

-Etude THESUS-HF -stratégies préventives de l'insuffisance cardiaque



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On behalf of the THESUS group*

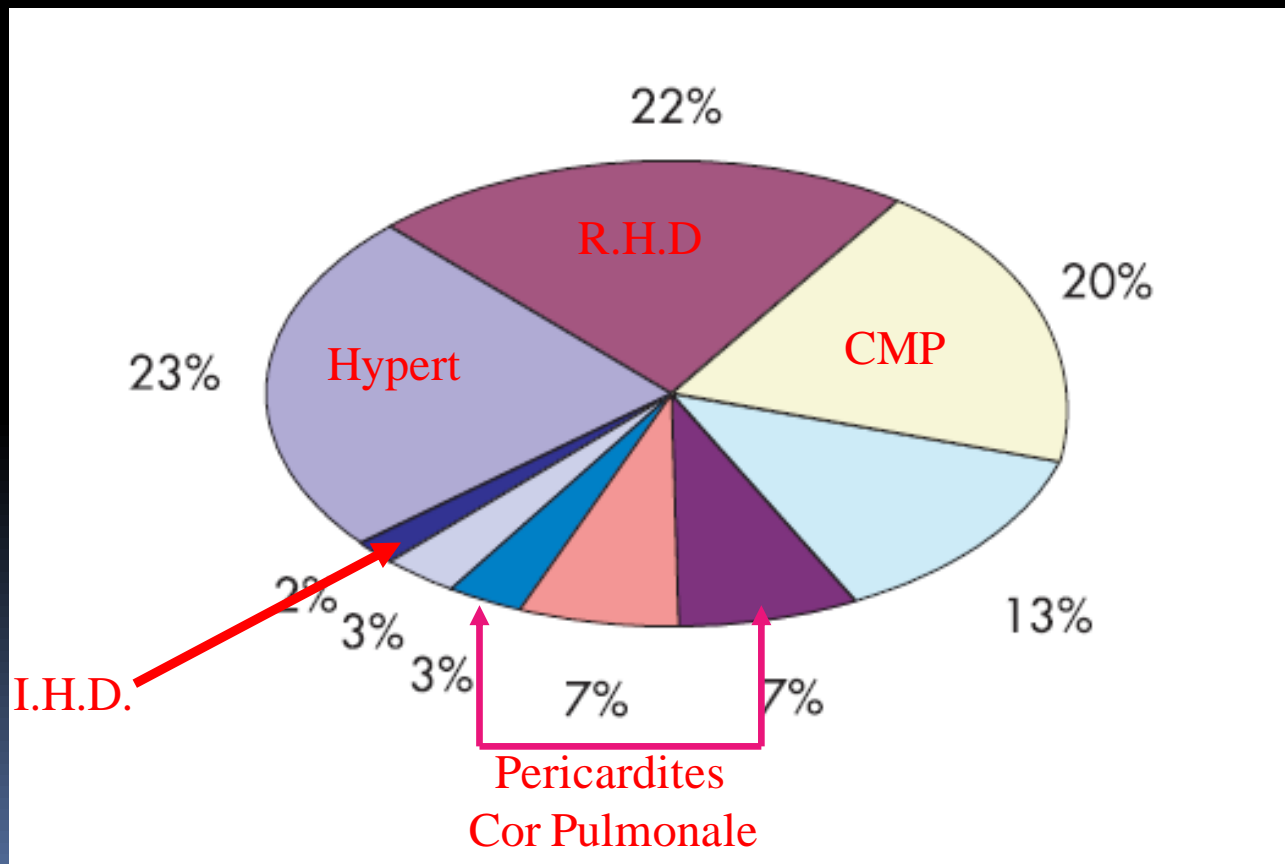
Epidemiology of Heart Failure in Africa

- No population based studies of incidence and prevalence of heart failure – Hospital based
- Cardiovascular diseases account for 7–10% of all medical admissions to African hospitals and HF contributes to 3–7% of these admissions.
- The majority of the clinical studies of HF in sub-Saharan Africa were conducted in the pre-echocardiographic era or without the application of echocardiography in the majority of cases.



