How to Manage the Patients with First Diagnosed Atrial Fibrillation

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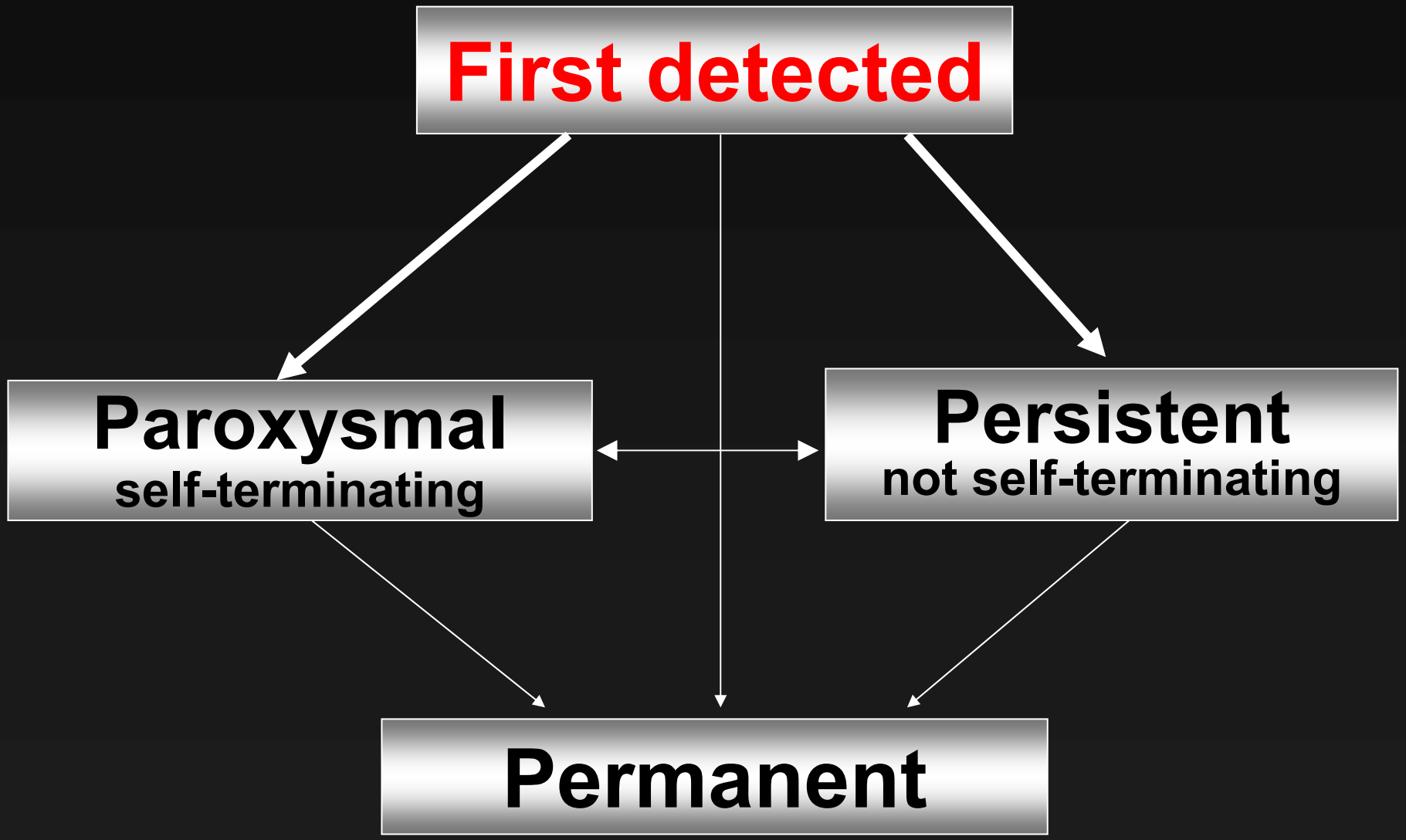
Atrial Fibrillation



Incidence of AF (2001-2004)

Health Insurance Review Agency, www.hira.or.kr

Patients registered as AF on medical record

N=215,153

Number of AF Patients, Korea

520,000 (≈1%), 50,000/y

Health Insurance Review Agency, www.hira.or.kr

KOrean Atrial Fibrillation Study

KORAF

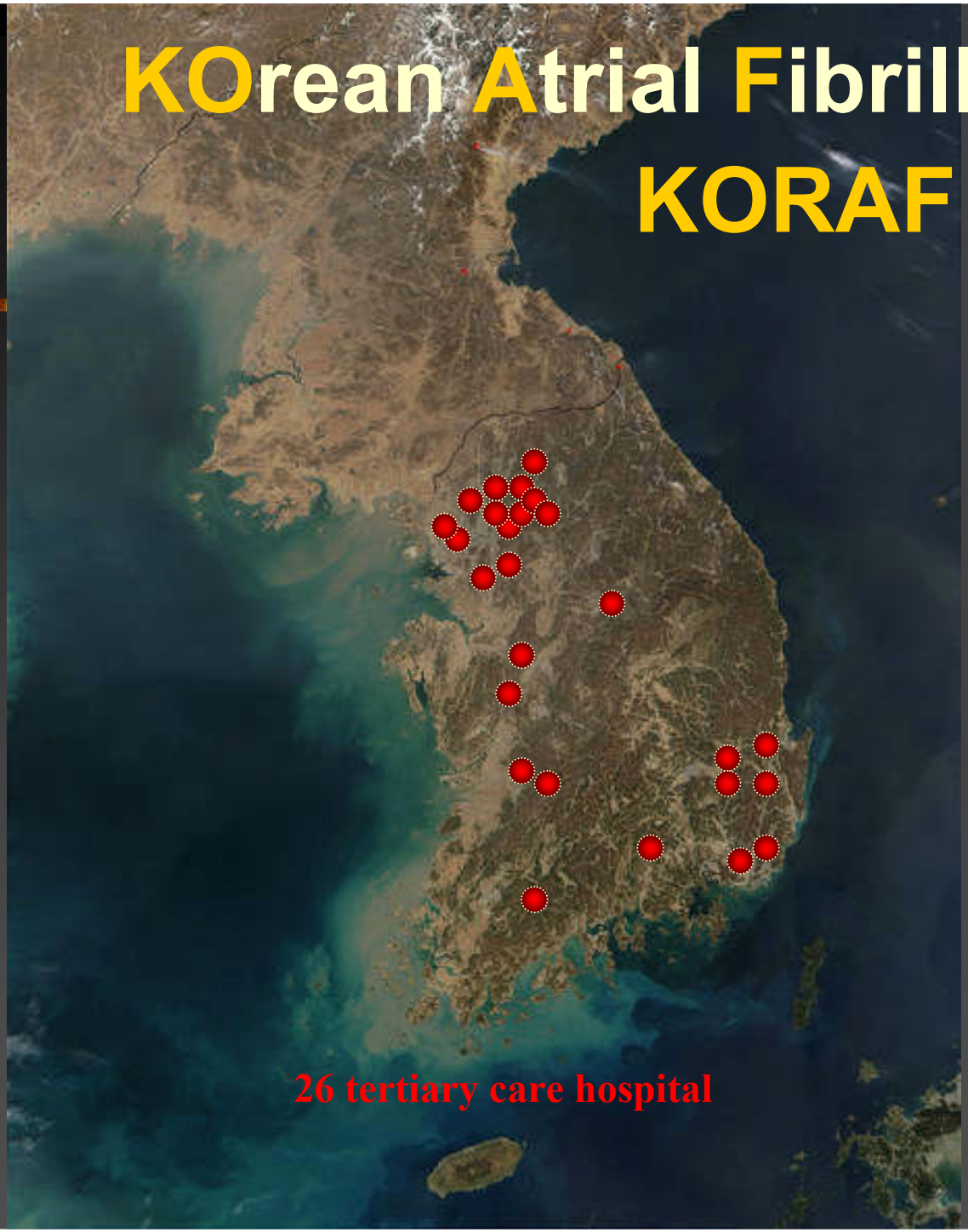
Nationwide Prospective AF Registration Study

Korean Society of Cardiac Arrhythmias

Korean Society of Circulation

KOrean Atrial Fibrillation Study

KORAF



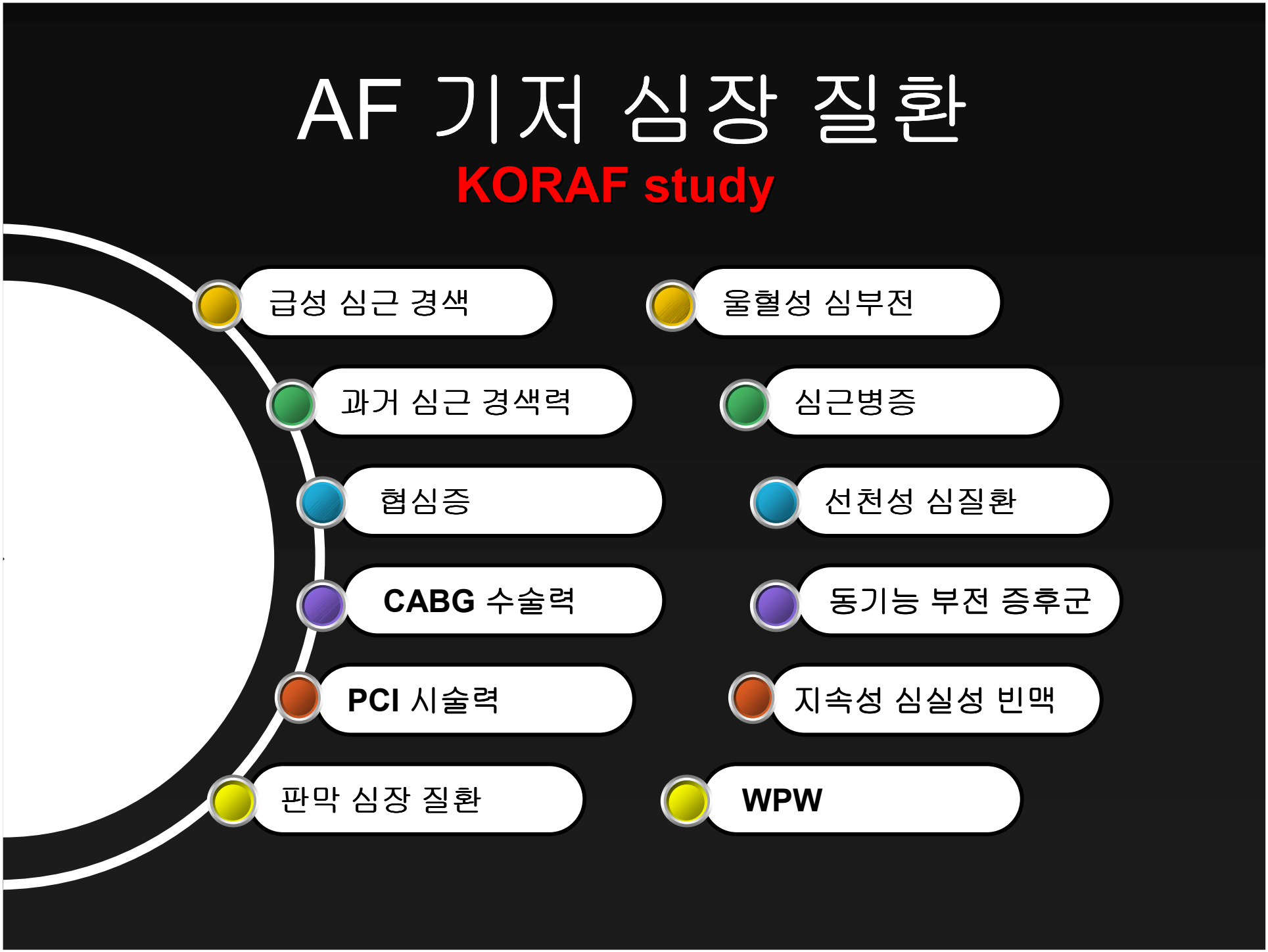
Catholic University (1,2,3)
Kyungbuk National University
Keimyoung University
Korea University
Kosin University
Kyunghee University
Kyungsang University
Hanllym University
Gil Hospital
Dankook University
Sejong Heart Center
Seoul National University
Samsung Medical Center
Yeongnam University
Yonsei University
Asan Medical Center
Wongwang University
Inje University (1,2)
Inha University
Chunnam National University
Chunbuk National University
Chungnam National University
Chungbuk National University

