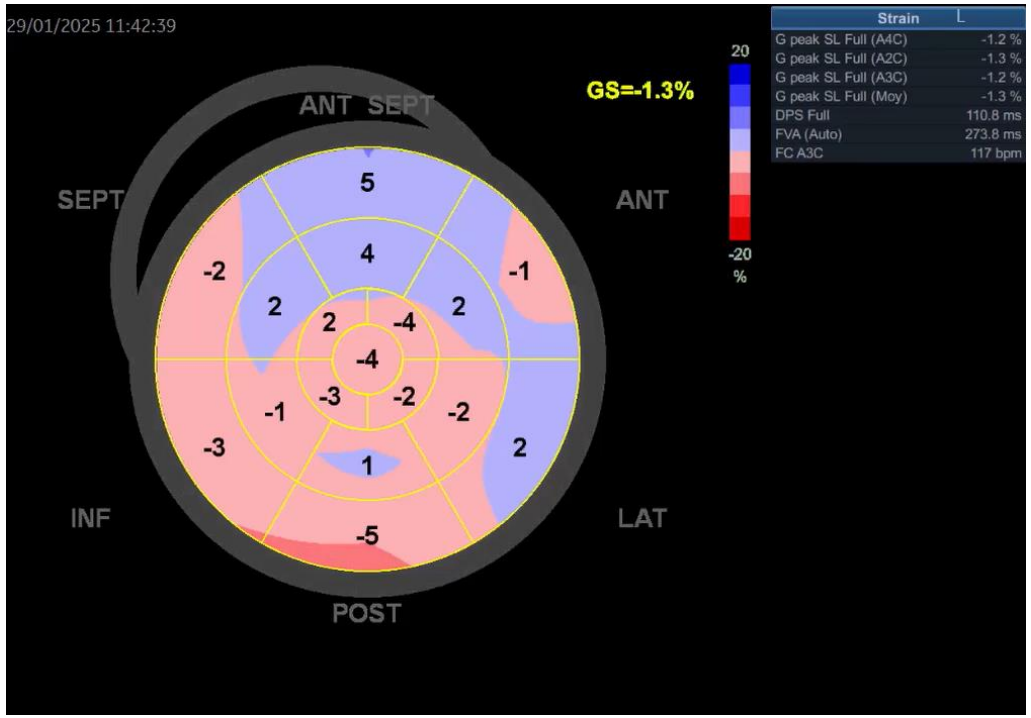


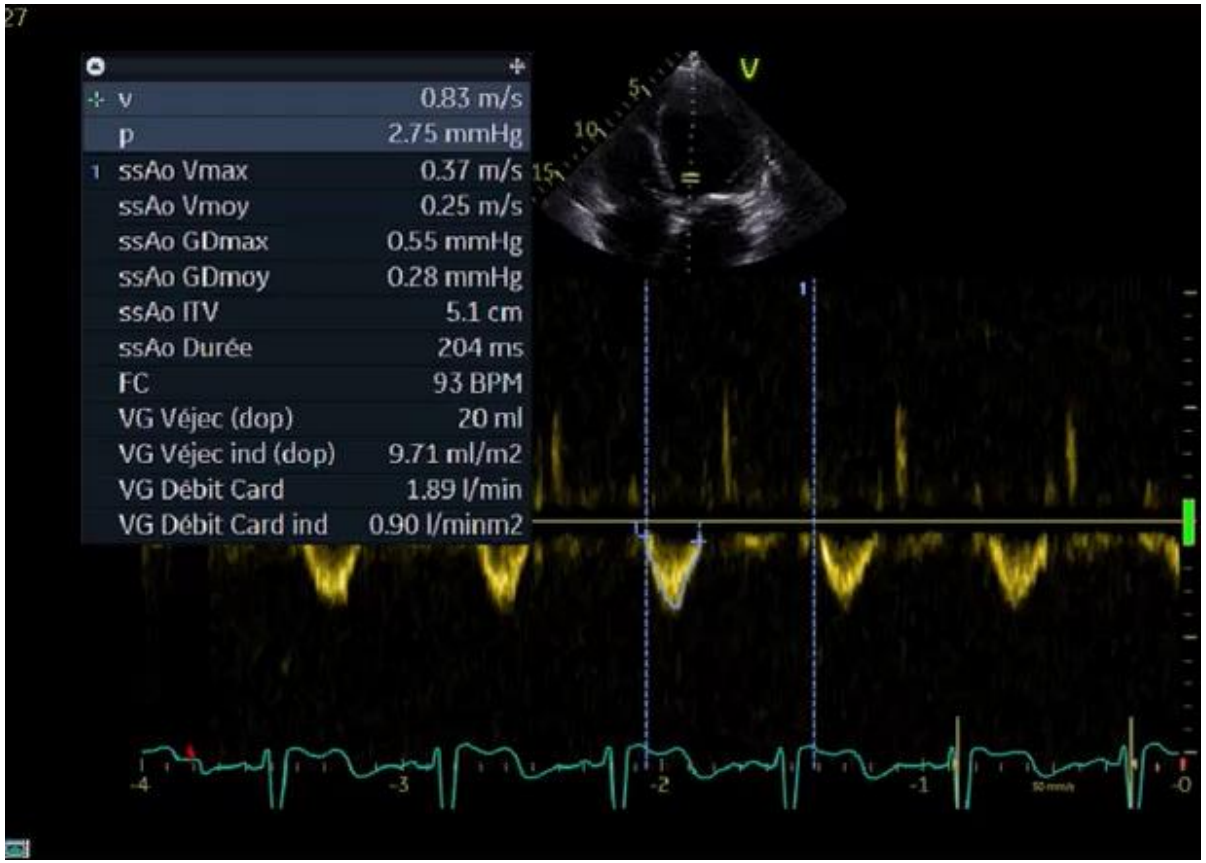
Reduction of thrombus under anticoagulant therapy


29/01/2025 11:35:51
ACE
V
10
20
Soft
.66
-.66
120
3:13HR

LV function


HR 117
8 cm
6 cm
L
Vol tD 378.0 ml
Vol tS 338.7 ml
FE 10.40 %
FC 116.89 BPM
Vejec 39.3 ml
Débit Card 4.6 l/min
ISp 0.84
Vol tD 401.0 ml
Vol tS 342.3 ml
FE 14.64 %
FC 116.89 BPM
Vejec 58.7 ml
Débit Card 6.9 l/min
ISp 0.74
ml TD
TS
380
375
370
365
360
355
350
345
340

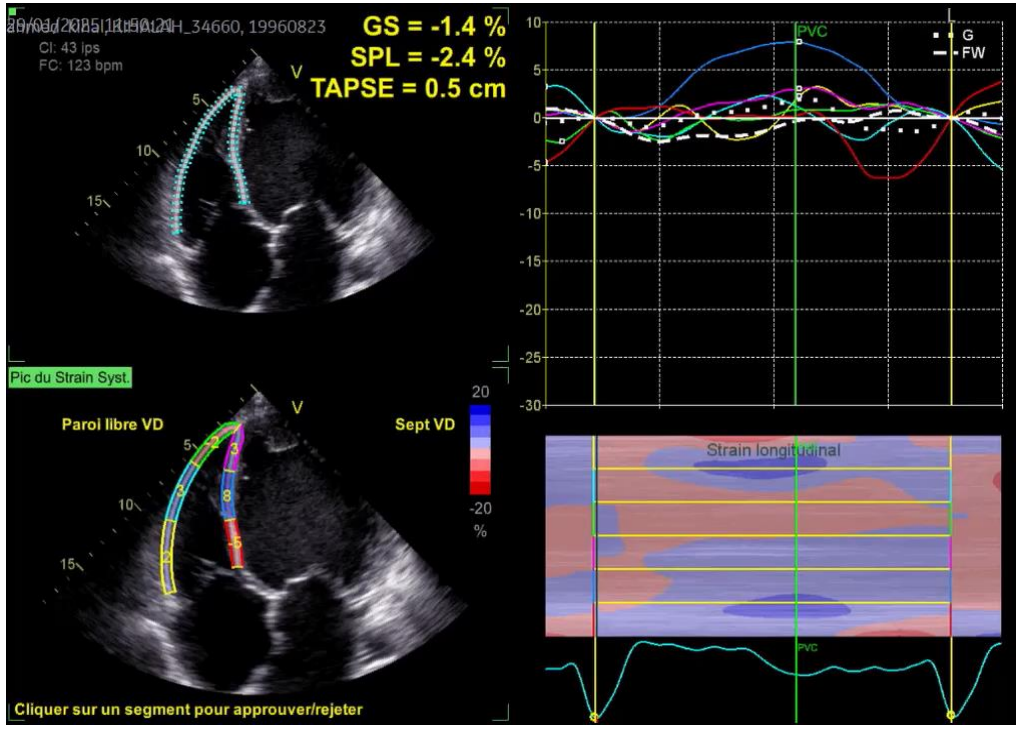

29/01/2025 11:42:39
GS=-1.3%
ANT SEPT
SEPT
ANT
INF
LAT
POST
20
-20
%
5
4
-2
-1
2
2
2
-4
-4
-3
-2
-1
-2
-3
2
1
-5
Strain L
G peak SL Full (A4C) -1.2 %
G peak SL Full (A2C) -1.3 %
G peak SL Full (A3C) -1.2 %
G peak SL Full (Moy) -1.3 %
DPS Full 110.8 ms
FVA (Auto) 273.8 ms
FC A3C 117 bpm