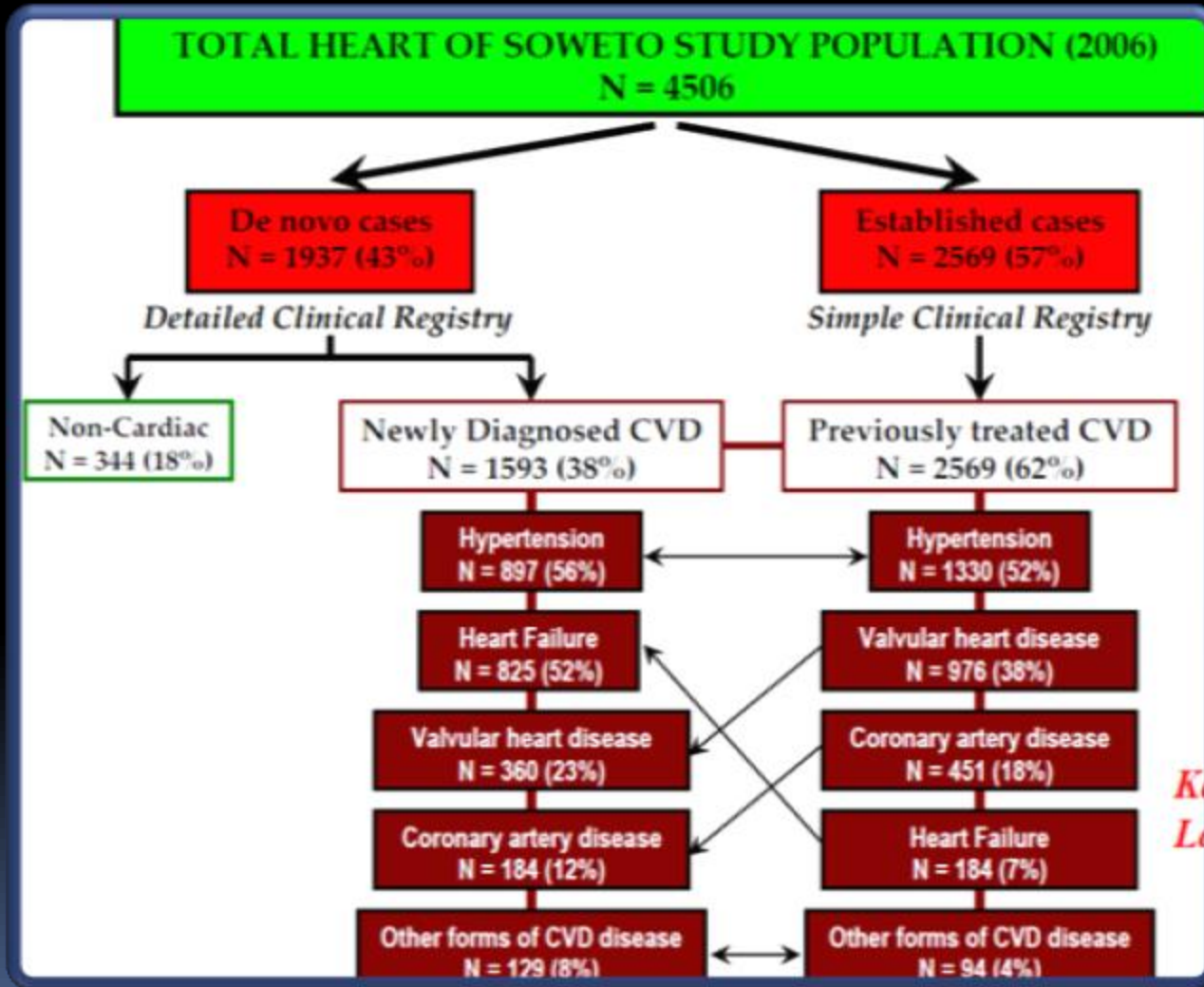
Epidémiologie de l'insuffisance cardiaque en Afrique

- *Mayosi et al. 2007 Heart* identifie 12 études cliniques, et 4 études nécropsiques sur l'étiologie de l'insuffisance cardiaque
- >4500 patients de 8 pays



Spectrum of heart disease and risk factors in a black urban population in South Africa (the Heart of Soweto Study): a cohort study

Karen Sliwa, David Wilkinson, Craig Hansen, Lucas Ntyintyane, Kemi Tibazarwa, Anthony Becker, Simon Stewart