AF 심혈관계 위험요인

KORAF study

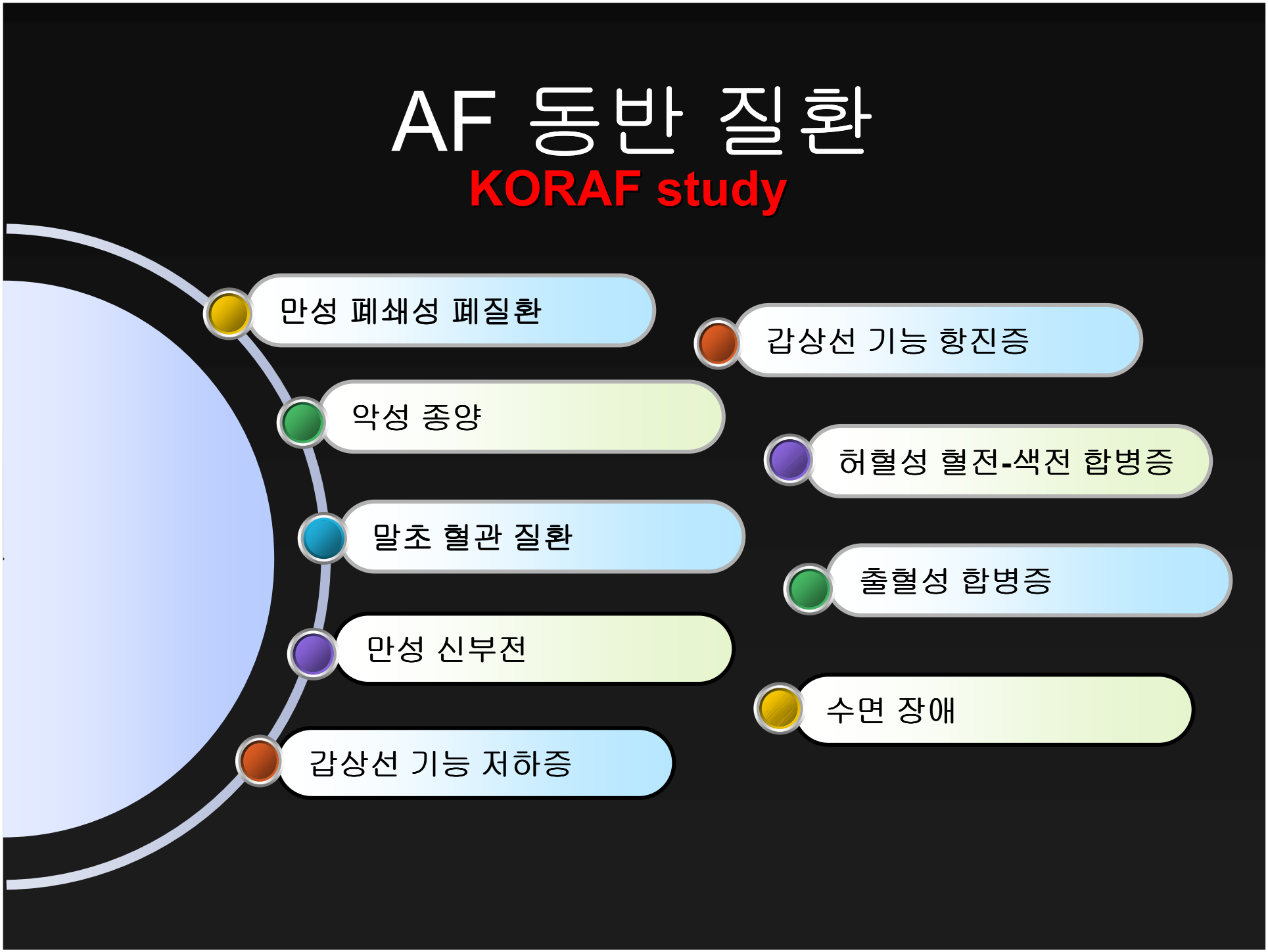
AF 기저 심장 질환

KORAF study



AF 동반 질환

KORAF study



AF 삶의 질(QOL)

KORAF study

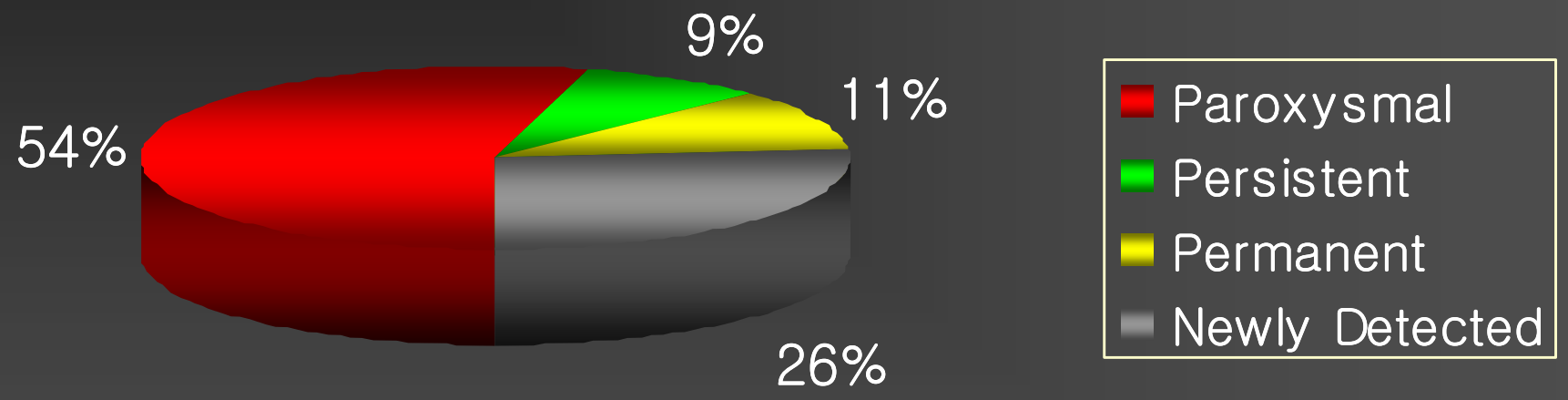
	이동	자가 관리	일상 생활	통증 / 불편	불안 / 우울
1	걷는데 전혀 문제가 없다	자기 관리에 문제가 없다	일상활동의 영위에 문제가 없다	통증이나 불편함이 없다	불안하거나 우울하지 않다
2	걷는데 약간의 문제를 가지고 있다	스스로 씻거나 옷을 입는데 있어 약간의 어려움이 있다	일상활동에 약간의 어려움이 있다	중증도의 통증이나 불편함이 있다	약간 불안하거나 우울하다
3	침대에 누워 지낸다	스스로 씻거나 옷을 입을 수 없다	일상활동을 수행할 수 없다	극심한 통증이나 불편함이 있다	극심하게 불안하거나 우울하다
4	불명	불명	불명	불명	불명