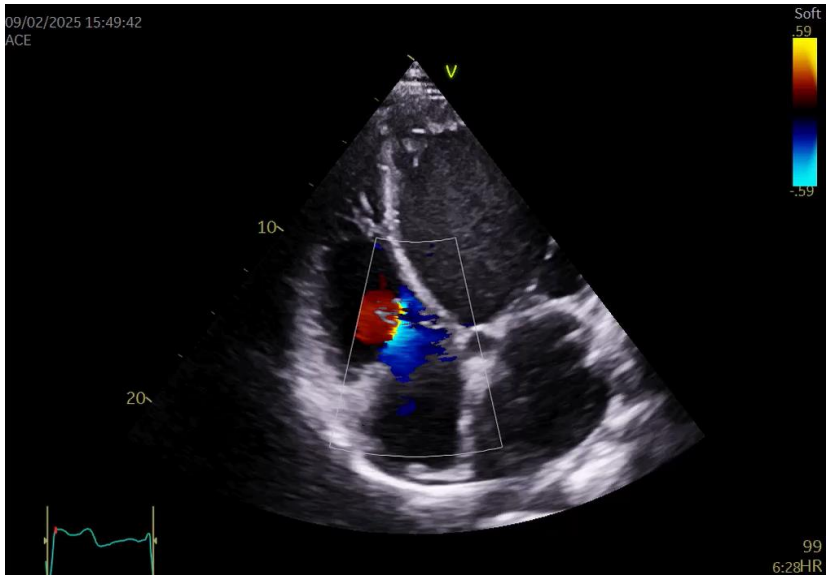
Cardic Index : 0.9 l/mn/m2

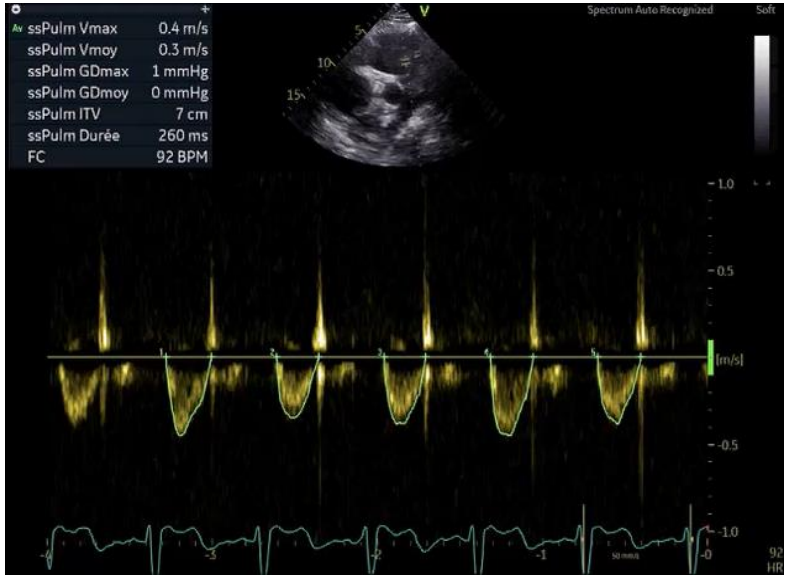
RV function

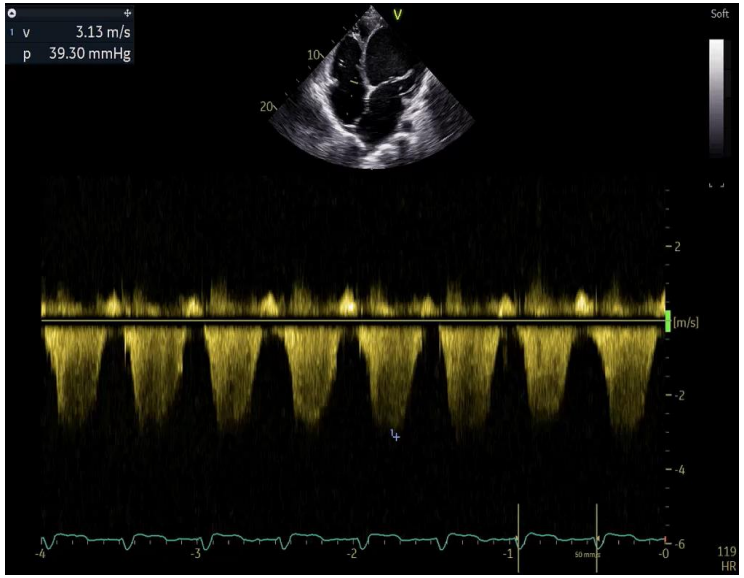

A4C
PAXE - méd
Feuille de travail
Vol TD VD 111 ml
Vol TS VD 60 ml
FE VD 46.4 %
VE VD 52 ml
Vol VD TD ind 54 ml/m2
Vol VD TS ind 29 ml/m2
VEjec VD ind 25 ml/m2
Dd base VD 45 mm
Dd méd VD 38 mm
Ld VD 92 mm
TAPSE 13 mm
FAC VD 40.1 %
Volume
TD
TS
120
100
80
60
40


CI: 43 ips
FC: 123 bpm
GS = -1.4 %
SPL = -2.4 %
TAPSE = 0.5 cm
PVC
G
FW
Pic du Strain Syst.
Paroi libre VD
Sept VD
20
-20
%
Strain longitudinal
Cliquer sur un segment pour approuver/rejeter

Pulmonary pressures







Mild TR

Pulm ITV: 6 cm

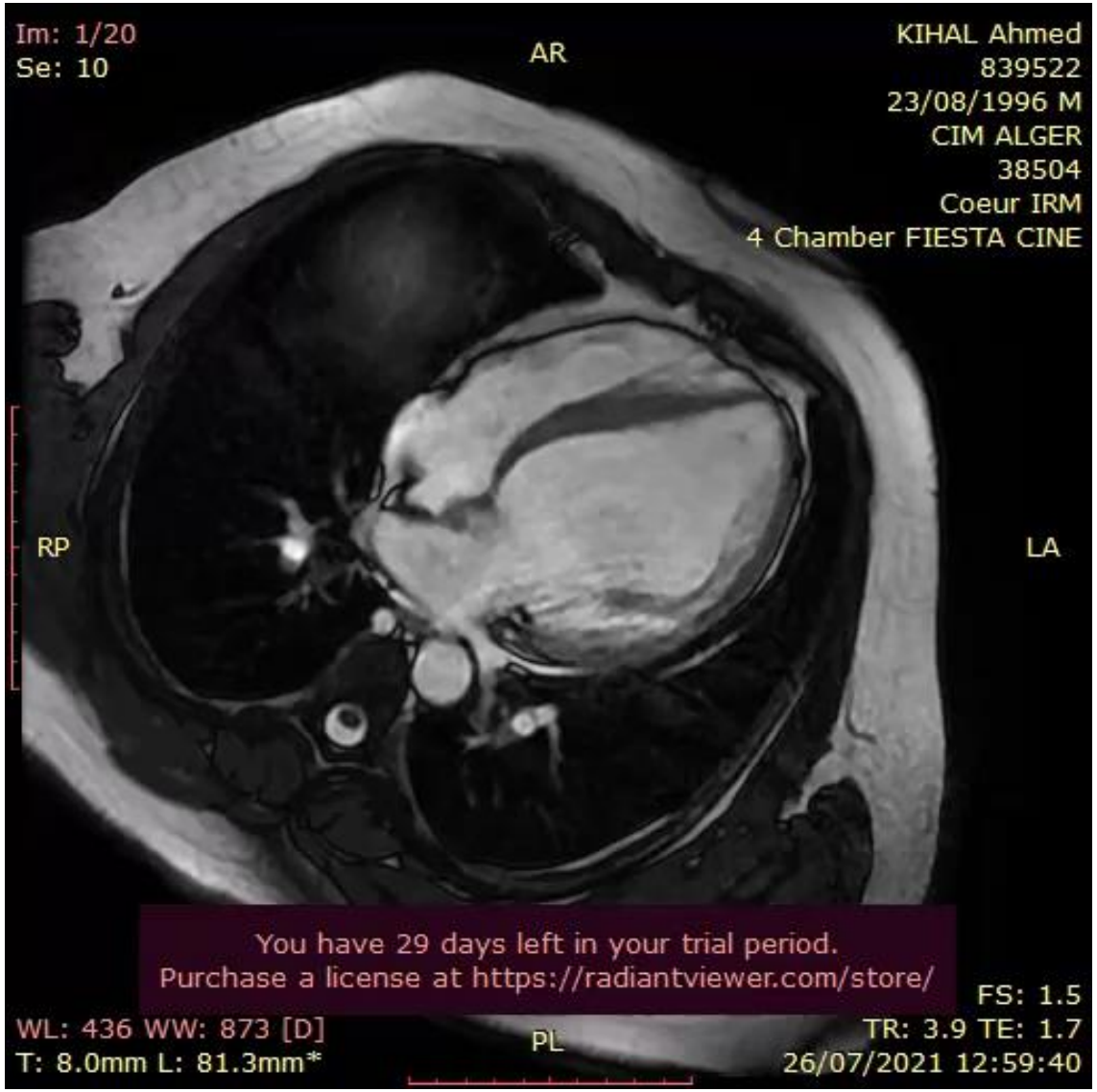
V max RT: 3.13 m/s

Pulmonary Resistance: 5,2 W

Echocardiography Findings

- Severe Left Ventricular Dysfunction: dilated cardiomyopathy with a severely reduced ejection fraction (EF) of 15 %
- Left Ventricular Dilatation: Dilated left ventricle with global hypokinesia
- LVEDD/LVESD: 90 mm/86 mm.
- Elevated Left Atrial Filling Pressures
- LV Thrombus
- Normal RV function (RVEF 40%).
- Moderate Probability of Pulmonary Hypertension (PH).

Cardiac MRI


Im: 1/20
Se: 10
AR
KIHAL Ahmed
839522
23/08/1996 M
CIM ALGER
38504
Coeur IRM
4 Chamber FIESTA CINE
RP
LA
You have 29 days left in your trial period.
Purchase a license at https://radiantviewer.com/store/
FS: 1.5
WL: 436 WW: 873 [D]
TR: 3.9 TE: 1.7
T: 8.0mm L: 81.3mm*
PL
26/07/2021 12:59:40

Medication

- Bisoprolol 10mg /j
- Sacubutril/valsartan 49/51mg ½ cp 2x/
- Dapaglifozine 10mg
- Spironolactone 75mg 1/2cp
- Furosémide 40mg 4cp/j
- Kalligan 4xj
- Sintrom 4mg 1/2cp

IDENTIFY ANY OF THE FOLLOWING TRIGGERS FOR REFERRAL TO A HEART FAILURE SPECIALIST[2]

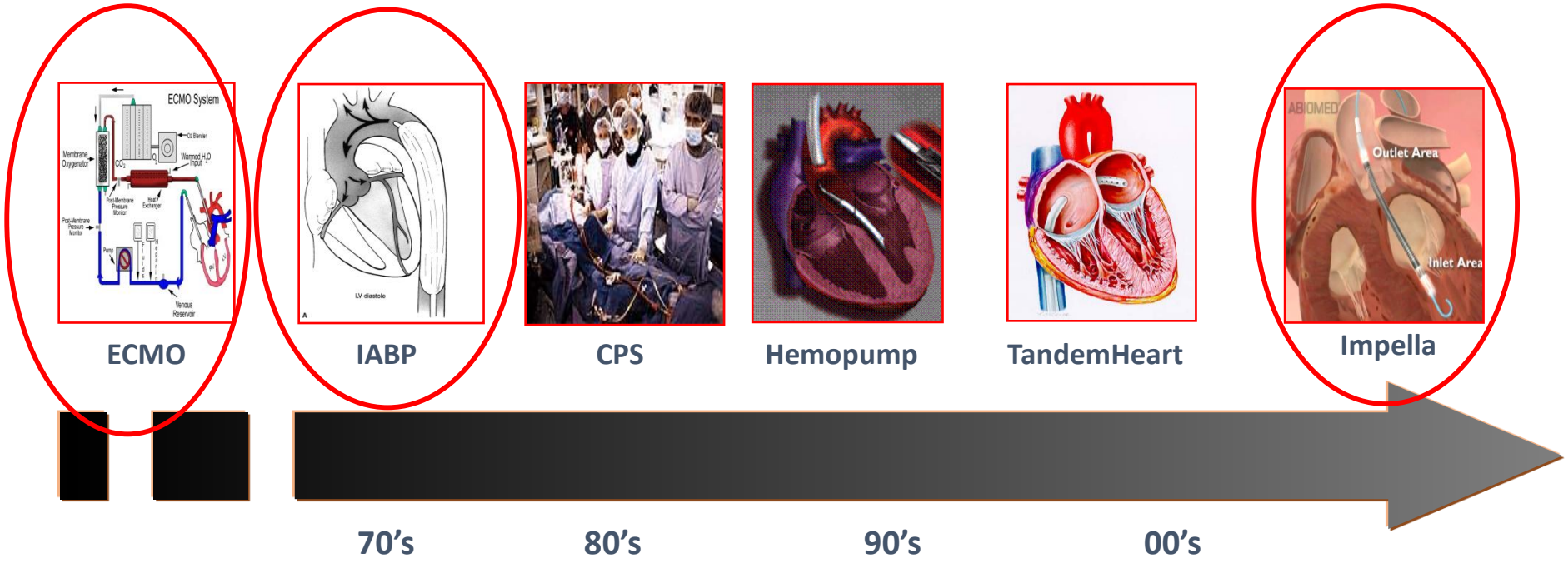
I	IV inotropes
N	NYHA IIIB/IV or persistently elevated natriuretic peptides
E	End-organ dysfunction (Cr > 1.8 mg/dL or BUN > 43 mg/dL)
E	EF ≤ 35%
D	Defibrillator shocks
H	Hospitalizations > 1 with heart failure
E	Edema (or elevated PA pressure) despite escalating diuretics
L	Low blood pressure, high heart rate
P	Prognostic medication – progressive intolerance or down-titration GDMT