THESUS – HF

THE Sub-Saharan Africa Survey of Heart Failure

Prospective Multicenter Registry

THE Sub-Saharan Africa Survey of Heart Failure

THESUS -HF

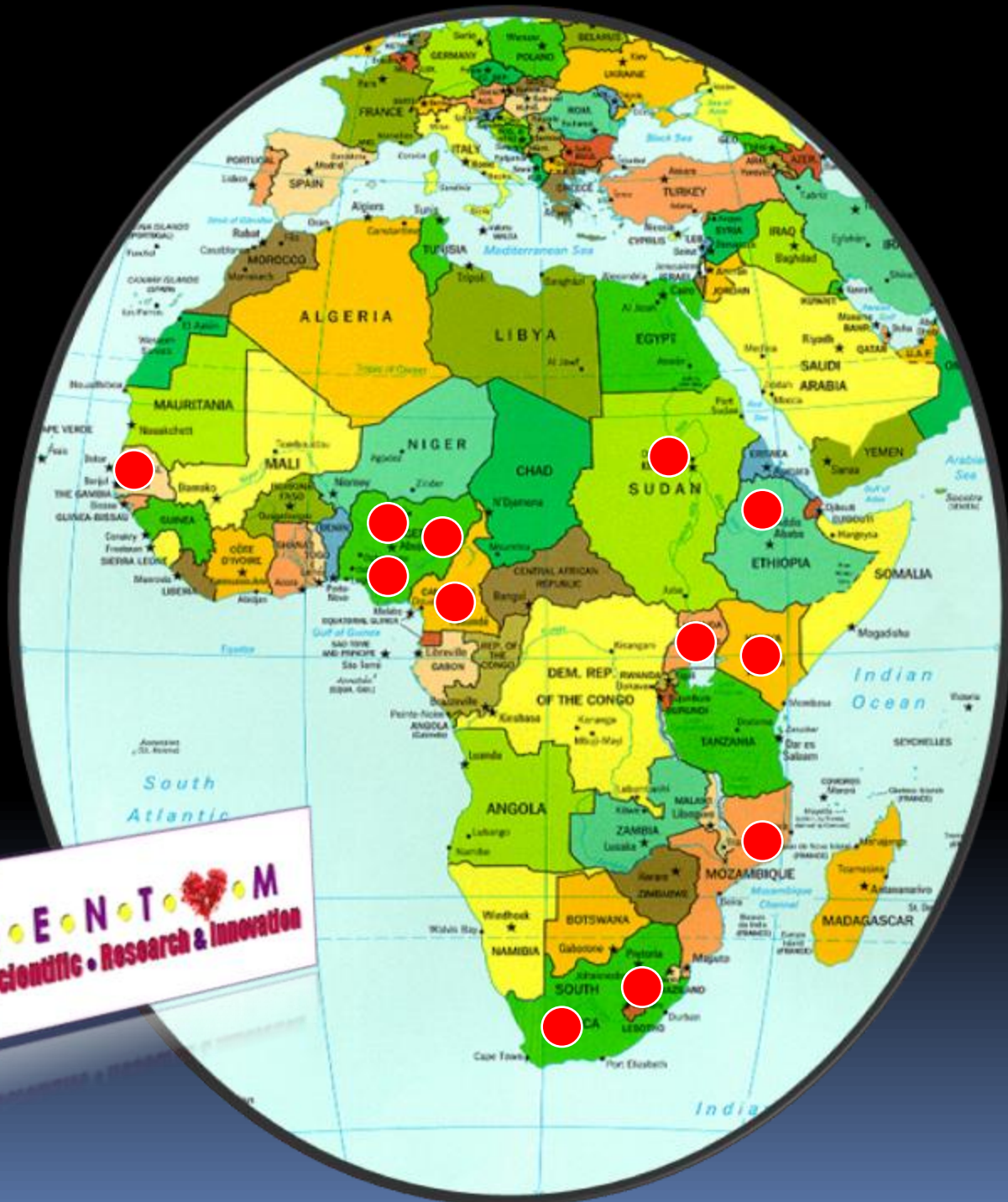
A Multi-Center, Prospective, Observational