AF 현재 증상

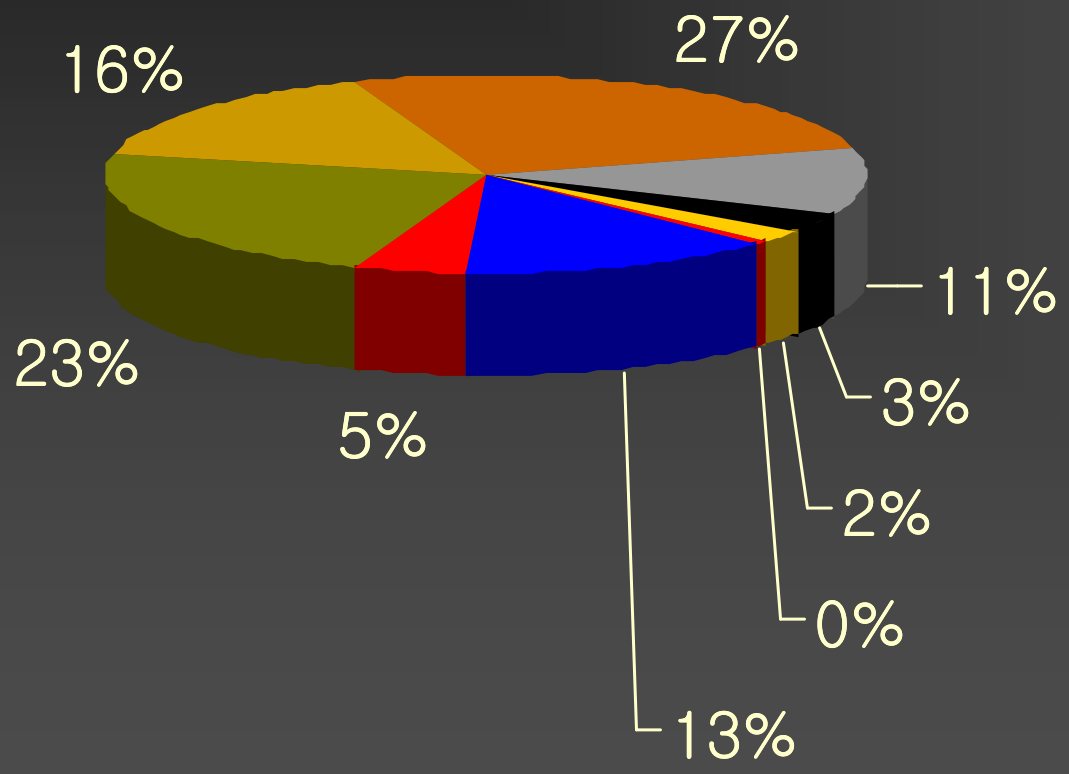
KORAF study

KORAF

Clinical Types of AF



KORAF
Symptoms of AF

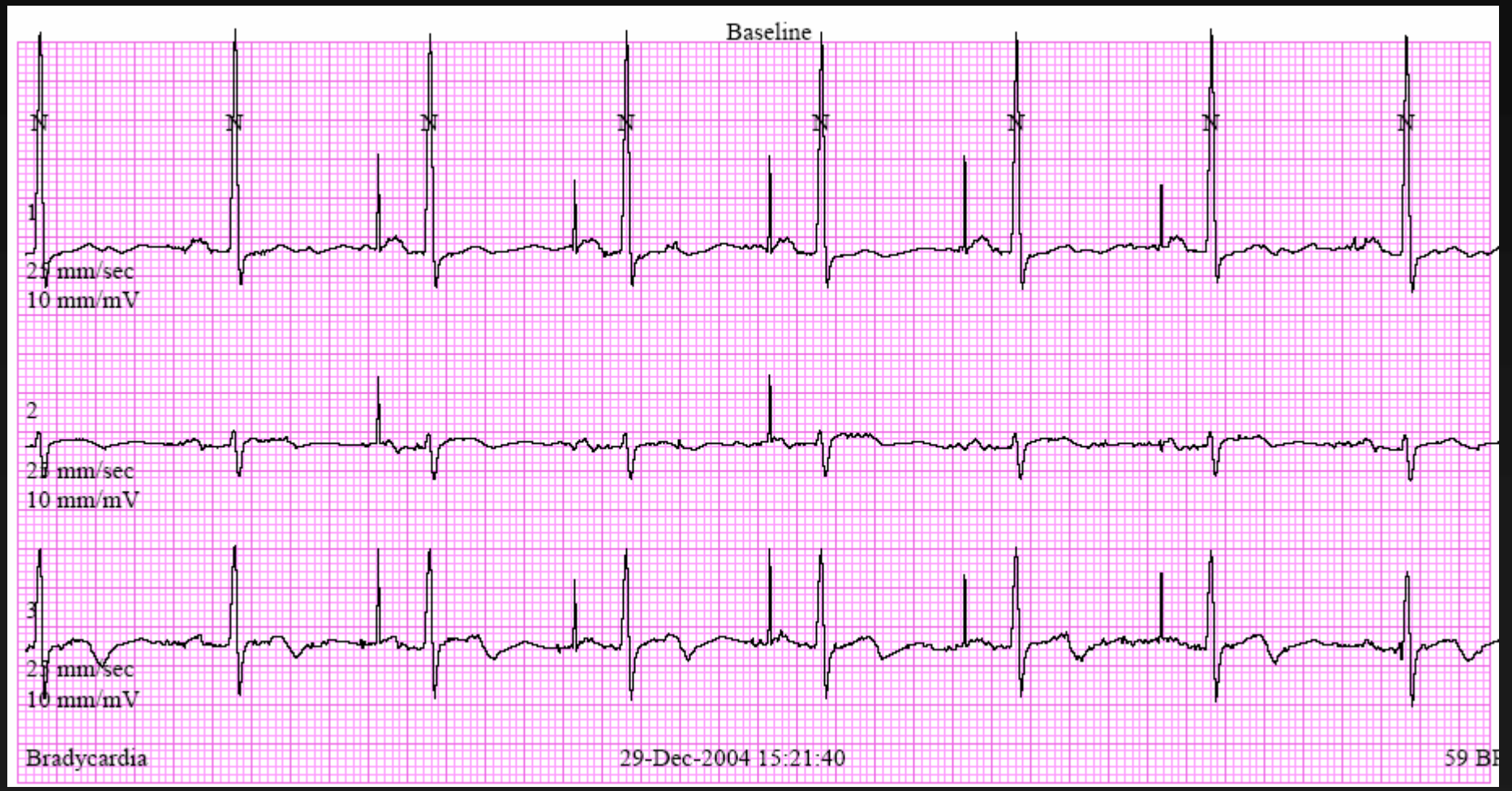


Atrial Fibrillation

Clinical Presentations

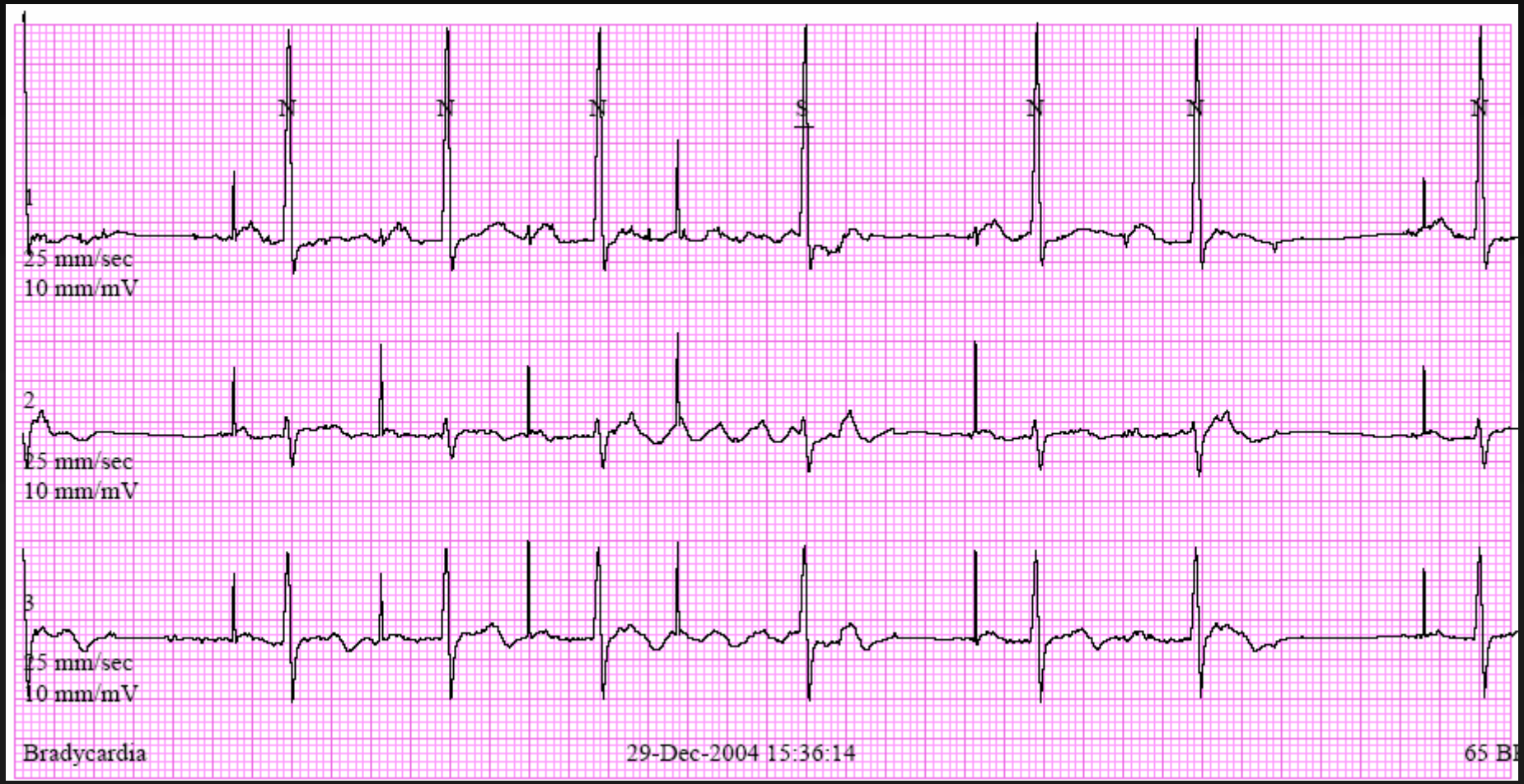
- **Paroxysmal palpitations**
- **Chest pain/dyspnea/fatigue**
- **Congestive heart failure**
- **Stroke**
- **Sudden death (cardiac or cardiovascular)**
- **Asymptomatic**

F/63, WGJ, Pacemaker d/t SSS on Jan, 2000

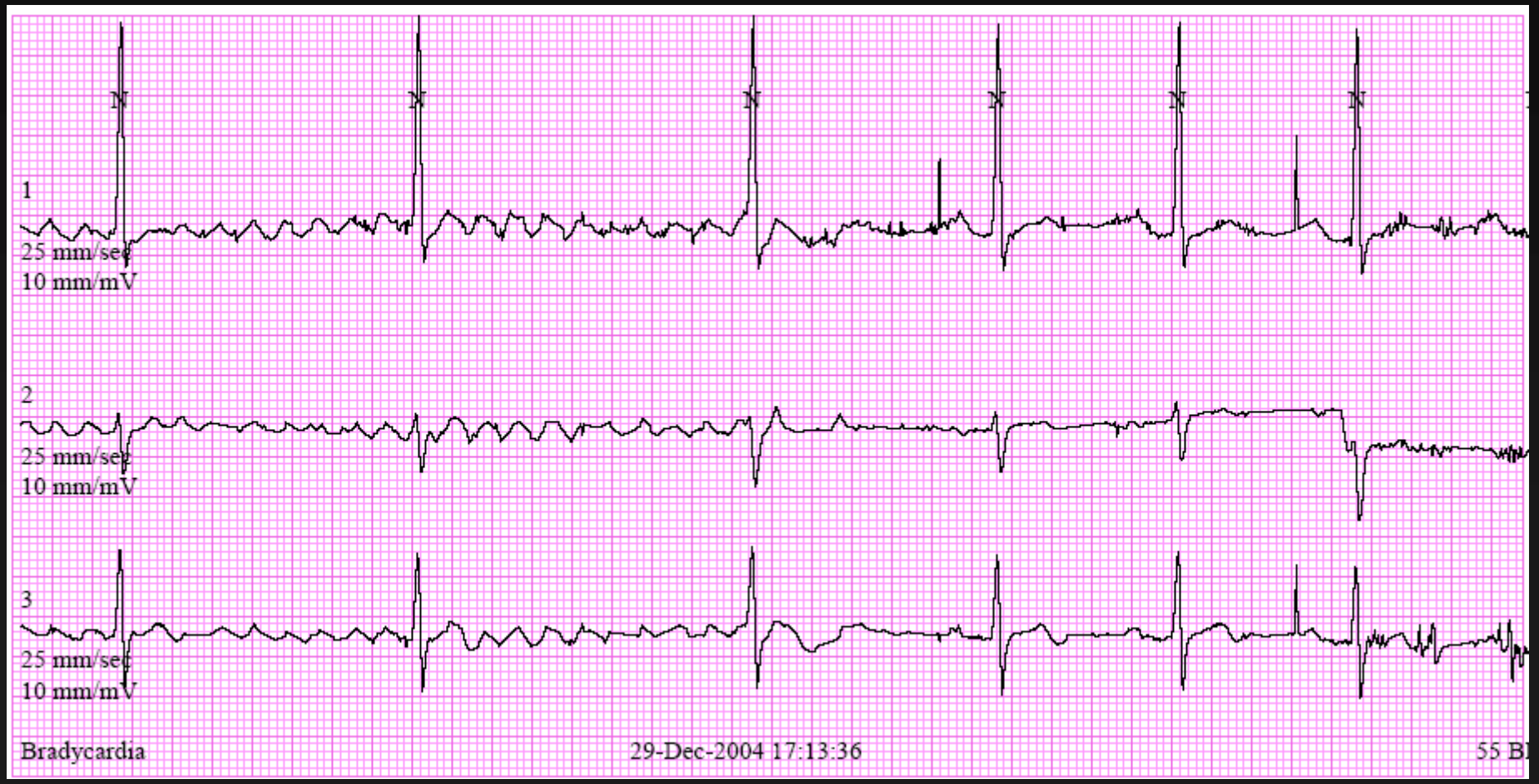


Holter, 2004

F/63, WGJ, NS AF on Holter, 2004

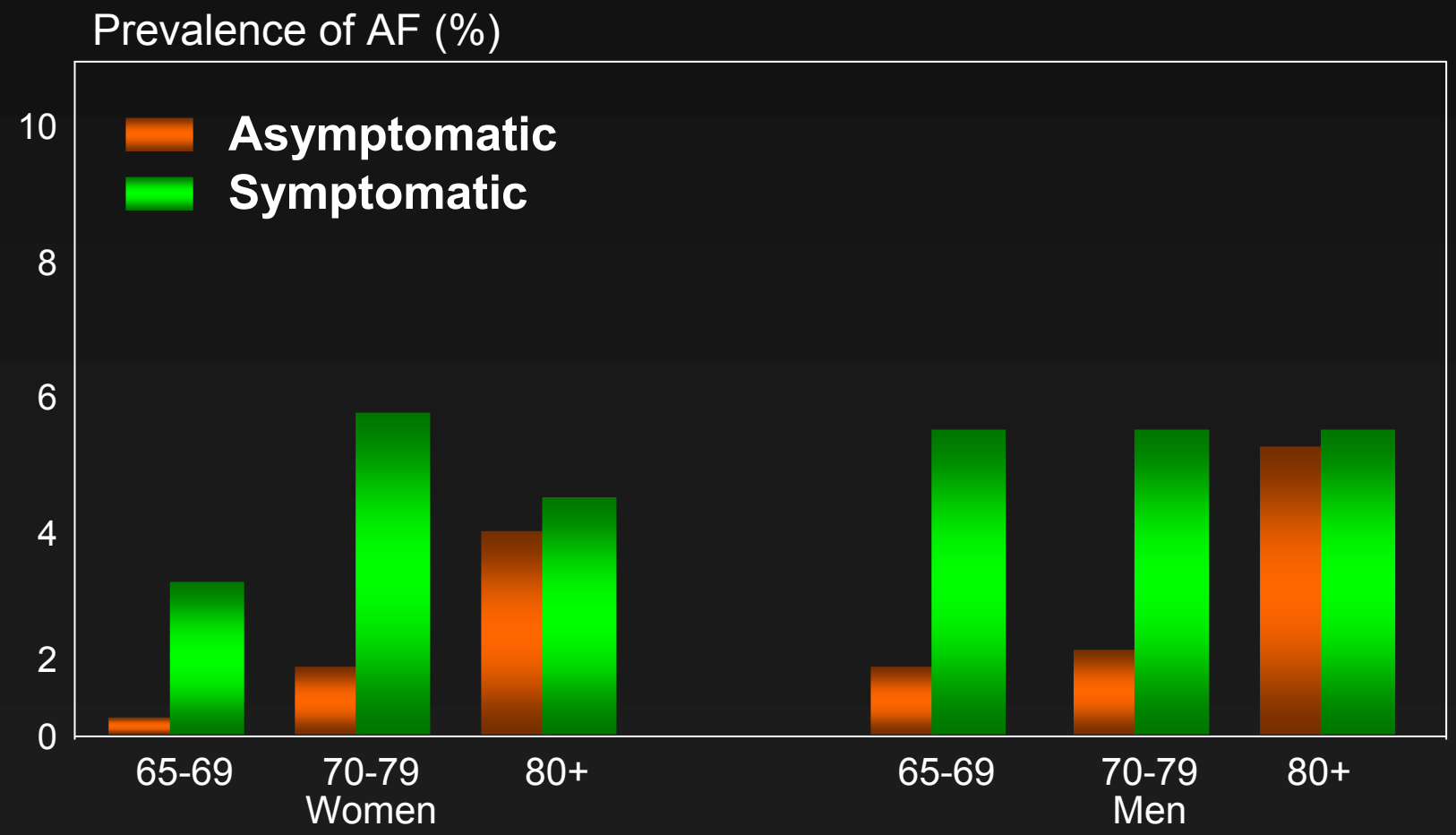


F/63, WGJ, PAF on Holter, 2004



Atrial Fibrillation

Symptomatic vs. Asymptomatic



Cardiovascular Health Study – Furberg et al, Am J Cardiol 1994

CARAF

CAnadian *R*egistry of *A*trial *F*ibrillation

Patients

674 AF enrolled at the time of initial diagnosis

Symptomatic
532(79%)

Asymptomatic
142(21%)

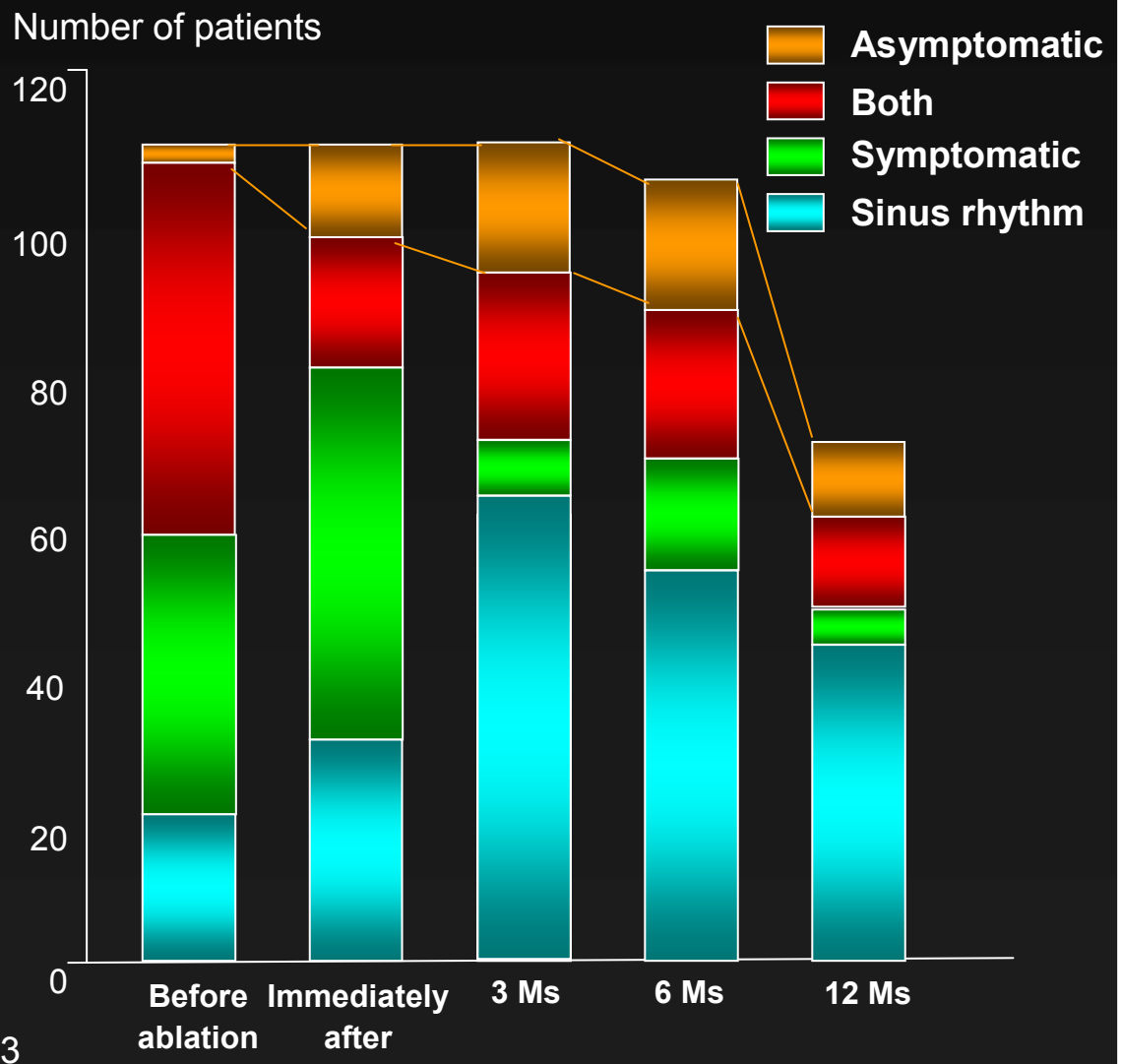
Factors associated with symptomatic AF:

1. **Young age**
2. **Female gender**
3. **↑Blood pressure**
4. **Paroxysmal AF**
5. **↑Heart rate during AF**

Kerr C, et al. Eur Heart J 1996;17 (Suppl C):48-51

Relevance of Silent AF After AF Ablation

7-day Holter	#pts	ASX
Before ablation	114	5%
Immediately after	114	22%
3 months	114	38%
6 months	108	37%
12 months	70	36%



Hindricks G, et al, Circulation 2005;112:307-13

QoL is Reduced in Asymptomatic AF

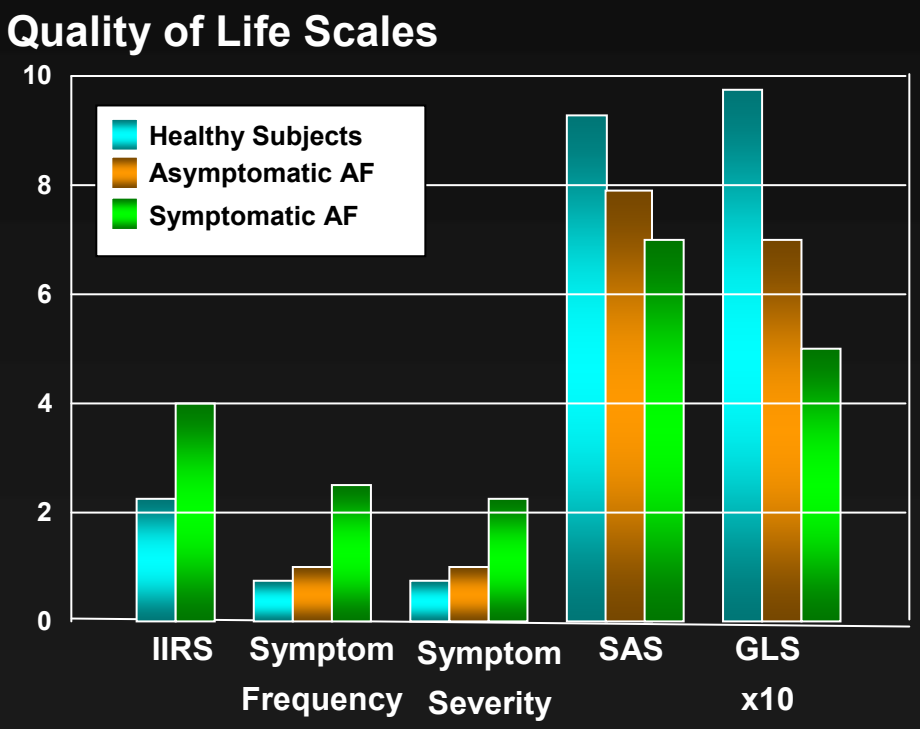
Data from the Multicentre Study

154 patients with AF
60.5% paroxysmal, 39.5% persistent

38 Asymptomatic

118 Symptomatic

No difference in NYHA class, LVEF & LA size



- *p<0.003 Asymptomatic AF vs Controls*
- *P<0.005 Symptomatic vs Asymptomatic AF and Controls on all scales*

Savelieva I, et al. Eur Heart J 1999;24(Suppl)

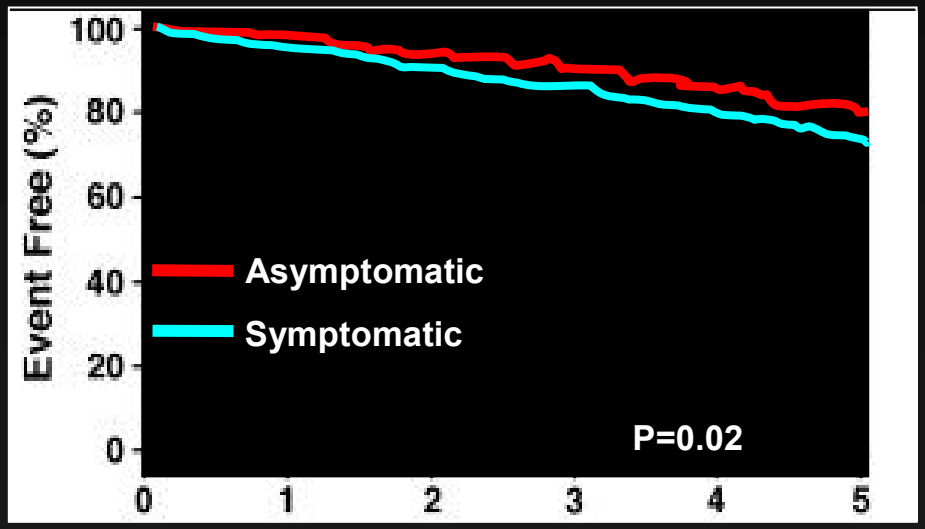
Asymptomatic AF in AFFIRM

Secondary Outcome

Therapy before Rx	ASX	SX	p
Aspirin	21%	27%	.002
Warfarin	91%	84%	<.0001
Digoxin	41%	55%	<.0001
B-blocker	39%	43%	NS
CCB	48%	60%	<.0001
ACEI/ARB	40%	39%	NS.
Diuretic	29%	44%	<.0001
Anti-thyroid	7%	10%	NS.

Stroke:

21/481 (4.4%) [ASX] vs 136/3576 (3.8%) [SX]



Events					
Symptomatic	215 (6%)	411 (12%)	563 (17%)	701 (23%)	774 (29%)
Asymptomatic	17 (4%)	42 (8%)	62 (14%)	73 (18%)	87 (21%)

Flaker GC, et al, AHJ 2005;149:657-663

Atrial Fibrillation

Therapy	Symptoms	Silent
Antiarrhythmic	√	
Anticoagulant	√	
Rate Control	√	√

- DC Cardioversion
- AAD
- Catheter Ablation

-context dependent-

Asymptomatic AF

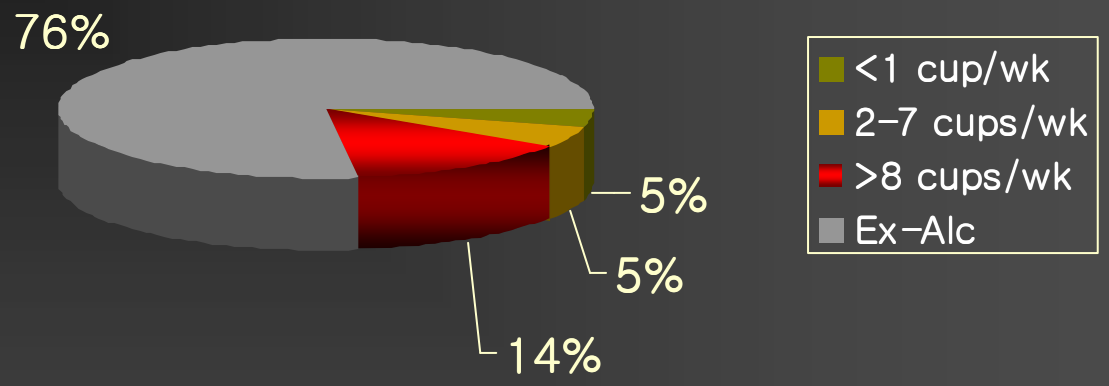
- Asymptomatic AF is common
- Silent AF occurs in patients with symptomatic AF
- Silent AF may result from treatment of symptomatic AF
- Complications in silent and symptomatic AF are similar
- QoL is reduced in silent AF as in symptomatic AF
- Silent AF merits AC & rate control according to normal criteria
- Consider rhythm control for silent AF in context-dependent

Atrial Fibrillation

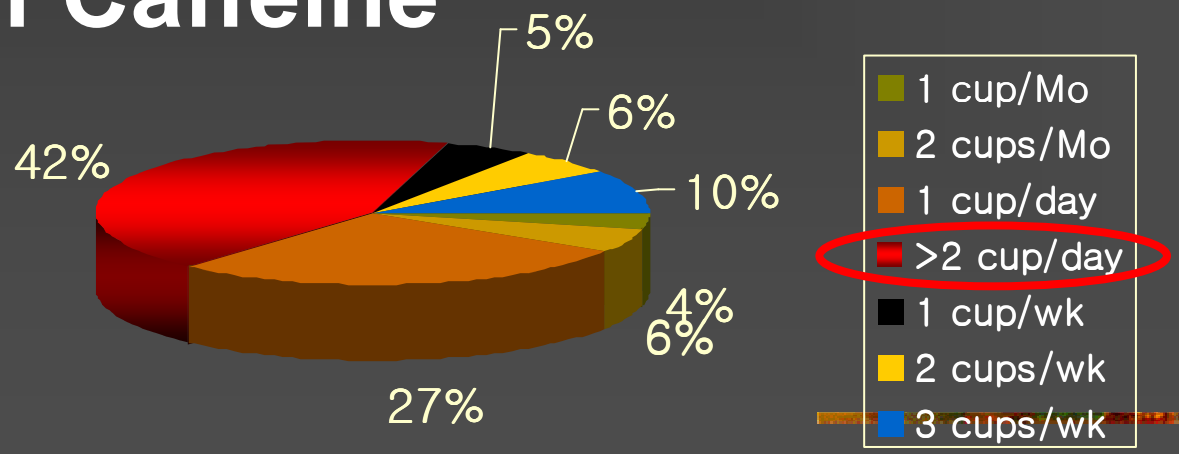
Symptomatic AF:
Only "the tip of the Iceberg"

KORAF

Intake of Alcohol



Intake of Caffeine



Alcohol Consumption and Risk of AF: "The Copenhagen City Heart Study"

Heavy alcohol consumption of >35 drinks/wk associated with an **increased risk of AF**

n=16,415

Circulation, 2005;112:1736-42

Long-term Alcohol Consumption and the Risk of AF in the Framingham Study:

Heavy alcohol consumption of >36 g/day (> 3 drinks/day, 맥주 3병, 소주 2/3병, 위스키 1/3 병) associated with an increased risk of AF

n=1,055

Am J Cardiol, 2004;93:710-713

Role of Alcohol in New-Onset AF

Among pts less than 65 yrs old, alcohol caused or contributed to two thirds (63%) of new-onset AF.

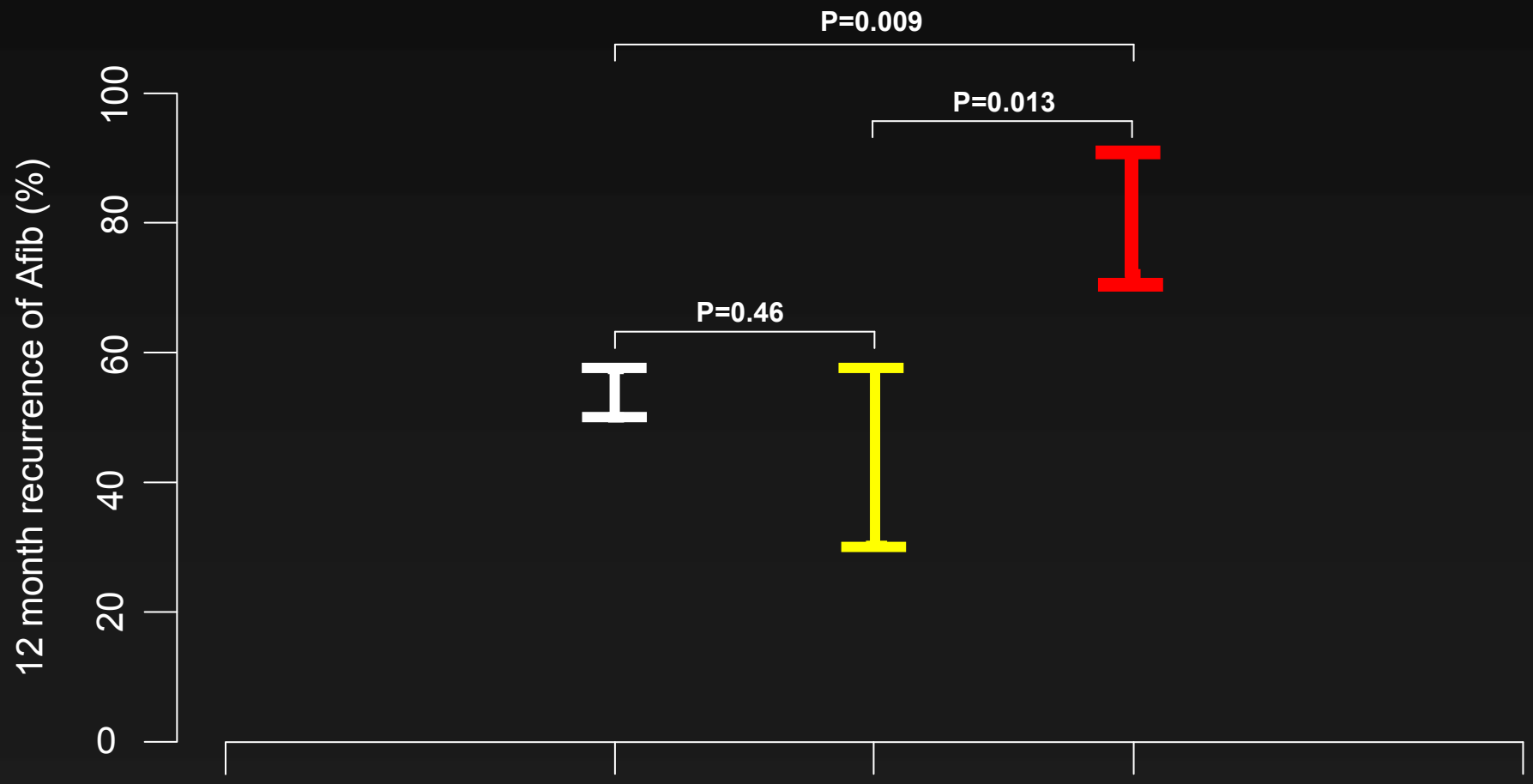
> 65 yrs old: CAD (22.5%) & Lung disease (22.5%)