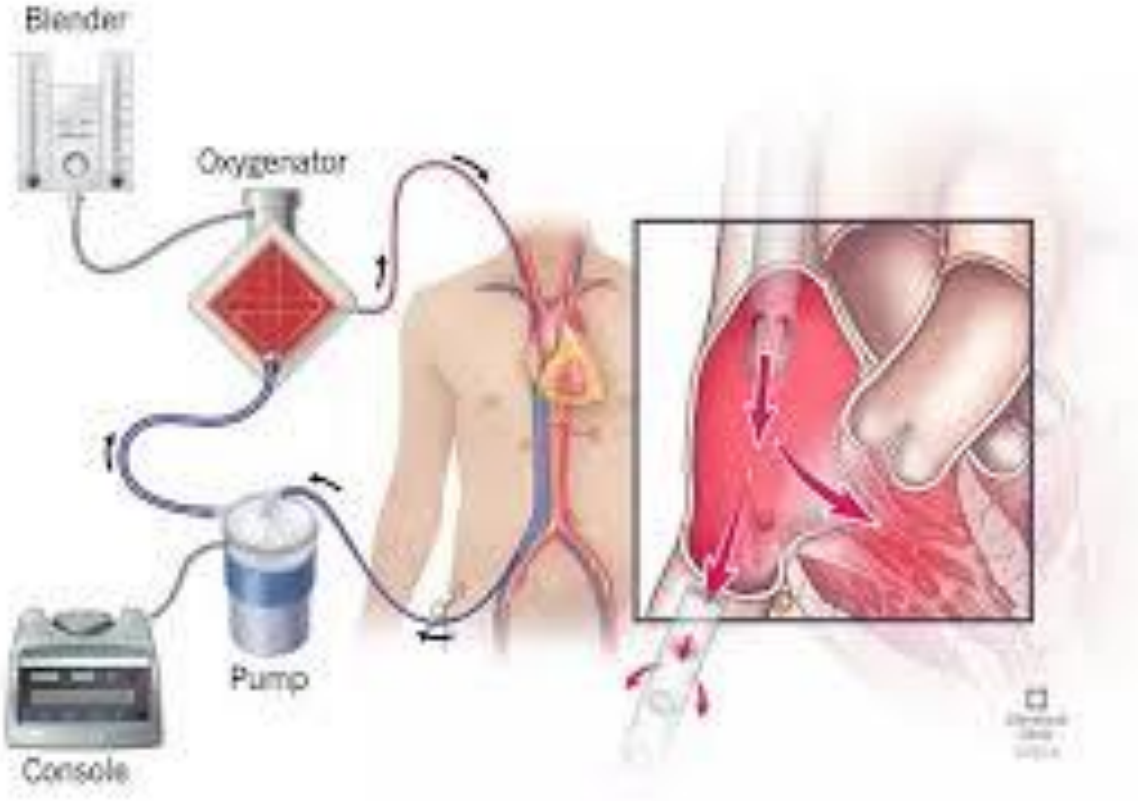
Patient summary

- H. N 28 years old
- **Heart Failure** due to dilated cardiomyopathy with severe LV dysfunction.
- NYHA Class IV
- Intermacs 4
- Lab testing:
  - normal renal function ,
  - **NTproBNP: 16816 pg/l**
- **TTE:**
  - LVEF 15 %
  - normal right ventricular function

Que faire?

Assistance Circulatoire Temporaire:
Exemples de Technologies





Advantages and disadvantages of VA and VV ECMO

ECMO type	Provides cardiac support	Difficulty of cannulation	Maintains pulmonary blood flow	PaO_2 achieved	Safe for patients with cardiac compromise
VA	Yes	Higher, arterial and venous	No, bypasses pulmonary circulation	Higher	Yes
VV	No	Less difficult, venous only	Yes	Lower	No

VA, veno-arterial; VV, veno-venous; ECMO, extracorporeal membrane oxygenation.

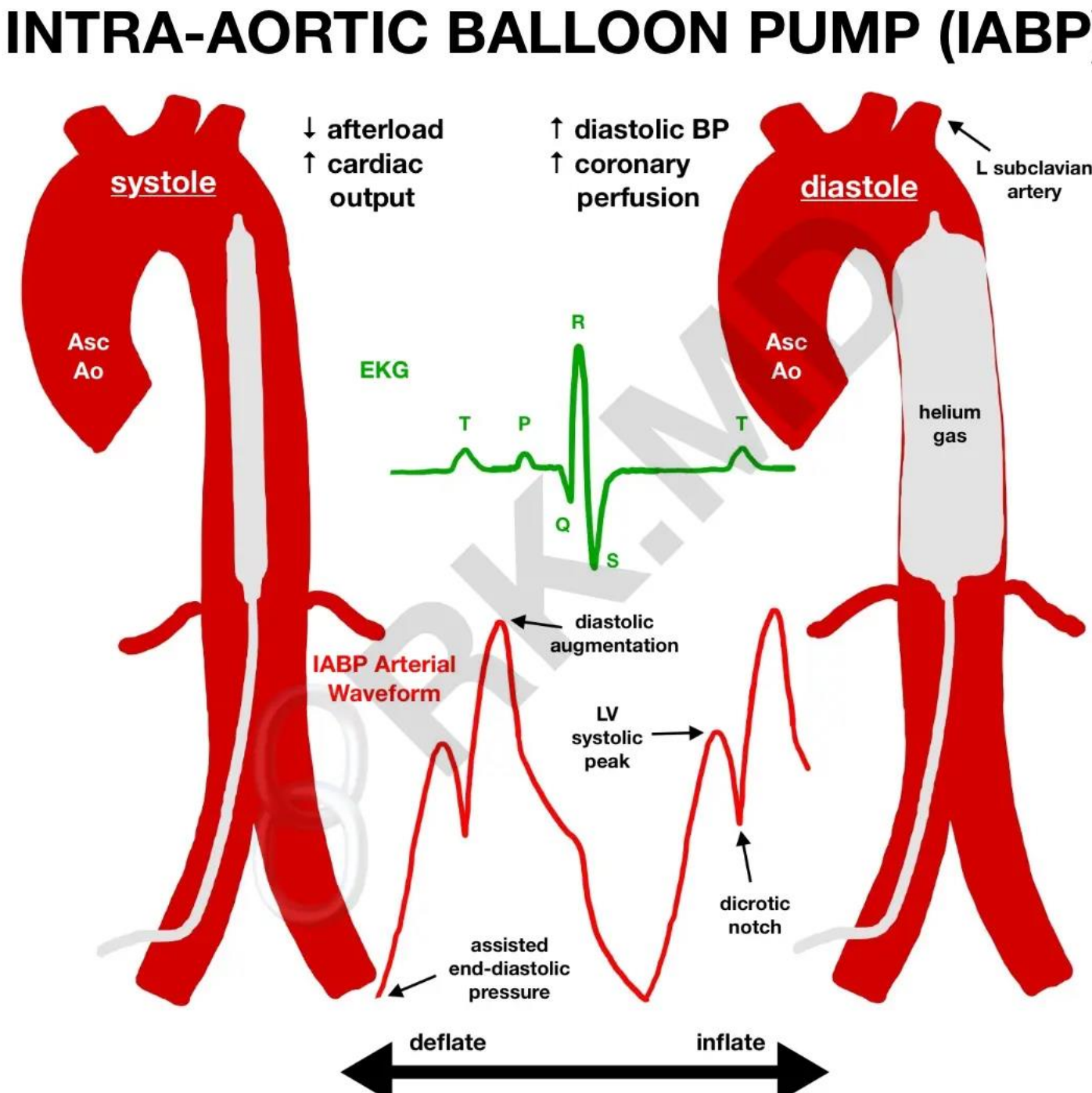
Avantages:

- Facile à utiliser
- Augmente la perfusion coronaire
- Réduit modérément la post-charge
- Coût réduit

Inconvénients:

- Nécessite un rythme cardiaque régulier
- Pas d'effet sur la pré-charge
- Efficacité hémodynamique limitée
- Pas d'efficacité clinique démontrée dans les essa