Acute Heart Failure Registry

Etiology, Treatment, in hospital and 6 month mortality




M • O • M • E • N • T • M
Fast-tracking • Scientific • Research & Innovation



M O M E N T M
Fast-tracking • Scientific • Research & Innovation



Enrollment

Site	Country	Investigator	N. of Pts. Enrolled	6-Month FU
1	Mozambique	A. Damasceno/ G. Arif	76	70
2	South Africa	Karen Sliwa	83	82
3	Cameroon	A. Dzudie/W. Edvine	90	90
4	South Africa	B. Mayosi/N. Schrueder	50	42
5	Uganda	Charles Kiiza Mondo	154	153
6	Nigeria	O.S. Ogah	200	133
7	Nigeria	M. U Sani	205	200
8	Sudan	Ahmed Suliman	72	43
9	Ethiopia	Fikru Maru	10	6
10	Kenya	Gerald Yonga	32	25
11	Nigeria	Dike Ojji	25	0
12	Senegal	BA Sergine Abdou	16	2
 Total			1013	846

Characteristic

Age, years Mean(Std)

Min,Max

52.2 (18.3)

13, 94

Gender n (%)

Male

469 (49.2)

Race n (%)

Black

933 (98.4)

Caucasian

10 (1.1)

Asian

5 (0.5)

Number of AHF Admission in the Last 12 Months

Mean(Std)

0.4 (0.8)



Baseline Characteristic	n (%)
Diabetes	112 (11.7)
IHD	82 (8.6)
Valvular Disease	268 (28.1)
HIV Test Positive	
Unknown	471 (49.4)
No	407 (42.7)
Yes	62 (6.5)
Hypertension	517 (54.2)
Stroke	24 (2.5)
Atrial fibrillation	180 (18.9)
Pericardial disease	51 (5.3)
Cardiomyopathy	404 (42.3)
Copulmonale	68 (7.1)



Mean Ejection Fraction (Std) 39.1% (16.3)

Symptoms and Signs	Admission	Disch/ Day 7	1-Month FU	6-Months FU
	Mean (Std)			
Dyspnea (-3 to 3)	---	1.81 (1.2)	---	---
Orthopnea (0 to 3)	2.24 (0.9)	0.76 (0.8)	0.67 (0.8)	0.42 (0.7)
Systolic BP (mmHg)	130 (33.6)	117 (18.3)	118 (22.2)	120 (19.3)
Diastolic BP (mmHg)	84.2 (21.0)	74.4 (11.7)	74.4 (13.6)	76.2 (12.3)
Heart Rate (bpm)	104 (21.6)	85.6 (14.1)	85.1 (13.2)	83.0 (12.1)
O2 Saturation (%)	93.2 (6.4)	97.1 (2.8)	97.2 (3.8)	96.9 (2.0)
Per. edema (0 to 3)	1.8 (1.0)	0.4 (0.6)	0.3 (0.7)	0.3 (0.6)
Rales (0 to 3)	1.7 (0.9)	0.3 (0.5)	0.2 (0.4)	0.2 (0.5)
Weight (kg)	68.0 (17.5)	64.23 (17.0)	64.4 (16.5)	66.6 (16.5)

Echocardiogram

	Mean (Std)
Heart rate (bpm)	94.8 (18.3)
Dimensions and Function	
VGS (mm)	46.0 (13.2)
VGD (mm)	57.7 (11.7)
FE (%)	39.1 (16.3)
Septum Inter ventriculair (diastole) (mm)	11.2 (3.3)
Paroi Posterieure (diastole) (mm)	10.7 (2.9)
Diastolic Function	
Left atrial size, antero-posterior (mm)	47.2 (9.3)
Left atrial size, planimetry (mm ²)	2778 (928.4)
Mitral E-wave (cm/sec)	532.9 (506.4)
Mitral A-wave (m/sec)	17.6 (87.0)
Mitral A-wave (duration) (msec)	126.4 (45.6)



IV Treatment

IV Drugs	Admission	Day 2	Discharge or Day 7
	N (%)		
Nitrates	78 (8.3)	73 (8.0)	9 (1.0)
Furosemide	878(92.8)	764 (82.6)	204 (23.0)
Dopamine	49 (5.3)	29 (3.2)	11 (1.3)
Dobutamine	50 (5.3)	40 (4.4)	11 (1.2)
Digoxin	134 (14.3)	75 (8.3)	28 (3.2)
Vent.Mech.	6 (0.7)	6 (0.7)	8 (0.9)