Arch Intern Med 1983;143:1882

First-detected AF

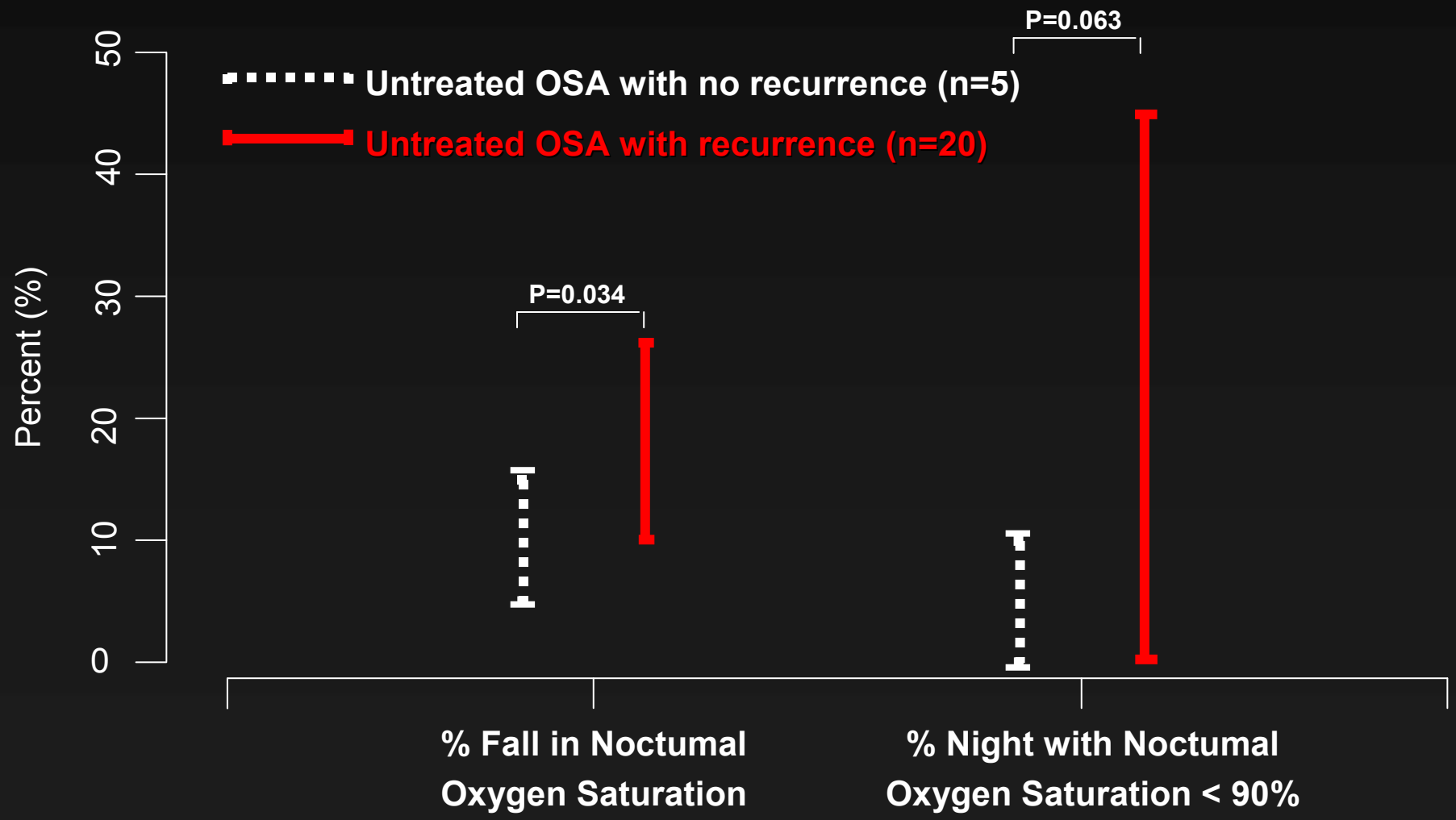
- Asymptomatic AF
- Alcohol is an important cause

"Obstructive Sleep Apnea" and the Recurrence of Atrial Fibrillation



Circulation. 2003; 107:2589-2594

"Obstructive Sleep Apnea" and the Recurrence of Atrial Fibrillation



Circulation. 2003; 107:2589-2594

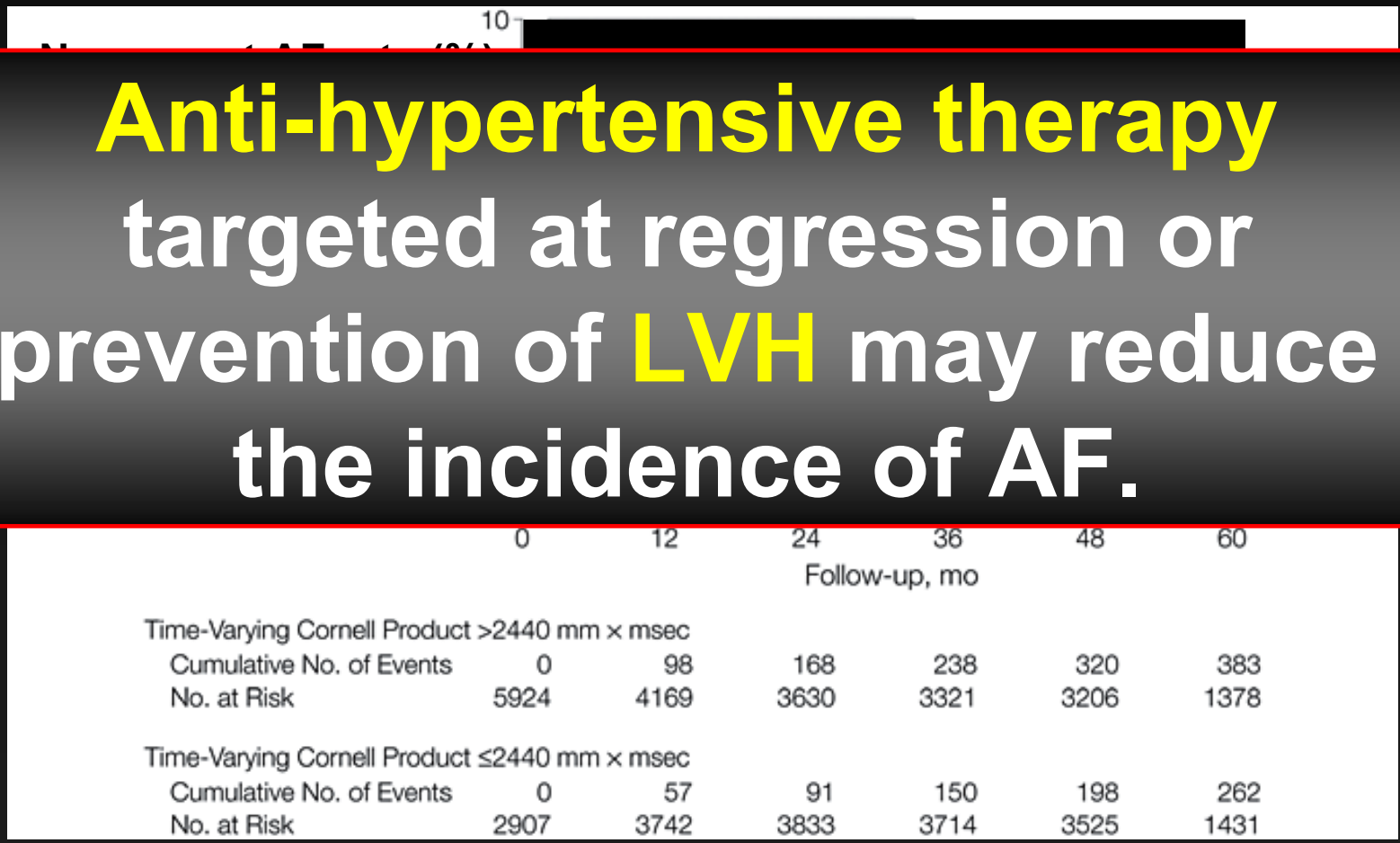
- The pts with AF, particularly those who are obese, should be screened for OSA.

- The pts with OSA may benefit from screening for AF, because both OSA and AF predispose to stroke and HF.

First-detected AF

- “Asymptomatic AF”
- “Alcohol”
- “Obstructive sleep apnea”

"Regression of LVH" and Decreased Incidence of New-Onset AF in Pts with Hypertension

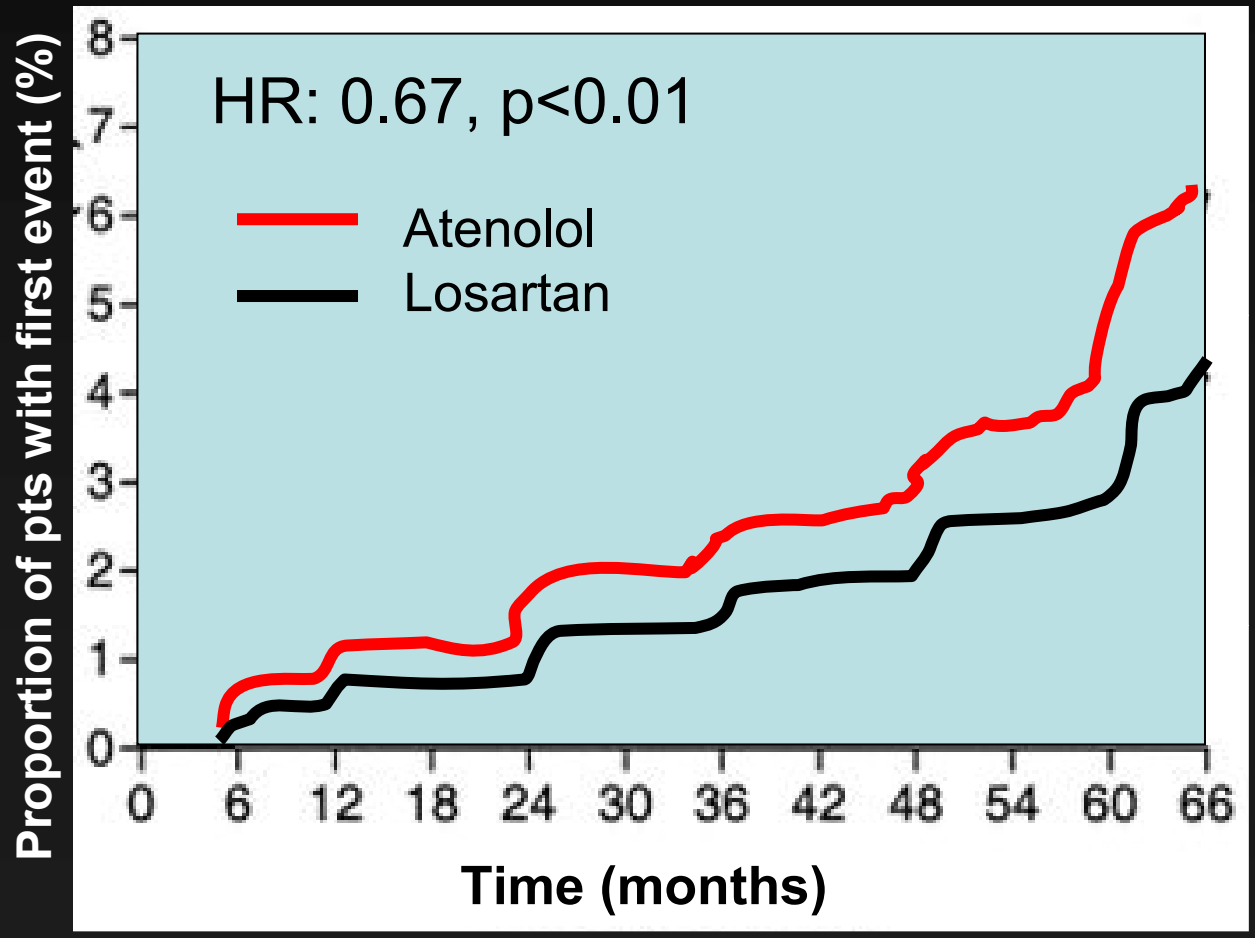


Time-Varying Cornell Product >2440 mm × msec						
Cumulative No. of Events	0	98	168	238	320	383
No. at Risk	5924	4169	3630	3321	3206	1378
Time-Varying Cornell Product ≤2440 mm × msec						
Cumulative No. of Events	0	57	91	150	198	262
No. at Risk	2907	3742	3833	3714	3525	1431

Anti-hypertensive therapy targeted at regression or prevention of LVH may reduce the incidence of AF.