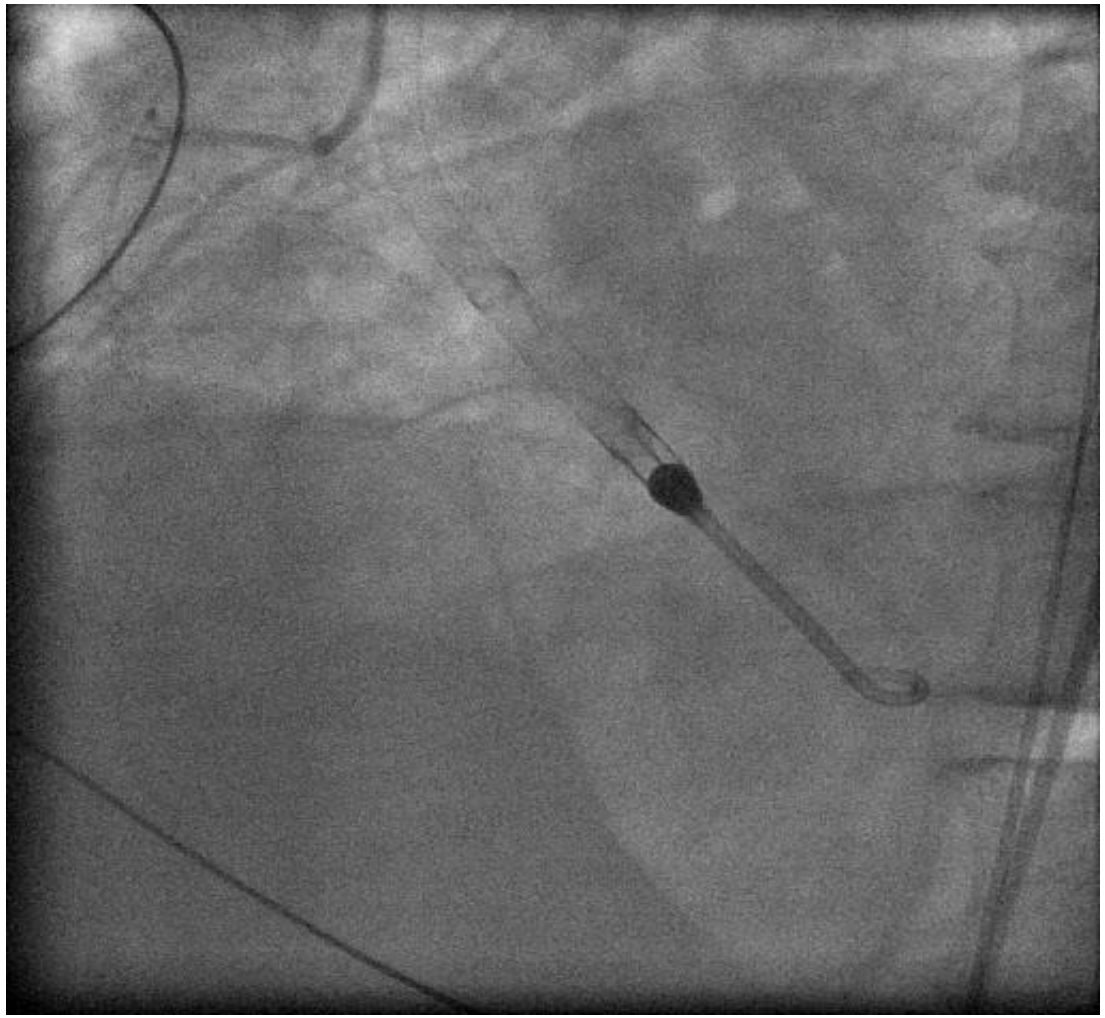
cliniques récents

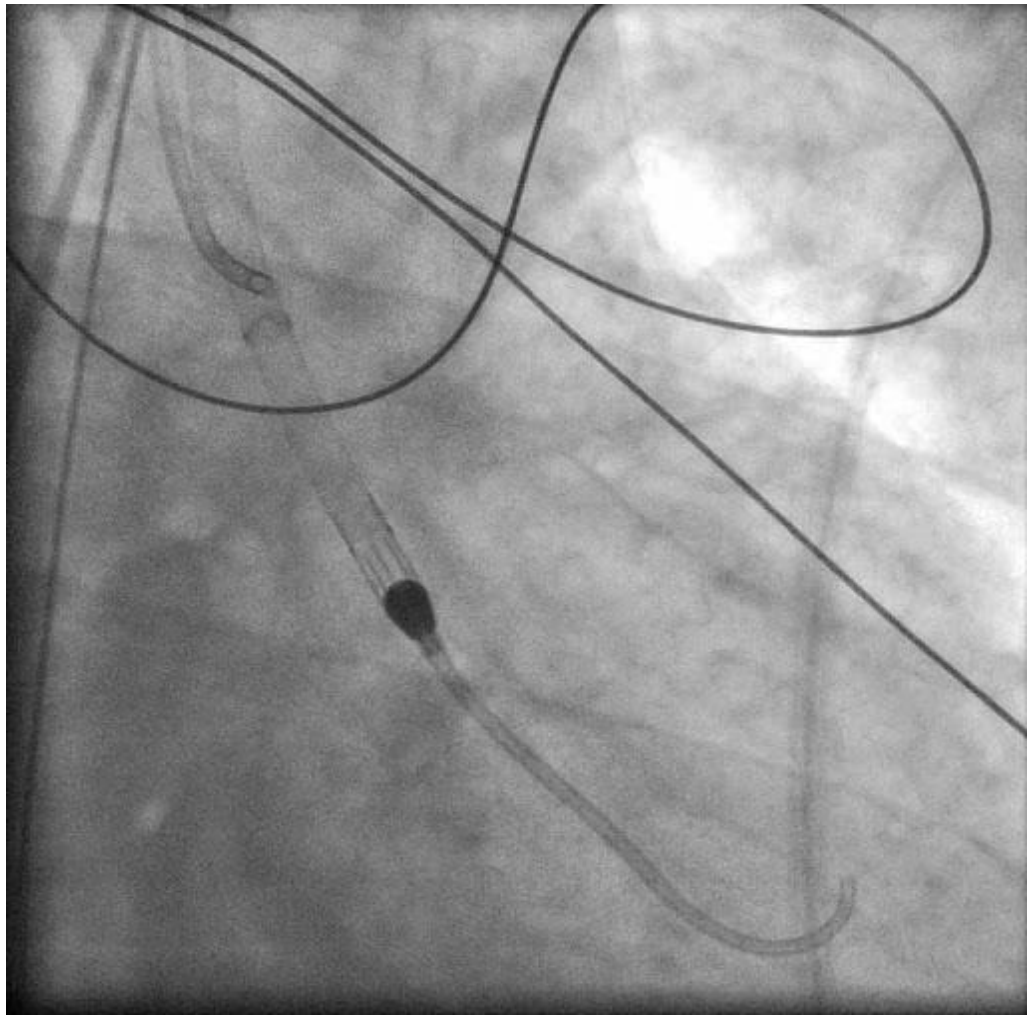


La Technologie Impella:

L’Assistance Ventriculaire Percutanée

Impella CP





Courtesy: J.E. Møller MD, PhD, Odense University Hospital, Denmark

CLINICAL CONSIDERATIONS FOR ADVANCED HEART FAILURE SOLUTIONS*

AHA STAGE

STAGE B | STAGE C | STAGE D

NYHA CLASS

CLASS I ↔ CLASS II ↔ CLASS III ↔ CLASS IIIB ↔ CLASS IV

Consider where on the NYHA scale your patients have predominantly been in the last 30 days

INTERMACS‡ REGISTRY ADVANCED HF PROFILES[1]

7	6	5	4	3	2	1
Profile descriptions: 7. *Living comfortably with limited activity* Adv. NYHA III symptoms	6. *Walking wounded* Exertion limited	5. *Homebound* Exertion intolerant	4. *Frequent flyer* Resting symptoms	3. *Dependent stability* Stable but inotrope dependent	2. *Sliding on inotropes* Progressive decline on inotropic support	1. *Crash and burn* Clinical and cardiogenic shock

INDICATION

• Prior MI • Low Ejection Fraction	• Wide QRS • Low Ejection Fraction	• Secondary MR ≥ Grade III • LVEF ≥ 20% and ≤ 50% • LVESD ≤ 70 mm	• > 1 HF Hospitalization in 12 Months	• Advanced Refractory Left HF • Low Ejection Fraction

SOLUTIONS ALONG THE HF CONTINUUM

Implantable Cardioverter Defibrillator (ICD)	Cardiac Resynchronization Therapy (CRT)	Transcatheter Mitral Valve Repair	PA Pressure Remote Monitoring	Left Ventricular Assist Device (LVAD) Therapy
				
Gallant™ ICD	**Gallant™ CRT-D**	**MitraClip™ Transcatheter Mitral Valve Repair**	**CardioMEMS™ HF System**	**HeartMate 3™ Left Ventricular Assist Device**

CLINICAL BENEFITS

• Detect, diagnose and provide tailored therapy for life-threatening arrhythmias • Prolongs and improves survival[2] • > 10-year period produced a 20%–30% reduction in mortality[3]	• Dynamically optimizes CRT pacing as cardiac condition changes for maximum QRS narrowing • Multiple LV pacing pulses from a single quadripolar lead • Features SyncAV™ CRT technology, which has been shown to reduce heart failure hospitalizations by 22% at 2 years[4]	• Reduces significant symptomatic mitral regurgitation • 33% relative risk reduction of mortality at 3 years[5] • 51% relative risk reduction in HF hospitalization[5]	• Monitors PA pressures remotely, allows for proactive intervention • Quality of life improvements[6] • 57% reduction in heart failure hospitalization with benefits seen across HFrEF and HFpEF patients[7]	• Provides mechanical circulatory support • Overall survival of 79% at 2 years,[8] approaching that of transplantation**[9] • Reduced rehospitalizations, reversed heart failure symptoms and improved quality of life***[8]

INTEGRATED REMOTE MONITORING

Merlin.net™ Patient Care Network | Merlin.net™ Patient Care Network | Merlin.net™ Patient Care Network

TRIGGERS FOR CONSIDERATION OF ADVANCED THERAPIES*

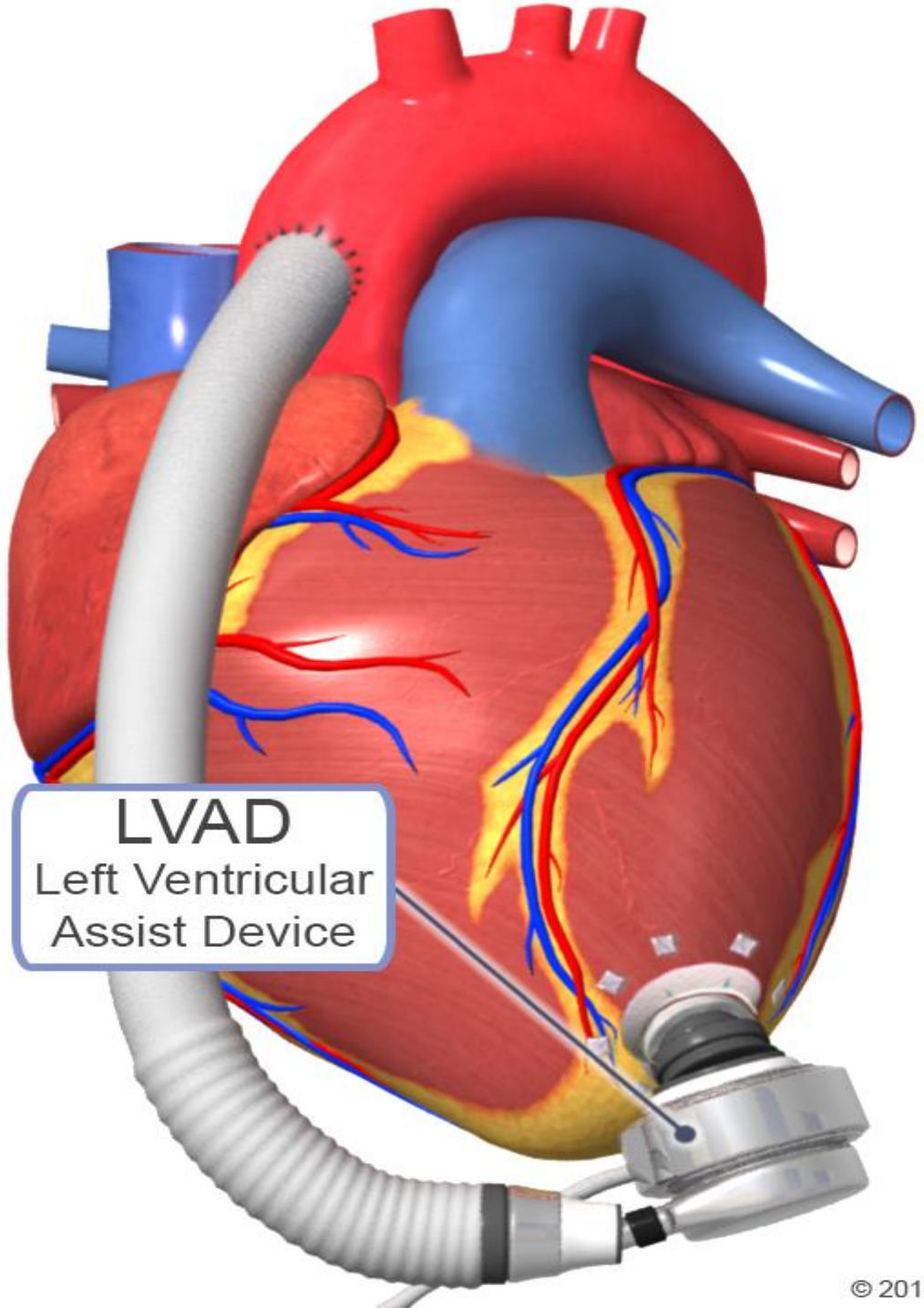
CONSIDER CRT	CONSIDER TRANSCATHETER MITRAL VALVE REPAIR	CONSIDER PA PRESSURE MONITORING[13,15,17]	CONSIDER LVAD[17]
• Decline in NYHA functional class[13,14] • Worsening ejection fraction[13,14] • QRS widening[13,14] • Increased RV pacing[15]	• Symptomatic, moderate-to-severe or severe secondary mitral regurgitation[16] • LVESD ≤ 70 mm[16] • EROA ≥ .3 cm^2[16]	• Persistent NYHA III functional limitations • Heart failure hospitalizations in the previous 12 months • ECHO exam unchanged	• Persistently high PA pressures • Non-responsive to diuretics or neurohormonal agents • 6 MWD < 300 m • Heart failure hospitalizations • ECHO exam unchanged