Traitment Oral

Drugs	Admission	Disch/ Day 7	6 Month FU
ACEi/ARA II	686 (72.9%)	731 (81.4%)	331 (83.6%)
Diuretics	152 (16.5%)	711 (79.6%)	342 (86.4%)
Beta Blockers	160 (17.2%)	274 (30.8%)	192 (48.9%)
Digoxine	404 (43.2%)	541 (60.7%)	177(44.9%)
Hydralazine	11 (1.2%)	19 (2.2%)	8 (2.0%)
Nitrates	49 (5.2%)	71 (7.9%)	29 (7.4%)
Aldosterone inhib	606 (64.7%)	649 (72.4%)	248 (63.1%)
Statins	99 (10.7%)	142 (16.0%)	75 (19.1%)
Aspirin	339 (36.2%)	508 (56.7%)	219 (55.6%)
Anticoagulants	310 (33.0%)	176 (19.6%)	43 (11.0%)



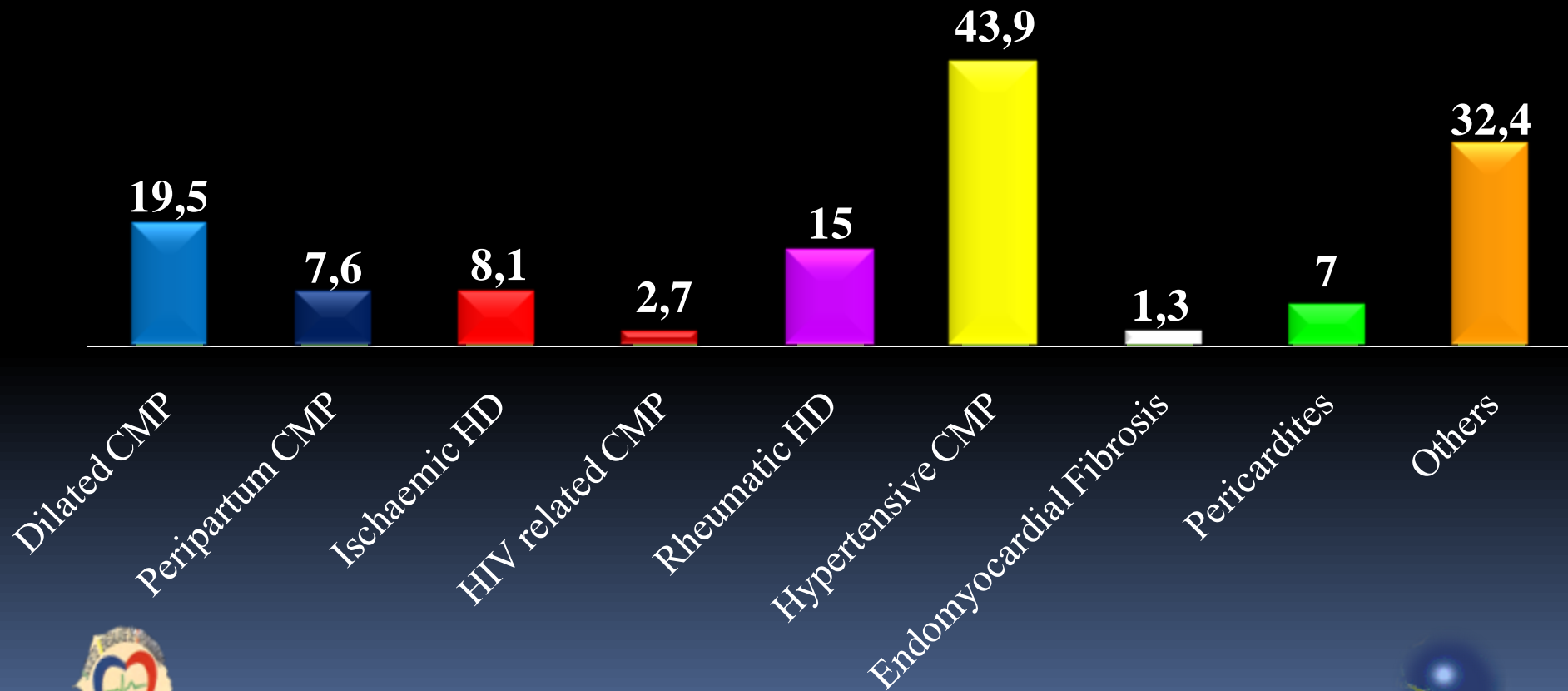
Type of Heart Failure and etiology	n (%)
Dilated-idiopathic cardiomyopathy	185 (19.5)
Peripartum cardiomyopathy	72 (7.6)
Ischemic heart disease	77 (8.1)
HIV cardiomyopathy	26 (2.7)
Rheumatic heart disease	142 (15.0)
Hypertensive cardiomyopathy	416 (43.9)
Endomyocardial fibrosis	12 (1.3)
Pericardial effusion/tamponade	66 (7.0)
Others	302 (32.4)