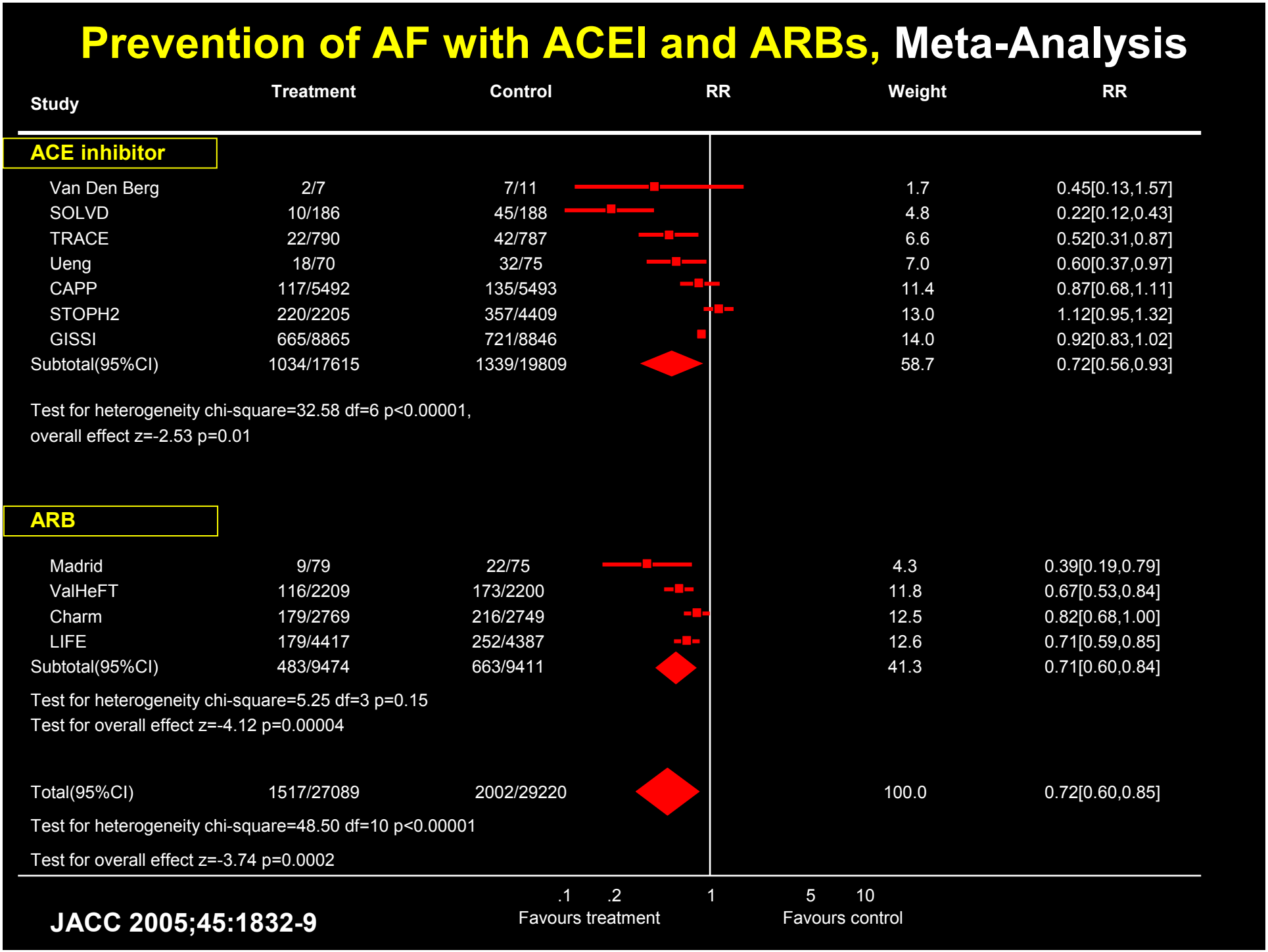
JAMA, 2006;296:1242-1248

Angiotensin II Receptor Blockade Reduces New-Onset AF and Stroke Compared to Atenolol "LIFE"



Wachtell K, et al. J Am Coll Cardiol 2005;45:712-9

Prevention of AF with ACEI and ARBs, Meta-Analysis



JACC 2005;45:1832-9

First-detected AF

- “Asymptomatic AF”
- “Alcohol”
- “Obstructive sleep apnea”
- “LVH reduction with ACEI/ARB”

Case #1

72세 여자 환자, 안정시에도 나타나는 호흡곤란 (NYHA III)이 약 1주일전부터 서서히 악화되어 내원,

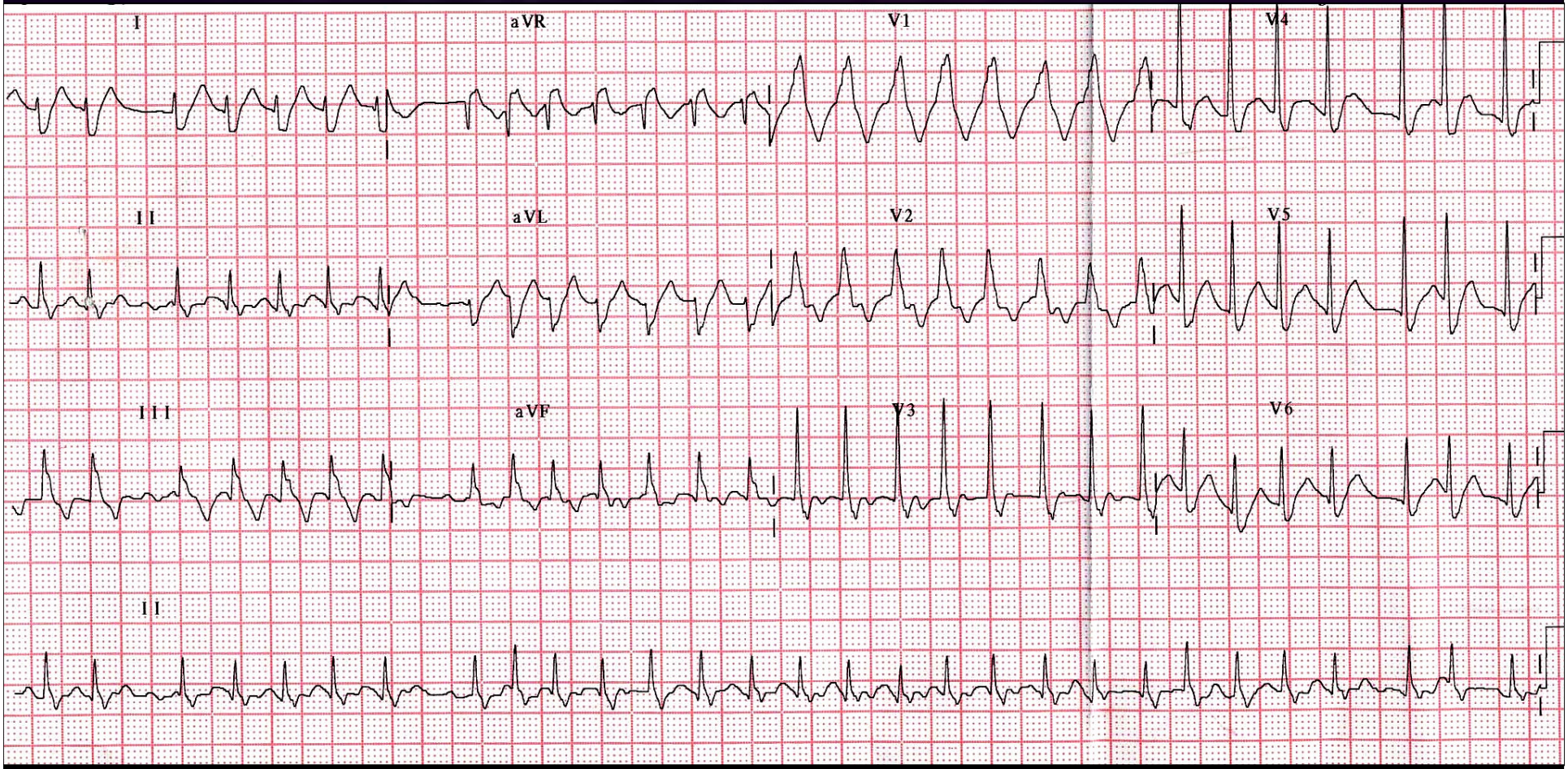
당시 심전도는 다음과 같았다.

심초음파도상 심구혈율이 25%이었으며 좌심방과 좌심실이 확장되어 있었다.

혈압은 100/70 mmHg이었고 호흡수는 분당 24회이었다.

Case #1

AF with RBBB Aberration



Case #1

Q 1-1) 이 환자의 심장박동수의 조절을 위해 적절한 약제는 ?

가. **Diltiazem**

나. **Digoxin**

다. **Amiodarone**

라. **Verapamil**

1) 가,나,다 **2)**가,다 **3)**나,라 **4)** 라 **5)** 가,나,다,라

Case #1

Q 1-2) 다음은 심방세동 환자를 치료할 때 중요하게 고려해야 할 사항들이다. 올바른 것은?

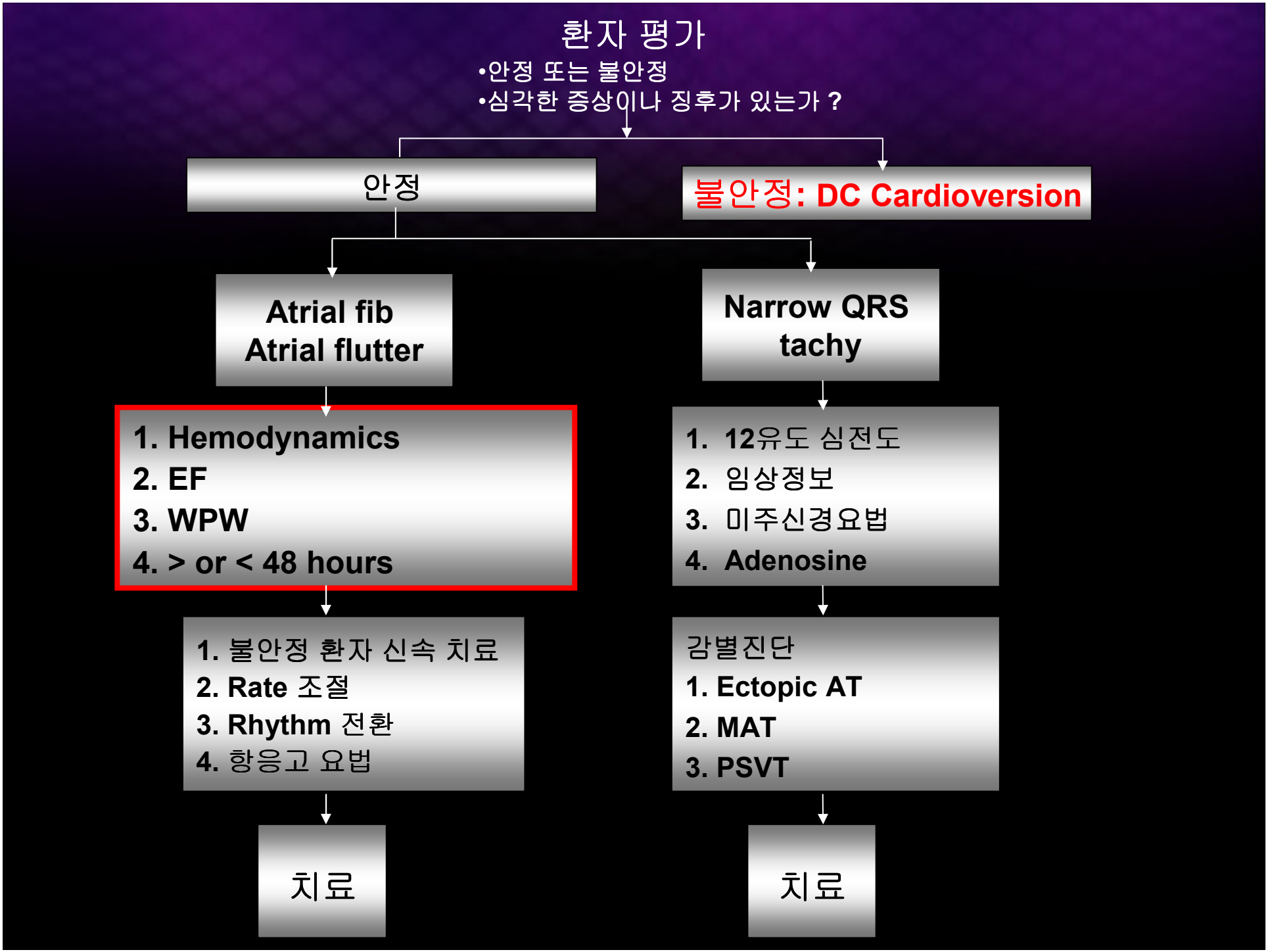
가. 혈역학적으로 안정한가?

나. 심장기능의 손상이 있는가 (심구혈율은) ?

다. WPW증후군의 심전도 소견은 없는가?

라. 심방세동이 발생한지 48시간 이상이 경과하였는가?