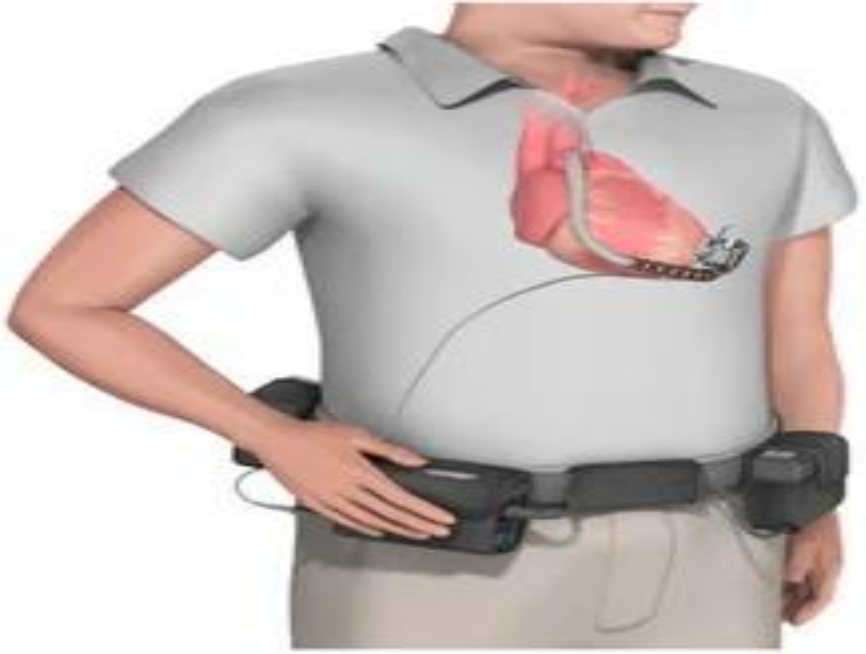
AS NEEDED ALONG THE HEART FAILURE CARE PATHWAY

ACUTE MECHANICAL CIRCULATORY SUPPORT

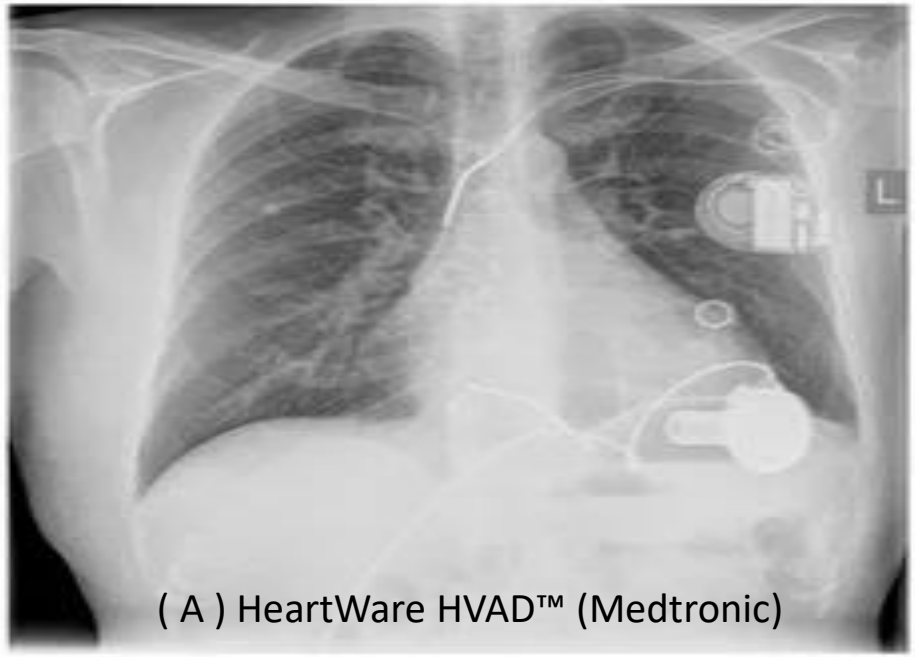
CentriMag™ Acute Circulatory Support System

- Temporary cardiopulmonary or ventricular support — adult or pediatric
- Excellent hemocompatibility for gentle blood handling[10,11]
- Low rate of blood-related adverse events[12]



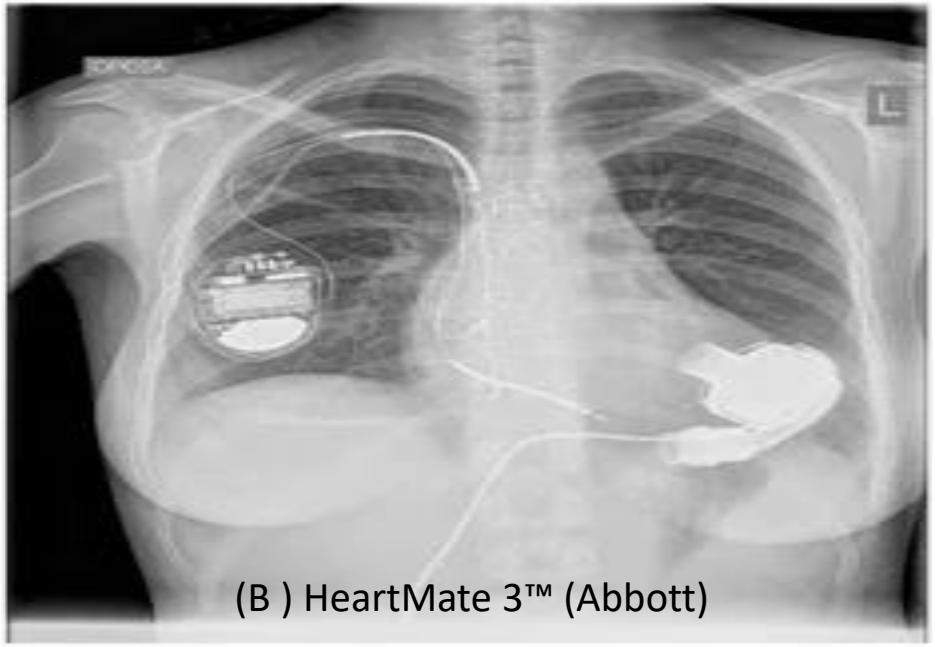


(A)



(A) HeartWare HVAD™ (Medtronic)

(B)



(B) HeartMate 3™ (Abbott)

HeartMate 3

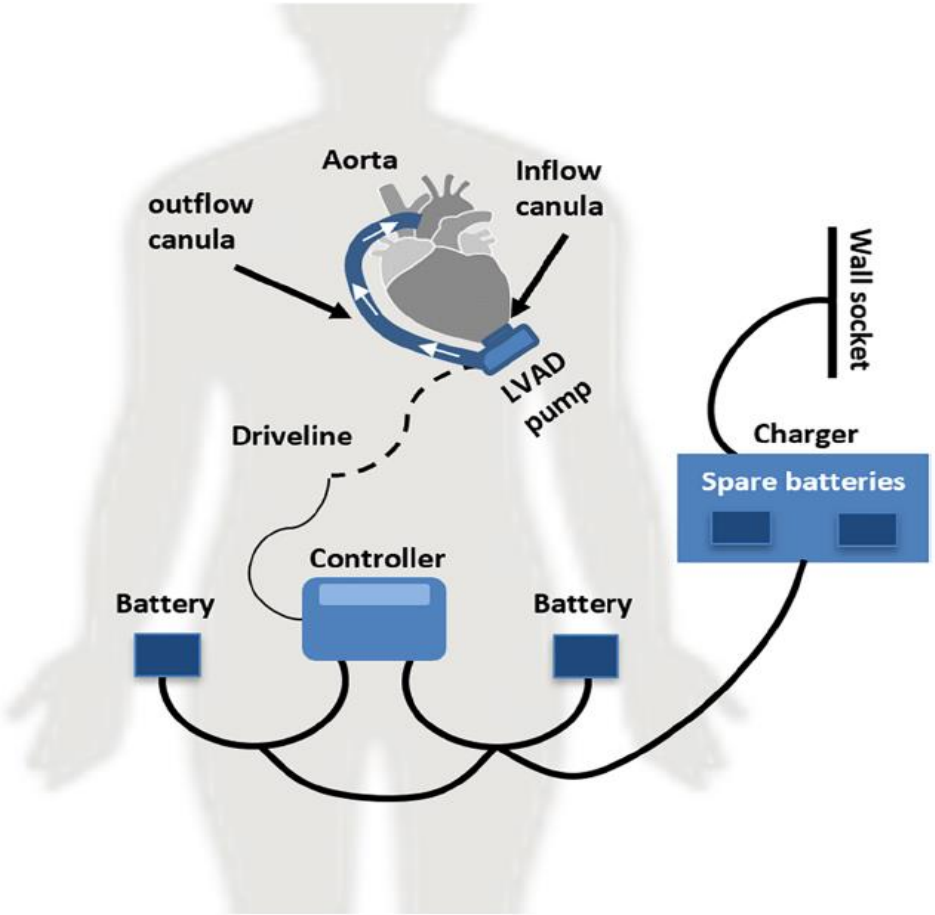


Illustration du dispositif d'assistance VG type HeartMate 3

La partie extracorporel du HeartMate 3

European Journal of Heart Failure (2021) doi:10.1002/ejhf.2327

AHA/ACC/HFSA

Implanting durable LVAD in inotrope-dependent patients[1]

Recommendation

AHA/ACC/HFSA

Implanting durable LVAD in NYHA class IV patients who remain symptomatic despite GDMT[1]