The HF was classified as Systolic in 70.9% and as Diastolic in 53.0% of the patients.



FINAL DIAGNOSIS



Follow up

Follow up	n (%)
Follow-up Completed	420 (49.6)
Last Date Alive Known	131 (15.5)
Death	156 (18.4)
Lost to Follow-up	139 (16.4)
No Telephone Contact	83 (9.8)
Lack of Transportation Access to Site	4 (0.5)
Financial Difficulty	23 (2.7)
Unwillingness to Come to Follow-up Visit	13 (1.5)
Other	16 (1.9)
Total	846(100)



OUTCOMES

Length of Stay (days) Mean SD	9.20 (9.3)
Readmission Rate at 60 Days (%)	9.8%
Death at 60 Days (%)	10.8%
Death or Readmission at 60 Days (%)	16.2%
Death at 6 Months (%)	18.7%

CONCLUSIONS

- **Acute heart failure in Sub-Saharan Africa seems to affect younger patients, in the prime of their lives.**
- **Is mostly caused by treatable and preventable causes – hypertension and rheumatic heart disease.**
- **Ischemic heart disease is still a very uncommon diagnosis.**



CONCLUSIONS

- **In this African population the combination of hydralazine and nitrates is still not very frequently prescribed.**
- **Follow up and therapy are heavily limited due to financial constrains.**



Stratégies préventives

Prévention primaire:

➡ Mieux vaut prévenir que guérir



Education thérapeutique:

Education du patient  Adhésion au traitement

- Signes de la maladie
- Surveillance
- Respect régime et médicament



Dépistage et traitement efficace de l'HTA



- **Lutte contre les facteurs de risque:**
 - ➔ **Diabète**
 - ➔ **Cholestérol**
 - ➔ **Obésité**
 - ➔ **Sédentarité**
 - ➔ **Alcool**
 - ➔ **Tabac**
- **Action de Santé publique**



Thérapeutiques agressives



- ➔ **Traitement de la maladie coronaire et des FDR (angioplastie, chirurgie, pontage)**
- ➔ **Correction des valvulopathies et prévention médicamenteuse de la dysfonction ventriculaire:**

- **Dépistage et prévention RAA**
- **Plastie**
- **Chirurgie valvulaire**



Correction des cardiopathies congénitales:

- ➔ **Dépistage tardif**
- ➔ **Plateau technique insuffisant**
- ➔ **Problème de la formation des spécialistes**



**➡ Prise en charge des troubles du rythme et
des bradycardies**

(pace maker, Défibrillateurs, ablations)



Limitation ou suppression des substances cardiotoxiques:

- ➔ **Anthracyclines**
- ➔ **Interferon**
- ➔ **Sels de lithium**
- ➔ **Antidépresseurs tricycliques**
- ➔ **Antiarythmiques de classe I**
- ➔ **Alcool**
- ➔ **Traitements traditionnels**