1) 가,나,다　　2) 가,다　　3) 나,라　　4) 라　　5) 가,나,다,라


환자 평가
•안정 또는 불안정
•심각한 증상이나 징후가 있는가 ?
안정
불안정: DC Cardioversion
Atrial fib
Atrial flutter
Narrow QRS
tachy
1. Hemodynamics
2. EF
3. WPW
4. > or < 48 hours
1. 12유도 심전도
2. 임상정보
3. 미주신경요법
4. Adenosine
1. 불안정 환자 신속 치료
2. Rate 조절
3. Rhythm 전환
4. 항응고 요법
감별진단
1. Ectopic AT
2. MAT
3. PSVT
치료
치료

> 48 hours of AF/AFL

1. Rate control

심장기능 정상

- Diltiazem or CCB
- Metoprolol

심장기능 손상

- Diltiazem(IIb)
- Digoxin(IIb)
- Amiodarone(IIb)

Not (class III)
Class I & III

2. Rhythm control

Urgent Cardioversion (CV)

Heparin IV
TEE
CV within 24 hours
Anticoagulation for > 4 weeks

Elective Cardioversion (CV)

Anticoagulation for > 3 weeks
CV
Anticoagulation for > 4 weeks

Case #1

Q 1-1) 이 환자의 심장박동수의 조절을 위해 적절한 약제는 ?

가. **Diltiazem**
나. **Digoxin**
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라. **Verapamil**

1) 가,나,다 **2)**가,다 **3)**나,라 **4)** 라 **5)** 가,나,다,라

Digoxin in Acute Atrial Fibrillation

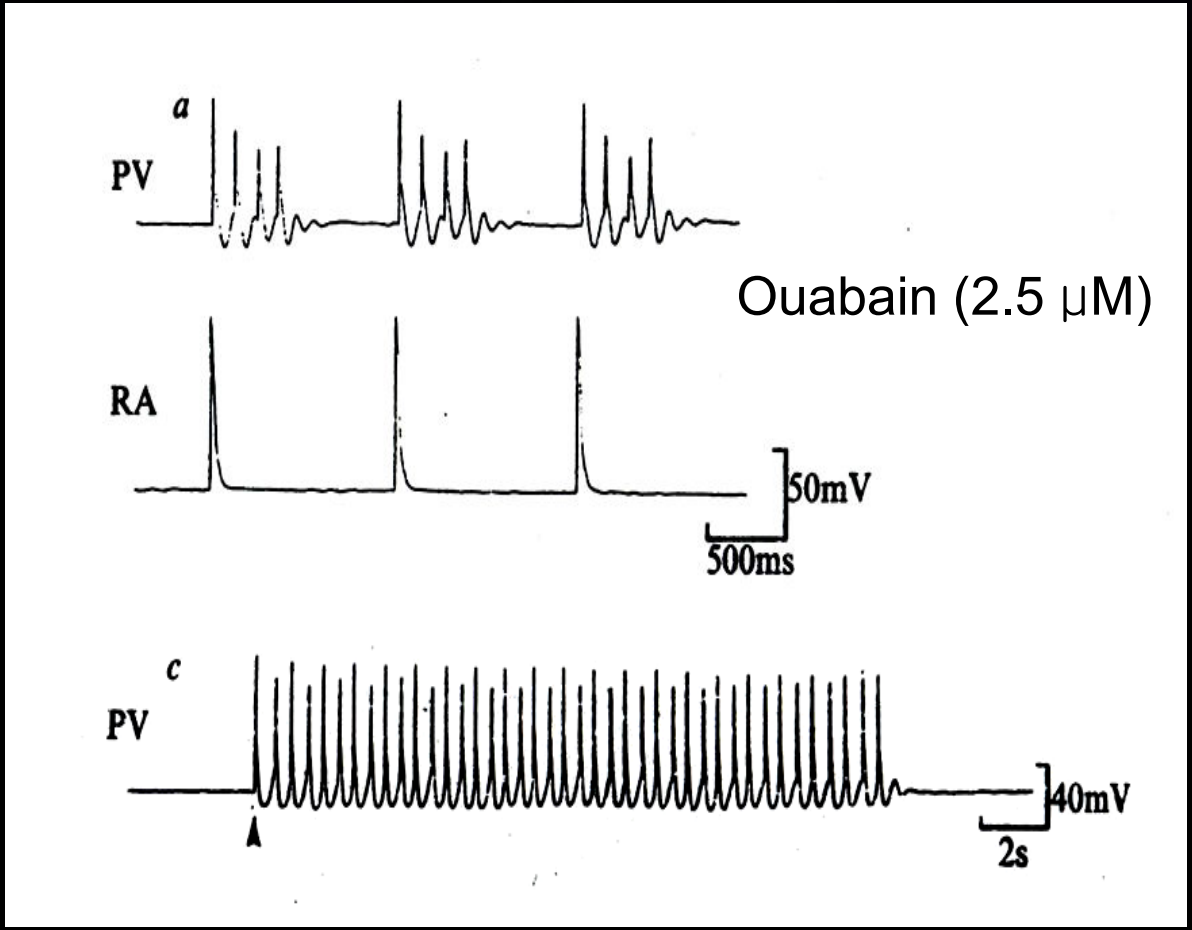
Digitalis in Acute Atrial Fibrillation (DAAF) Trial

- Conversion to SR at 16 h,
  46% of placebo
  51% of digoxin (NS)

- Time to SR was shorter in digoxin, but, the difference was not significant.

Eur Heart J 1997;18:649-54

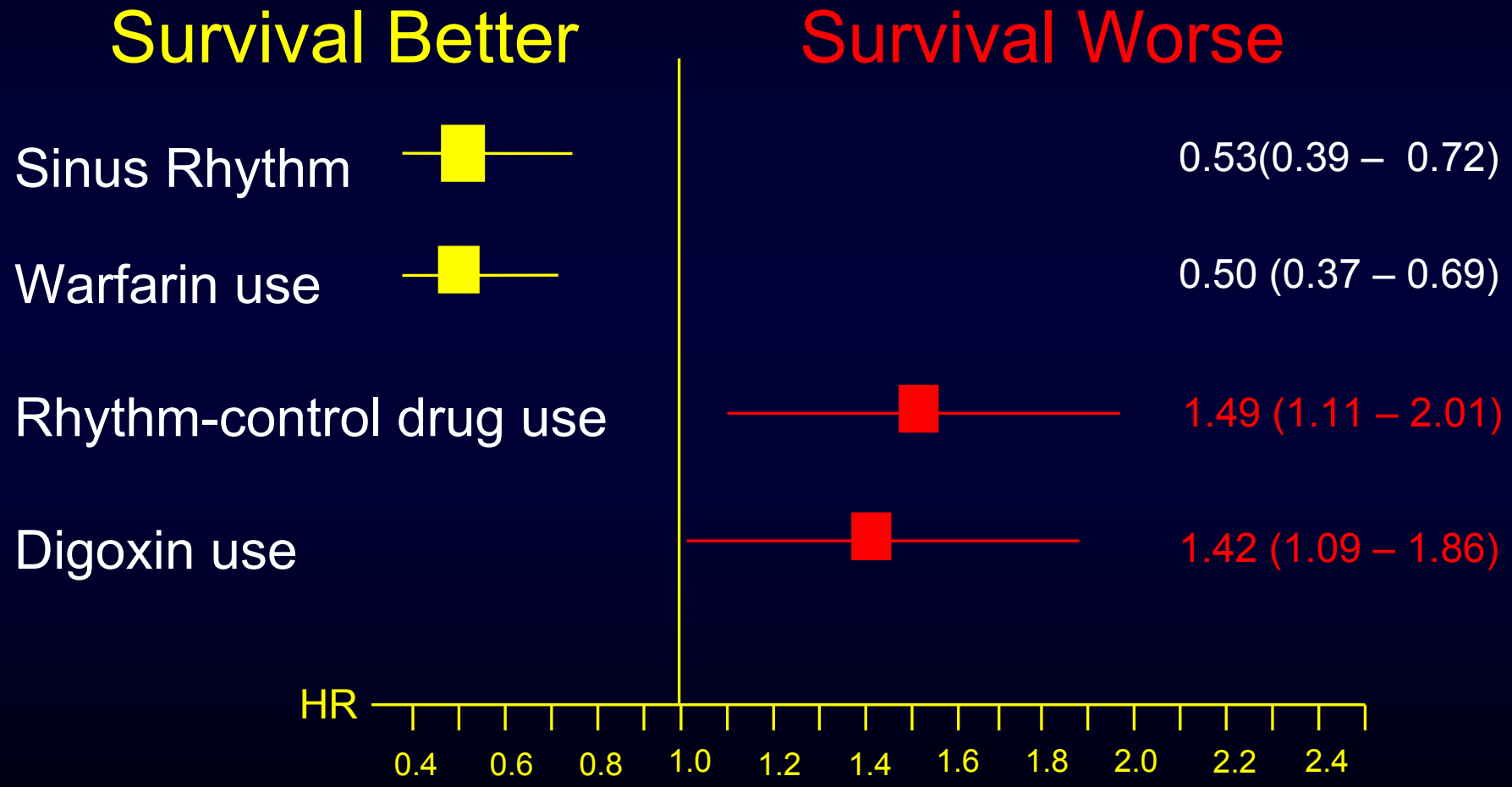
Digitalis-induced Ectopy at the Pulmonary Veins



Cheung DW. Nature 1981;294:582-4

AFFIRM

On-treatment analysis



Circulation. 2004;109:1509-1513.

Digoxin in Atrial Fibrillation

1) Digoxin is no more effective than placebo against AF.

2) Digoxin has potential to prolong the duration of paroxysmal AF.

3) While useful for slowing the ventricular rate during AF at rest, digoxin provides little control during exercise.

4) Except in heart failure, digoxin is not the first-line therapy for rate control in AF.

Outpatient Treatment of Recent-Onset Atrial Fibrillation With the "Pill-in-the-Pocket" Approach

Alboni P, et al.

NEJM 2004;351:2384-91

- Flecainide PO (300 mg or 200 mg, if BW > or < 70kg)
- Propafenone PO (600 mg or 450 mg)

Outpatient Treatment of Recent-Onset Atrial Fibrillation With the "Pill-in-the-Pocket" Approach

Alboni P, et al. NEJM 2004;351:2384-91

- **Inclusion criteria:**
  1) 18-75 yrs old
  2) Recent onset of AF: <48 hours
  3) Hemodynamically tolerable
  4) Mean HR > 70 bpm
  5) SBP > 100 mmHg
  6) 1-12 episodes/previous yr

First-detected AF

- “Asymptomatic AF”
- “Alcohol”
- “Obstructive sleep apnea”
- “LVH reduction with ACEI/ARB”
- “Adequate drugs (rate or rhythm control)”

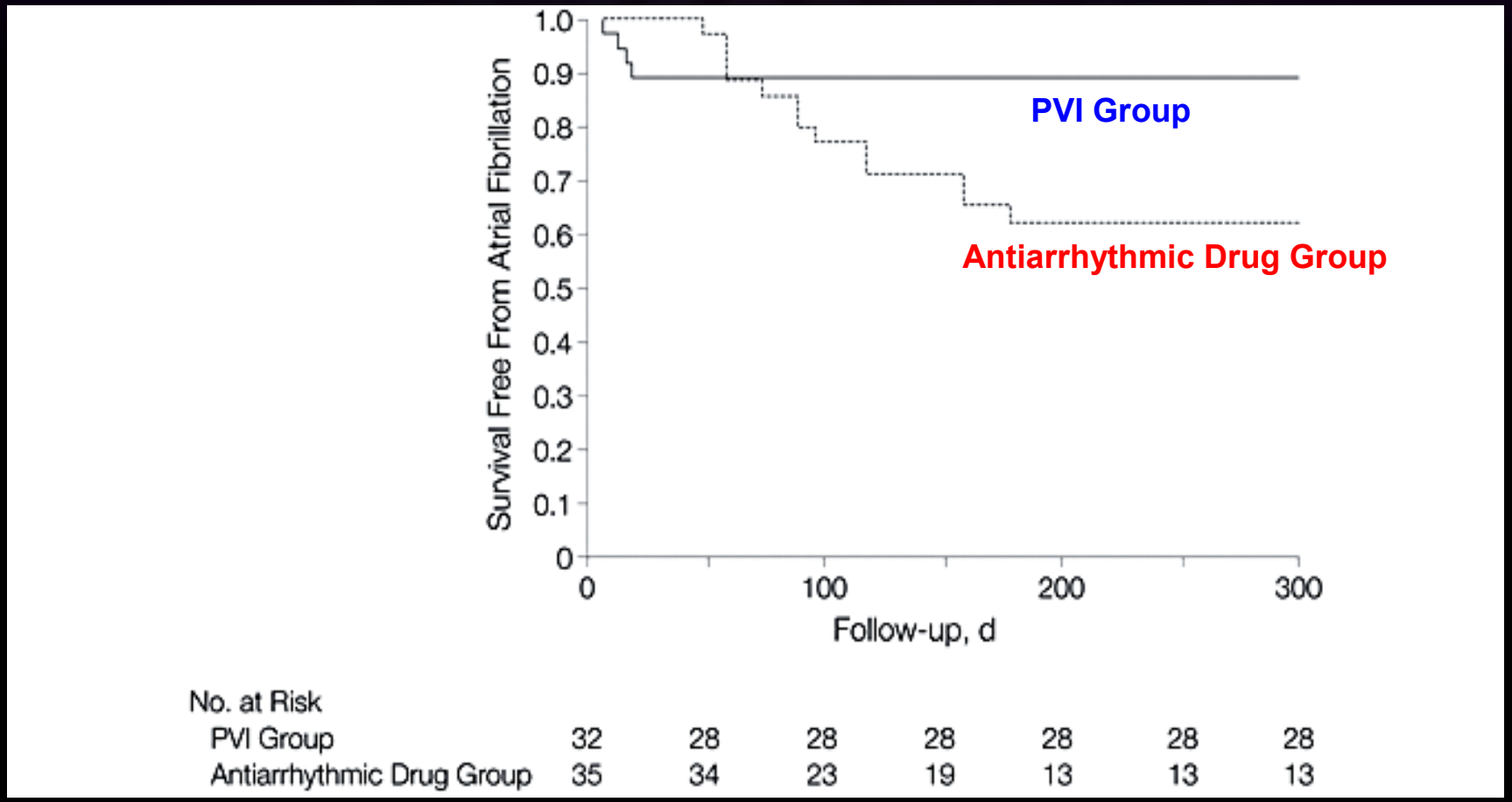
Radiofrequency Ablation vs Antiarrhythmic Drugs as First-line Treatment of Symptomatic AF

Multicenter prospective randomized study from 2001 to 2002. n=70, 1 yr F/U

Wazni, O. M. .. Natale Al. JAMA 2005;293:2634-2640.