Recommendation

ESC

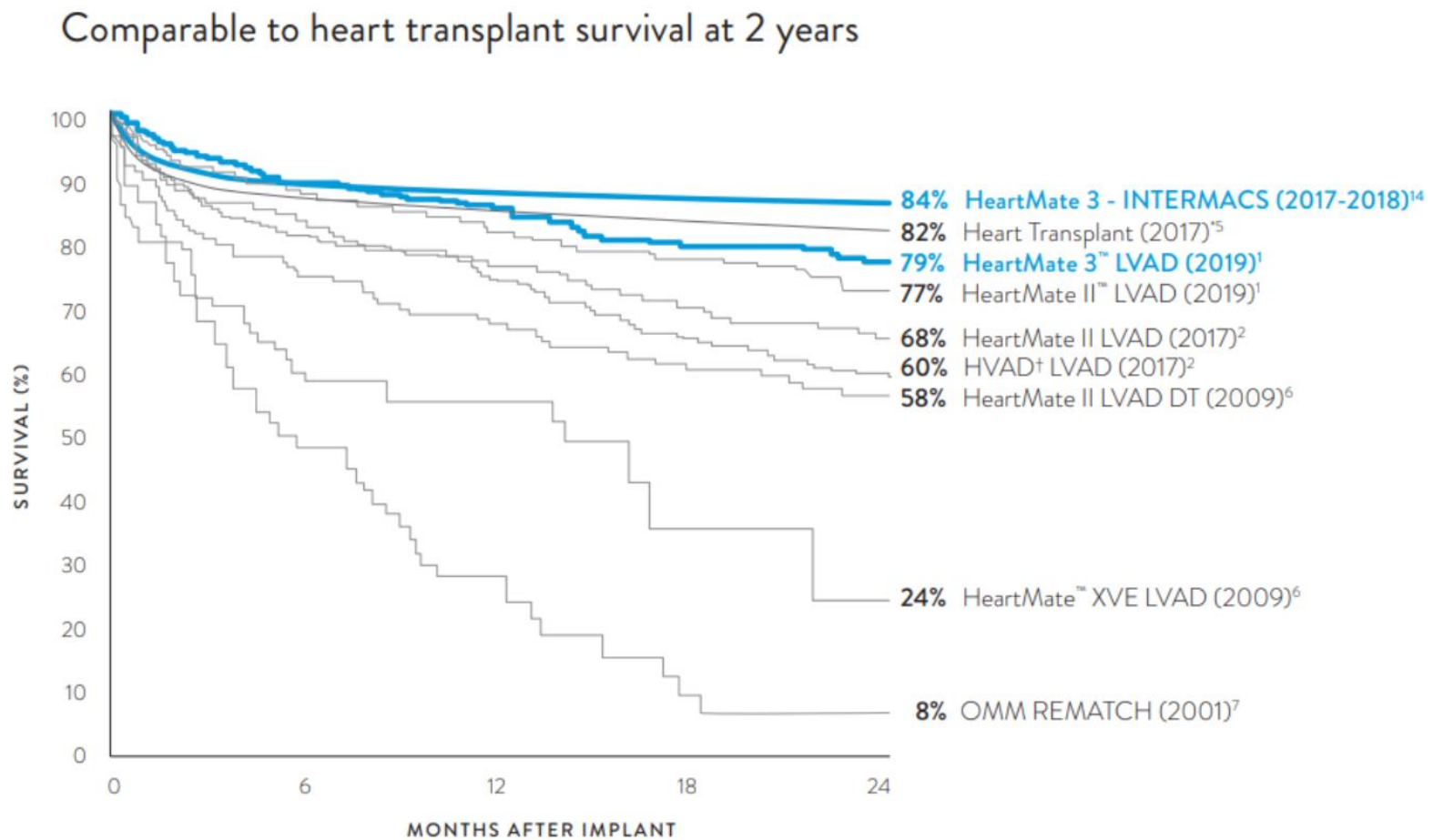
Recommendation for the treatment of patients with advanced heart failure[2]

Recommendation

1. Heidenrich PA, et al. J Am Coll Cardiol. (2022); 79: e263-e421 2. McDonagh T, et al. European Heart Journal (2021) 42, 3599-3726

2. Theresa A. McDonagh, 2022, 2021 ESC Guidelines for the diagnosis and treatment acute and chronic heart failure, EJHF, 24, 4-131 V

Achieving excellence with landmark survival



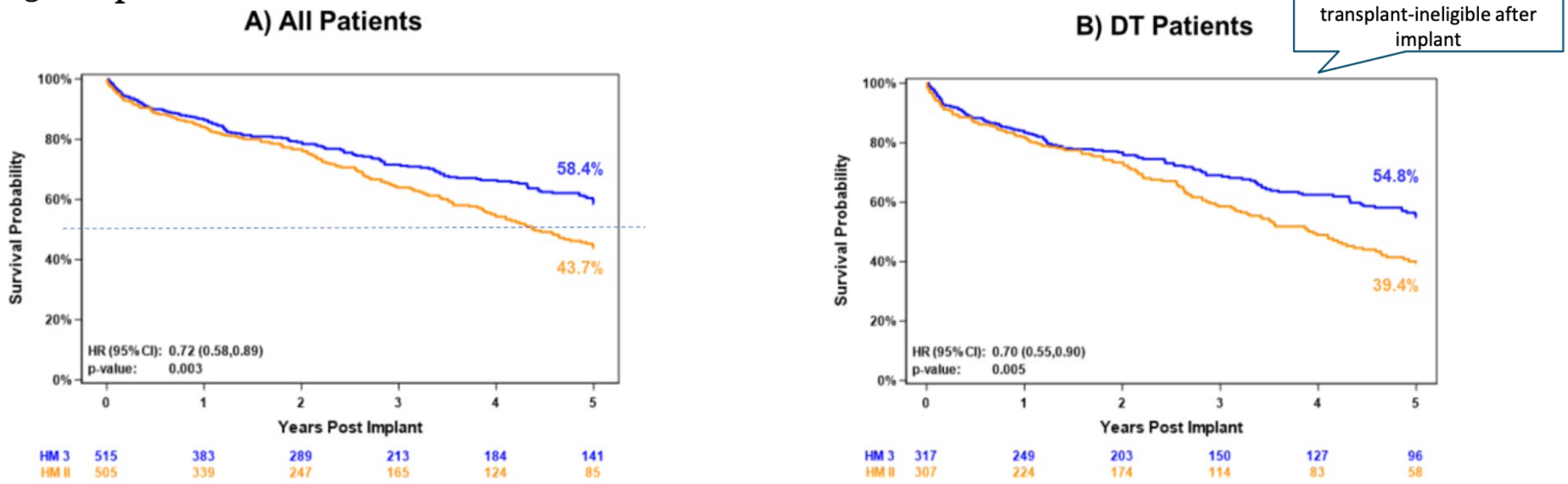
References: 1. Abbott HeartMate 3 patient brochure. https://www.cardiovascular.abbott/content/dam/bss/divisionalsites/cv/hcp/products/heart-failure/lvad/heartmate-3/documents/us-heartmate-lvad-product-brochure.pdf

MOMENTUM-3 5-year results

- The first randomized LVAD study with strong 5-year clinical results comparing HM3 to HM2, especially given the high-risk status of the patients participating.
  - I.e. LVEF < 25%, inotrope dependent or non-responder to OMM / advanced HF > 14 days, 52% of patients were INTERMACS 3 & 32% were INTERMACS 1-2.

- Sustained significant long-term reductions in overall risk of stroke, pump thrombosis, bleeding for HM3 compared to HM2

DT subgroup of pts who are transplant-ineligible after implant



Reference 1. Mehra MR, Goldstein DJ, Cleveland JC, et al. Five-Year Outcomes in Patients With Fully Magnetically Levitated vs Axial-Flow Left Ventricular Assist Devices in the MOMENTUM 3 Randomized Trial. *JAMA*. 2022;328(12):1233-1242. doi:10.1001/jama.2022.16197