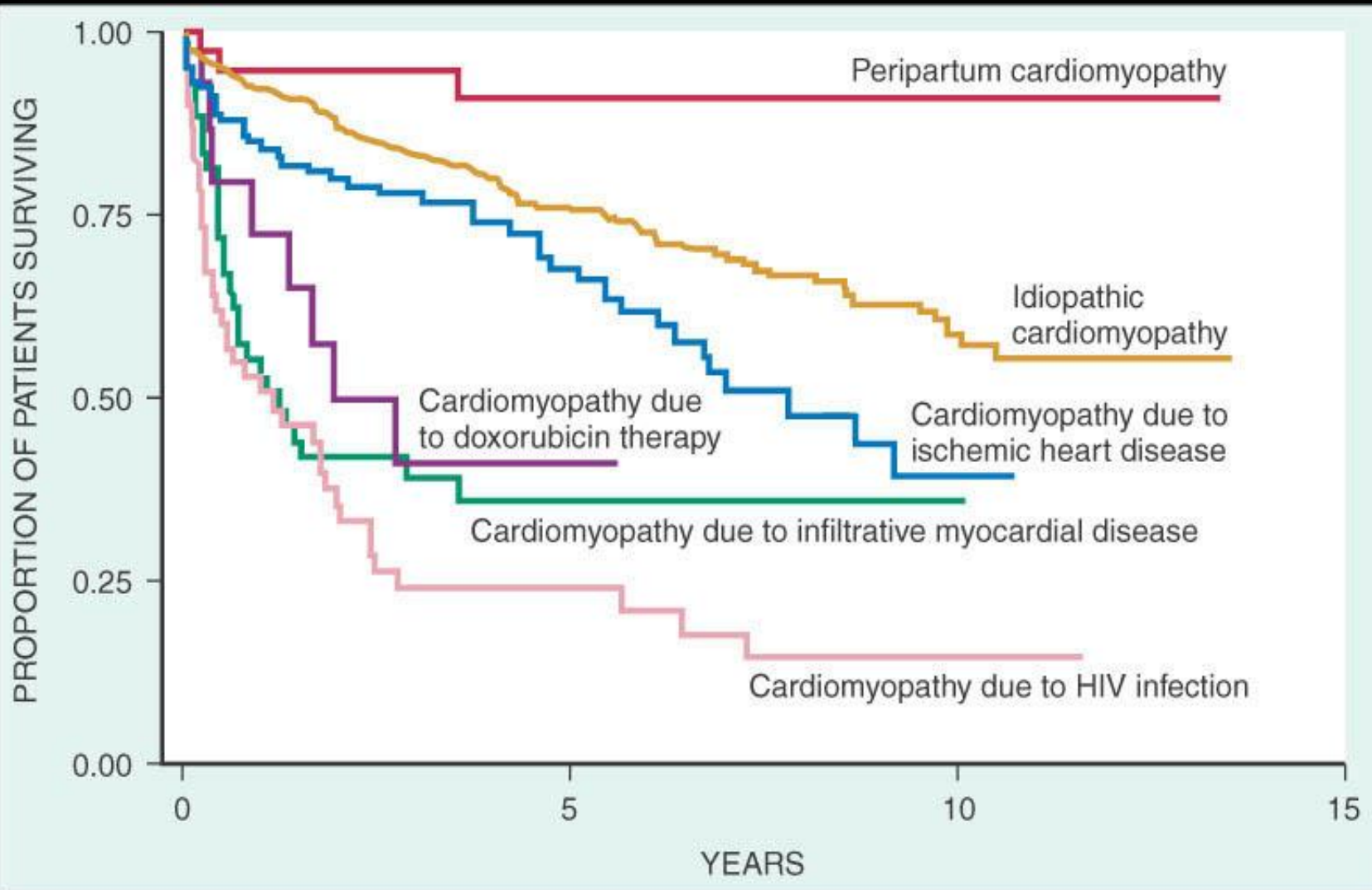
Prévention des facteurs déclenchants d'une poussée d'insuffisance cardiaque:

- ➔ **Arythmies et bradycardie**
- ➔ **Maladie thrombo-embolique veineuse**
- ➔ **Prévention des infections broncho-pulmonaires**
- ➔ **Correction de l'anémie chronique**
- ➔ **Hyperthyroïdie (cordarone)**
- ➔ **Ecart de régime**
- ➔ **Rupture thérapeutique**



**➔ Traitement de la dysfonction VG
asymptomatique (IEC, Béta-bloquants)**





(From Felker GM, et al: *N Engl J Med* 342:1077-1084, 2000. Copyright 2000, Massachusetts Medical Society.)



YEARS



CONCLUSIONS

- ➔ **Acute heart failure in Sub-Saharan Africa seems to affect younger patients, in the prime of their lives.**
- ➔ **Is mostly caused by treatable and preventable causes – hypertension and rheumatic heart disease.**
- ➔ **Ischemic heart disease is growing very fast**
- ➔ **Prevention...**





**THANK YOU
FOR YOUR ATENTION**