Pour notre patient

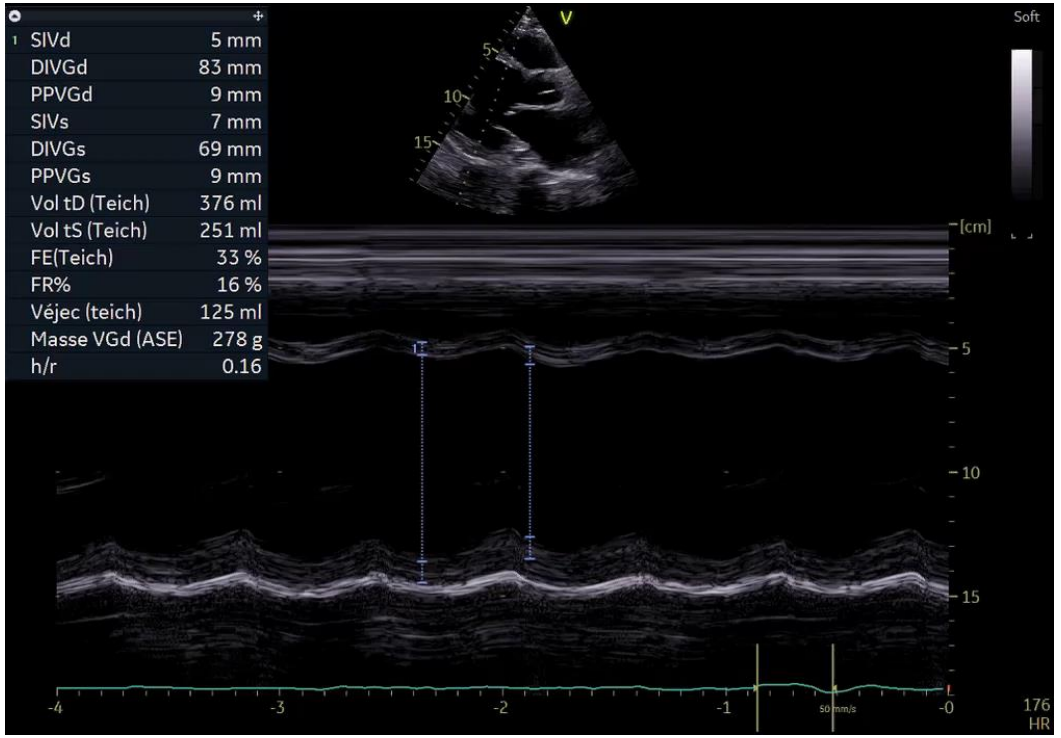
- Intervention LVAD le 23 Avril 2024

Suites opératoires
27/04

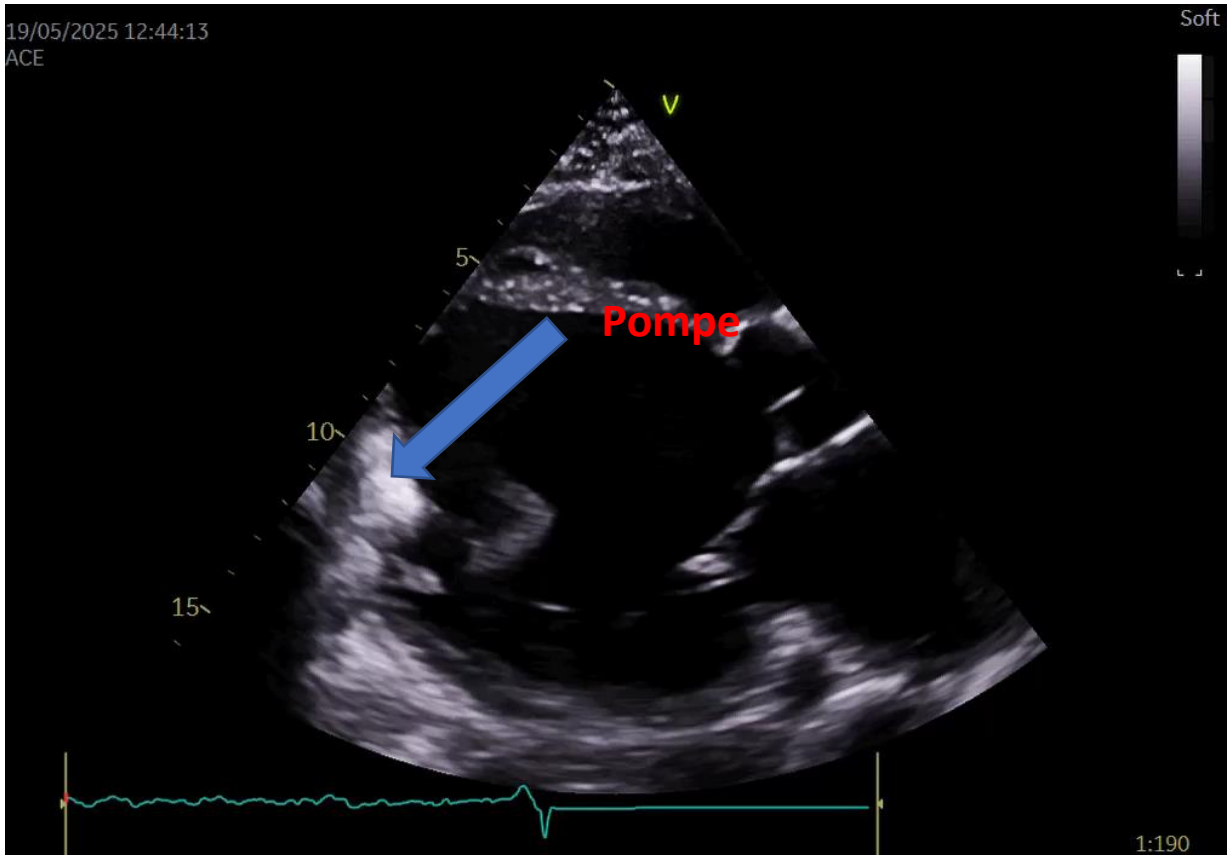
- Classe II NYHA
- Absence de signes d’insuffisance cardiaque
- Absence d’infection

ETT post implantation

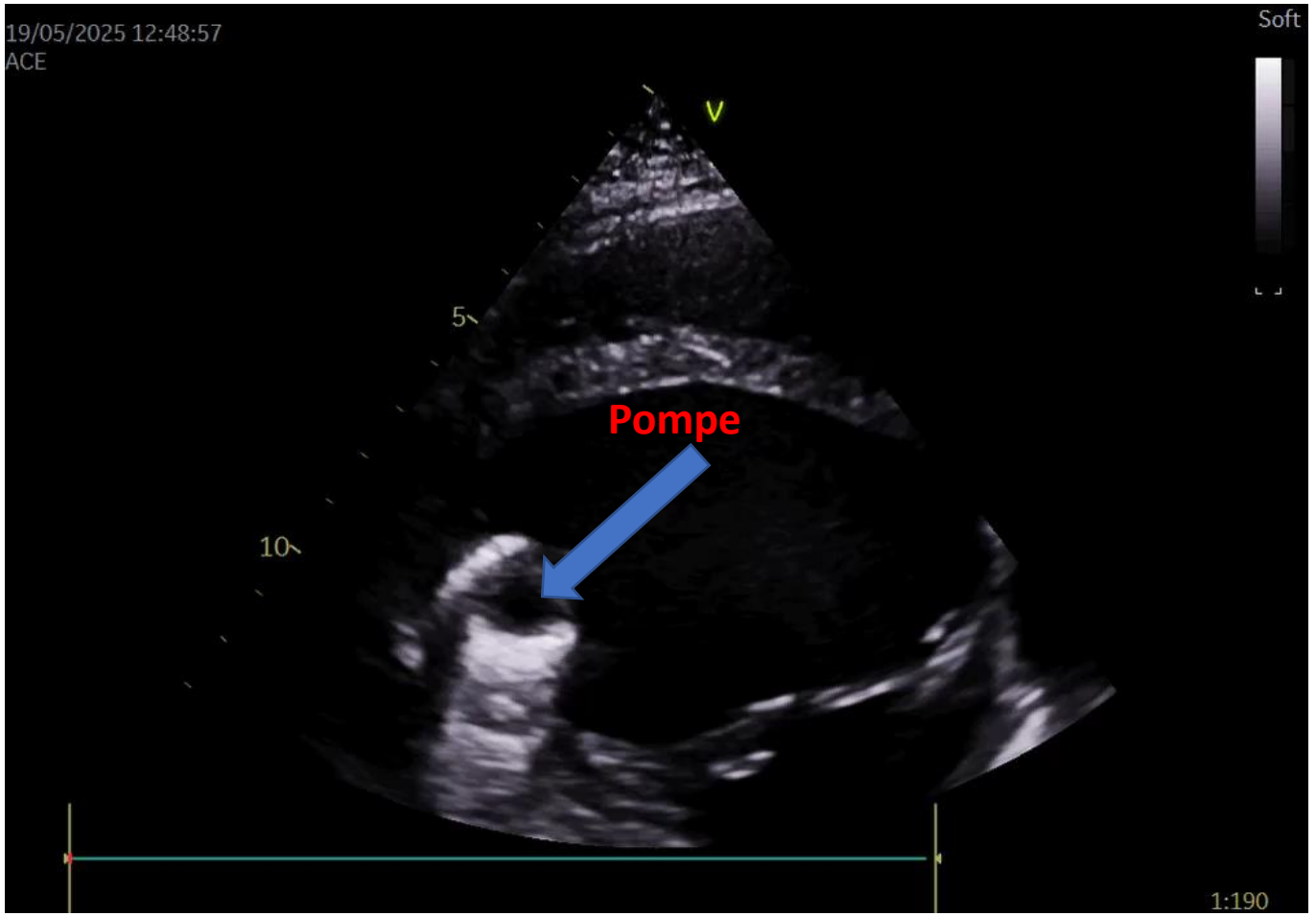
- Réduction taille VG
- DTD VG : 80 mm Vs 95 mm(preop)
- DTS VG m 69 mm Vs 80 mm (preop)



ETT post implantation

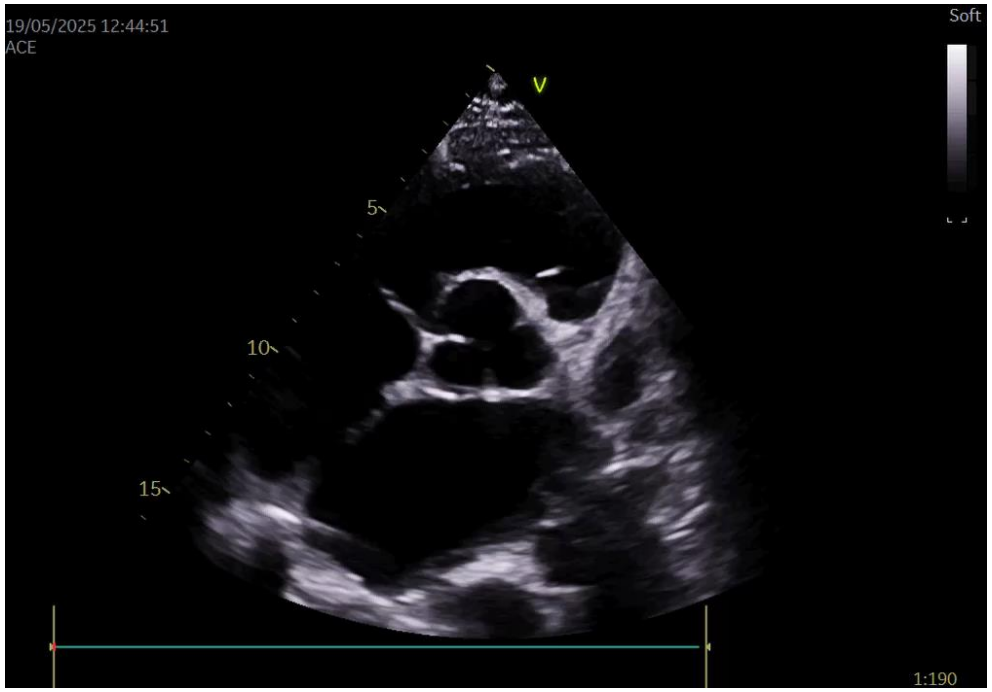


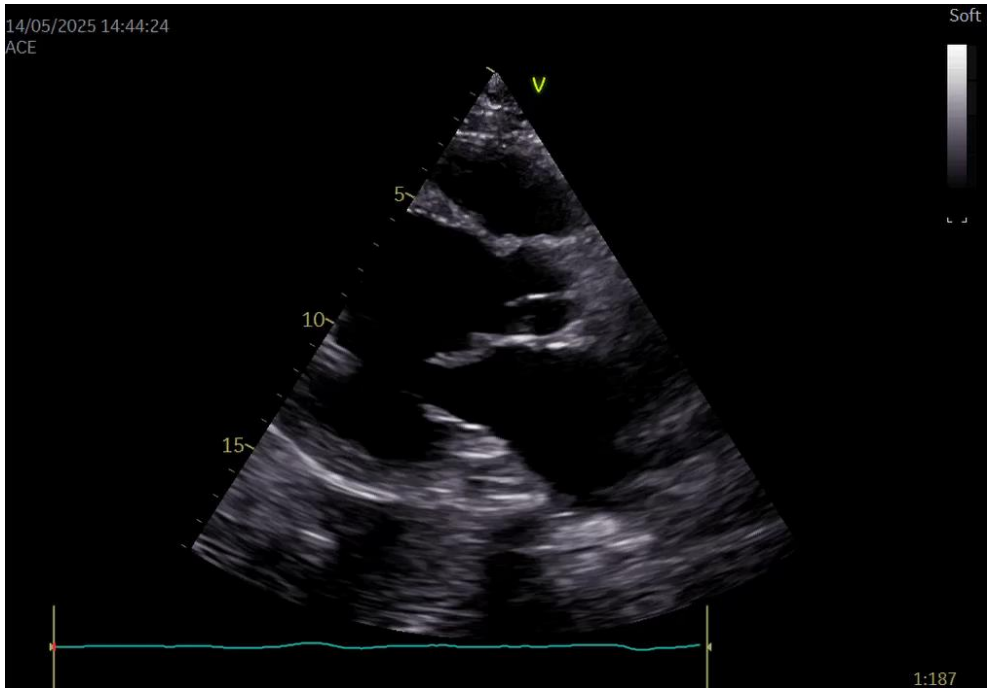
ETT post implantation



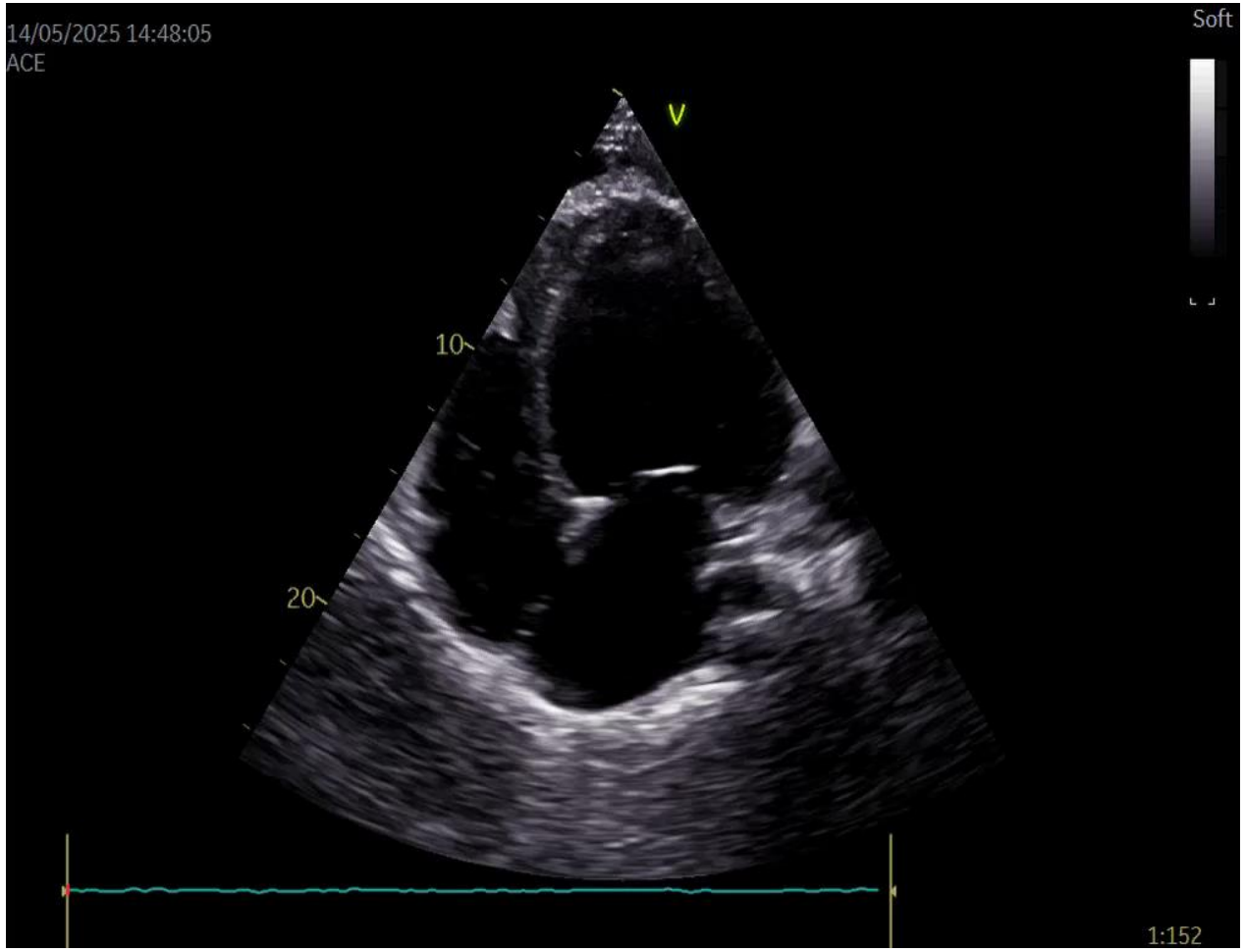
ETT post implantation

- Valve aortique fermée



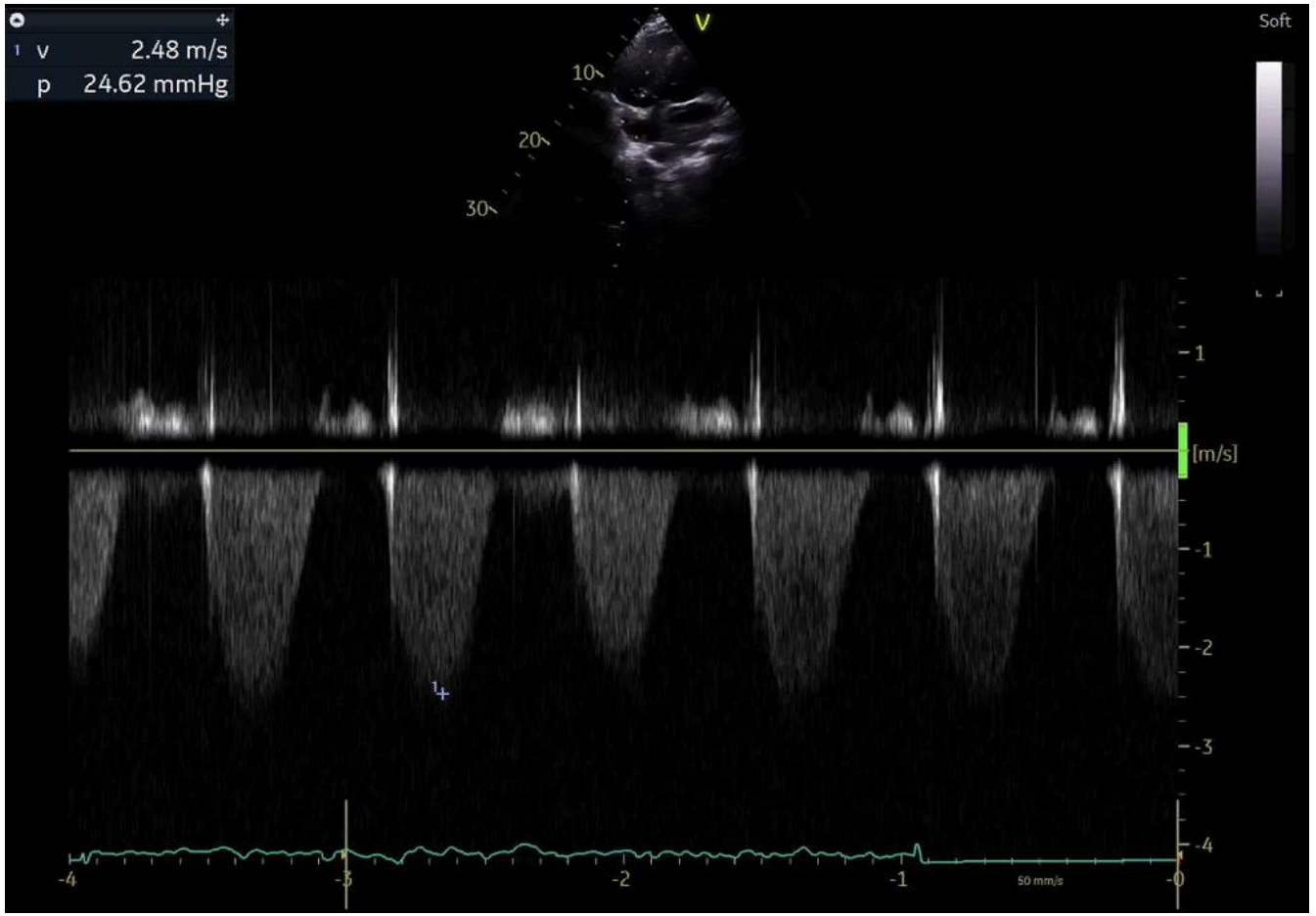


ETT post implantation

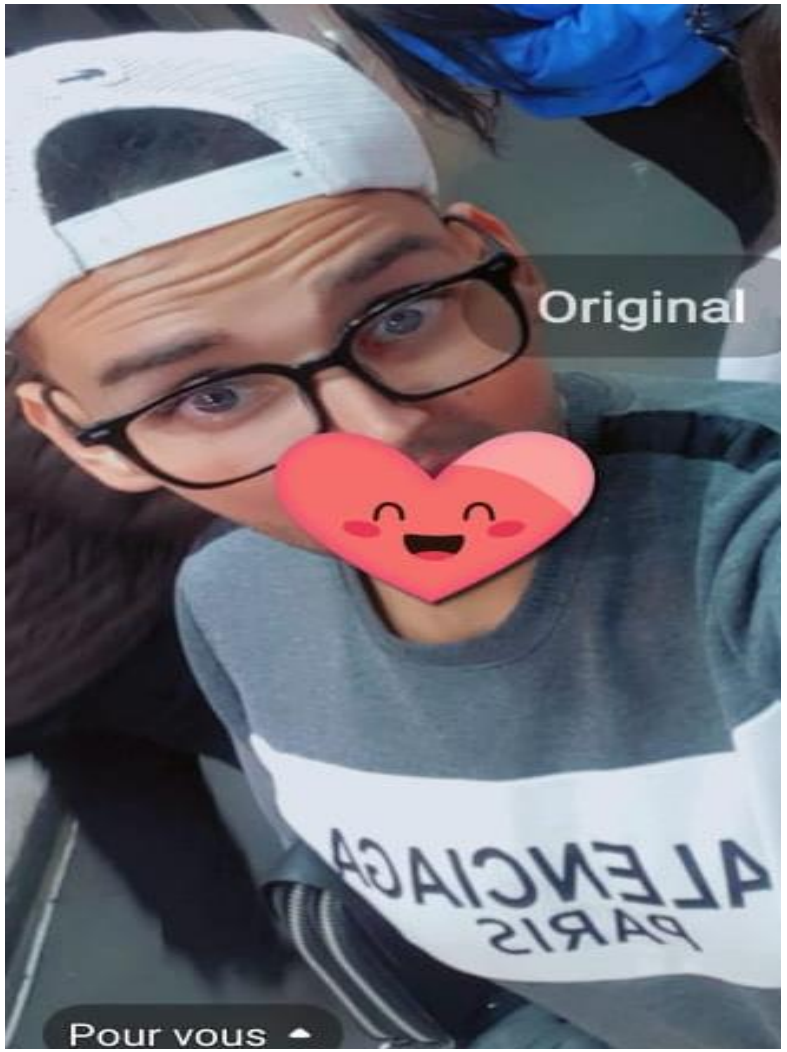


ETT post implantation

- PAPS normale

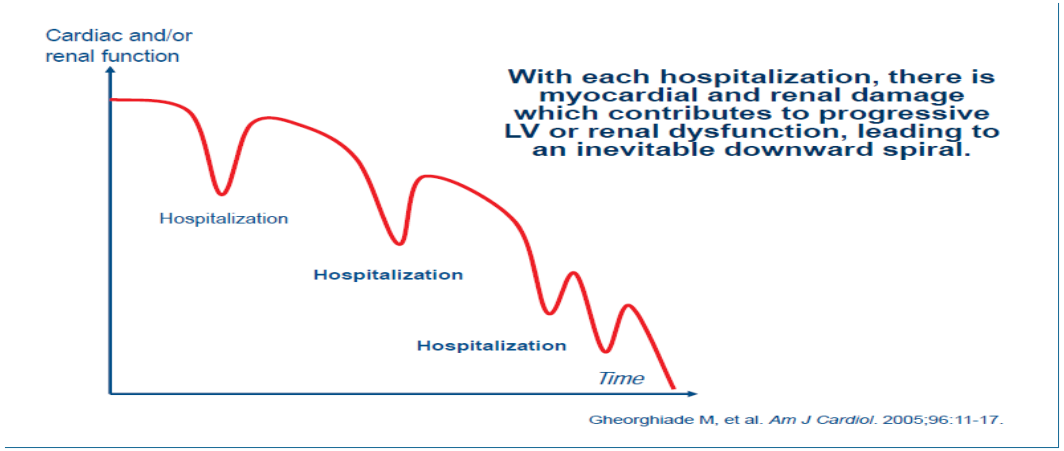


01 mois post implantation



Conclusion: l'IC en Algérie

Des chiffres alarmants



Des possibilités diagnostic et thérapeutique existent

Greffe Cardiaque ……