First-line Therapy of AF: PVI vs. Antiarrhythmic Drug

Kaplan-Meier Curve of Survival Free From AF

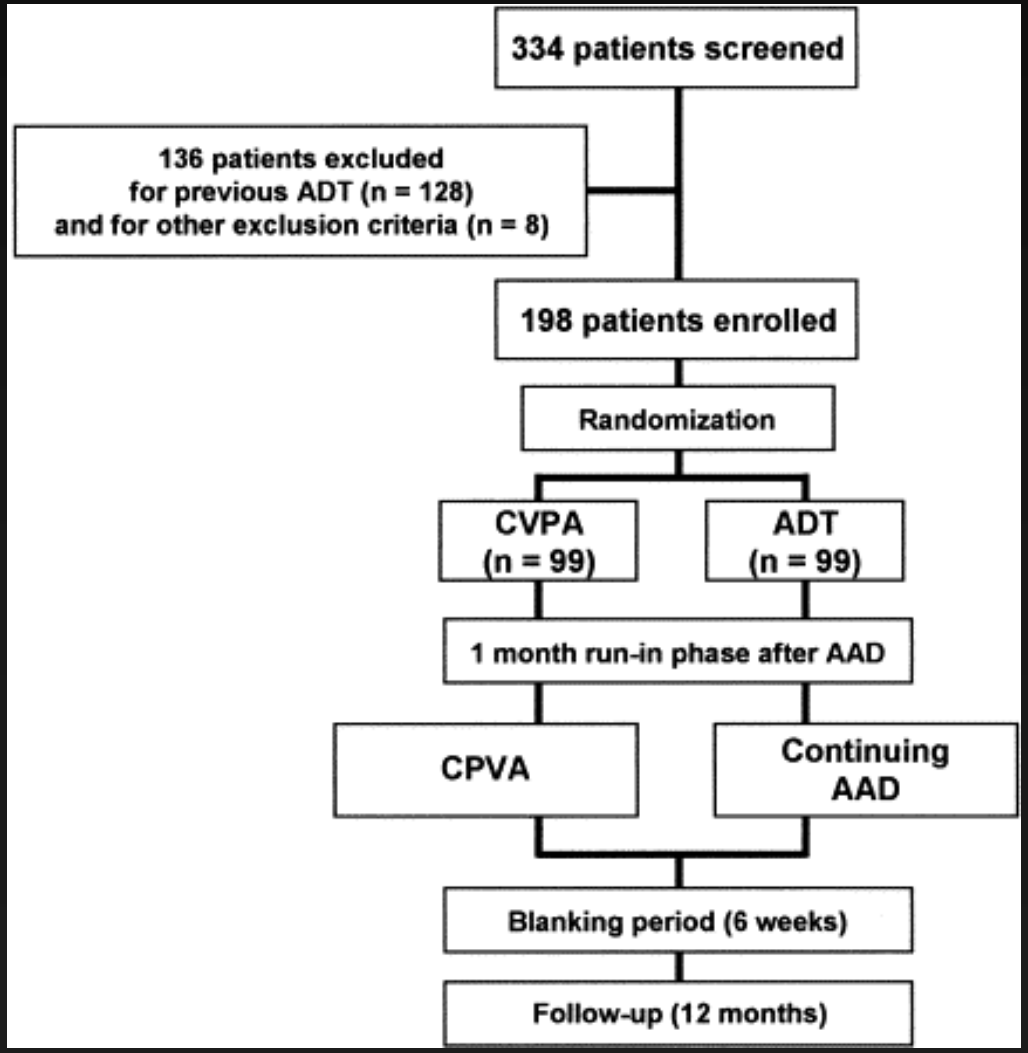


No. at Risk							
PVI Group	32	28	28	28	28	28	28
Antiarrhythmic Drug Group	35	34	23	19	13	13	13

Wazni, O. M. et al. JAMA 2005;293:2634-2640.

A Randomized Trial of Circumferential Pulmonary Vein Ablation vs. Antiarrhythmic Drug Therapy in Paroxysmal AF

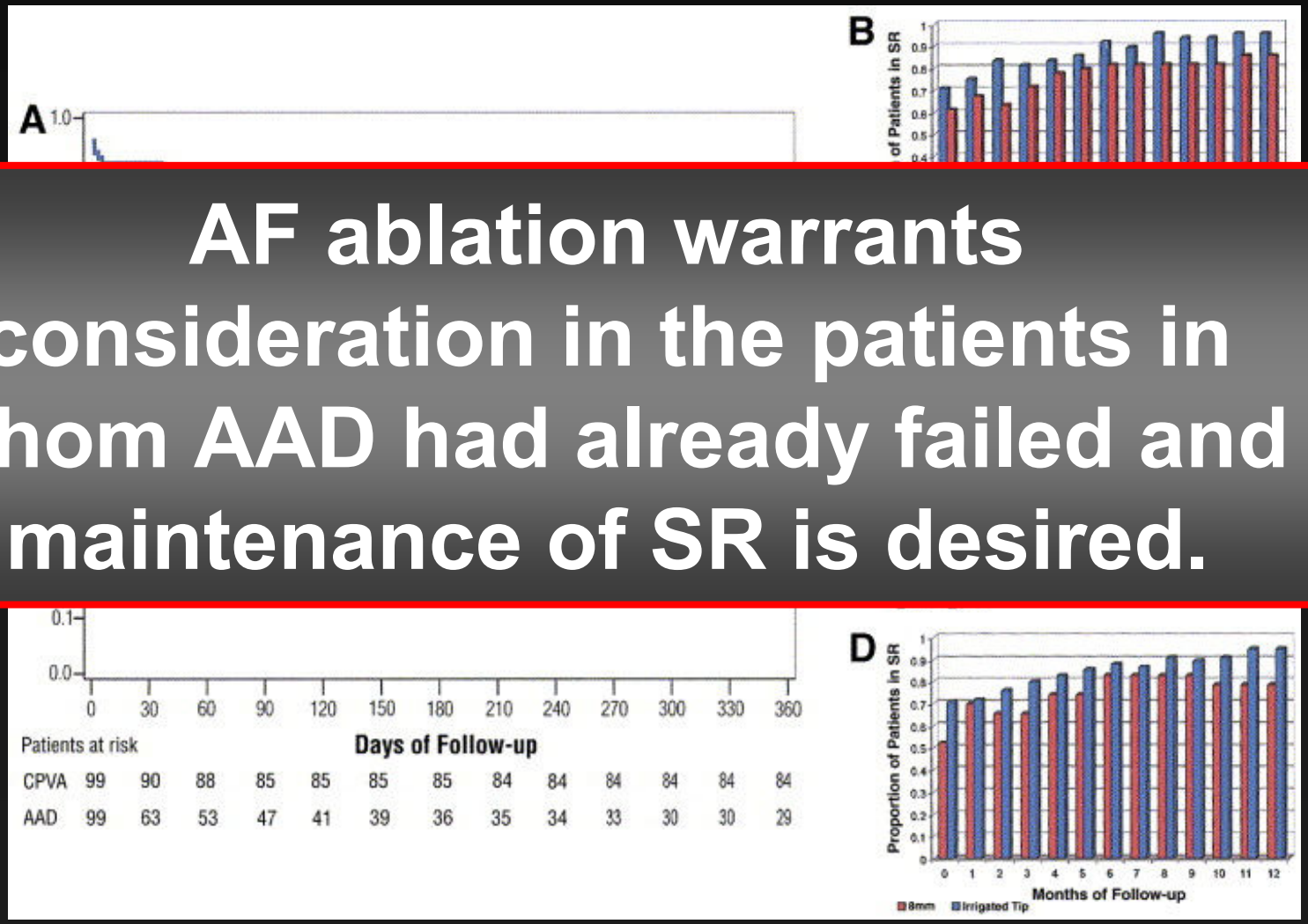
APAF



Pappone C, et al. J Am Coll Cardiol, 2006;48:2340-7

A Randomized Trial of Circumferential Pulmonary Vein Ablation vs. Antiarrhythmic Drug Therapy in Paroxysmal AF

APAF



AF ablation warrants consideration in the patients in whom AAD had already failed and maintenance of SR is desired.

Pappone C, et al. J Am Coll Cardiol, 2006;48:2340-7

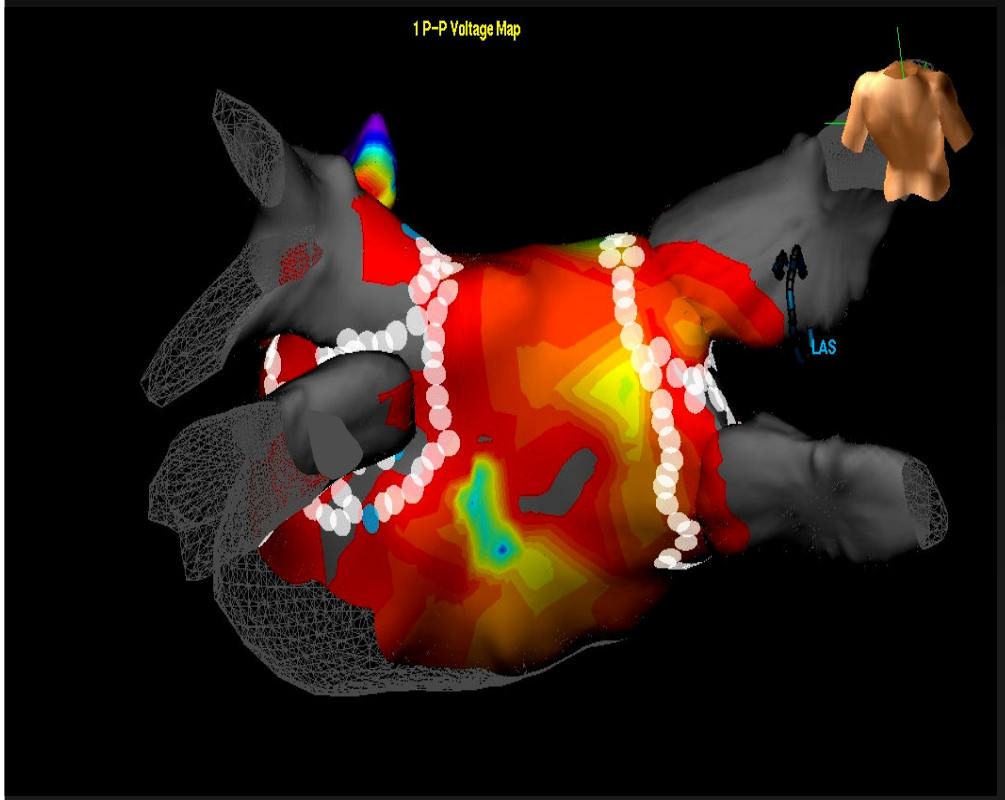
Circumferential Pulmonary Vein Ablation for Chronic AF

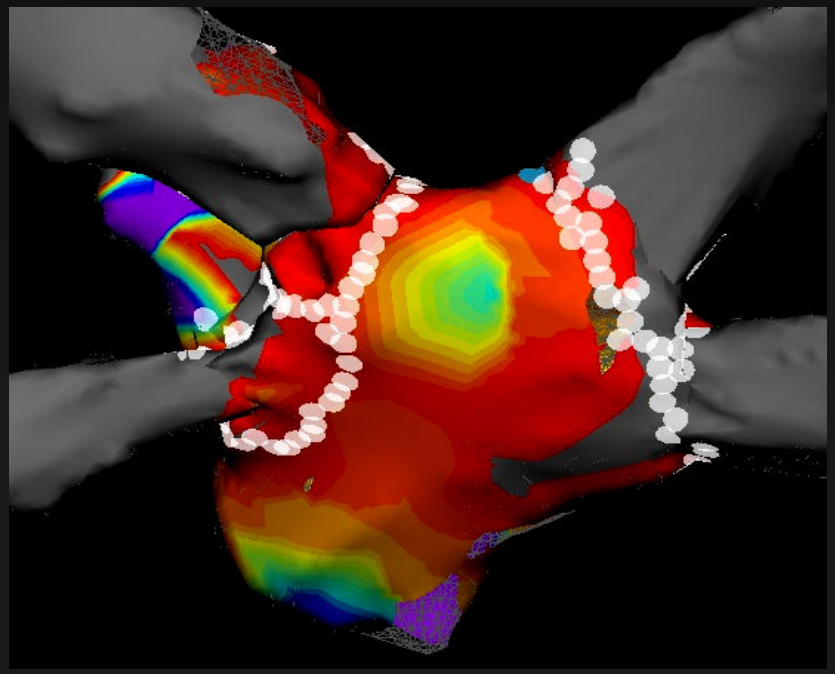
Circumferential PV Ablation is more effective than amiodarone in maintaining SR

Oral H, et al. NEJM, 2006;354:934-94

AF Ablation

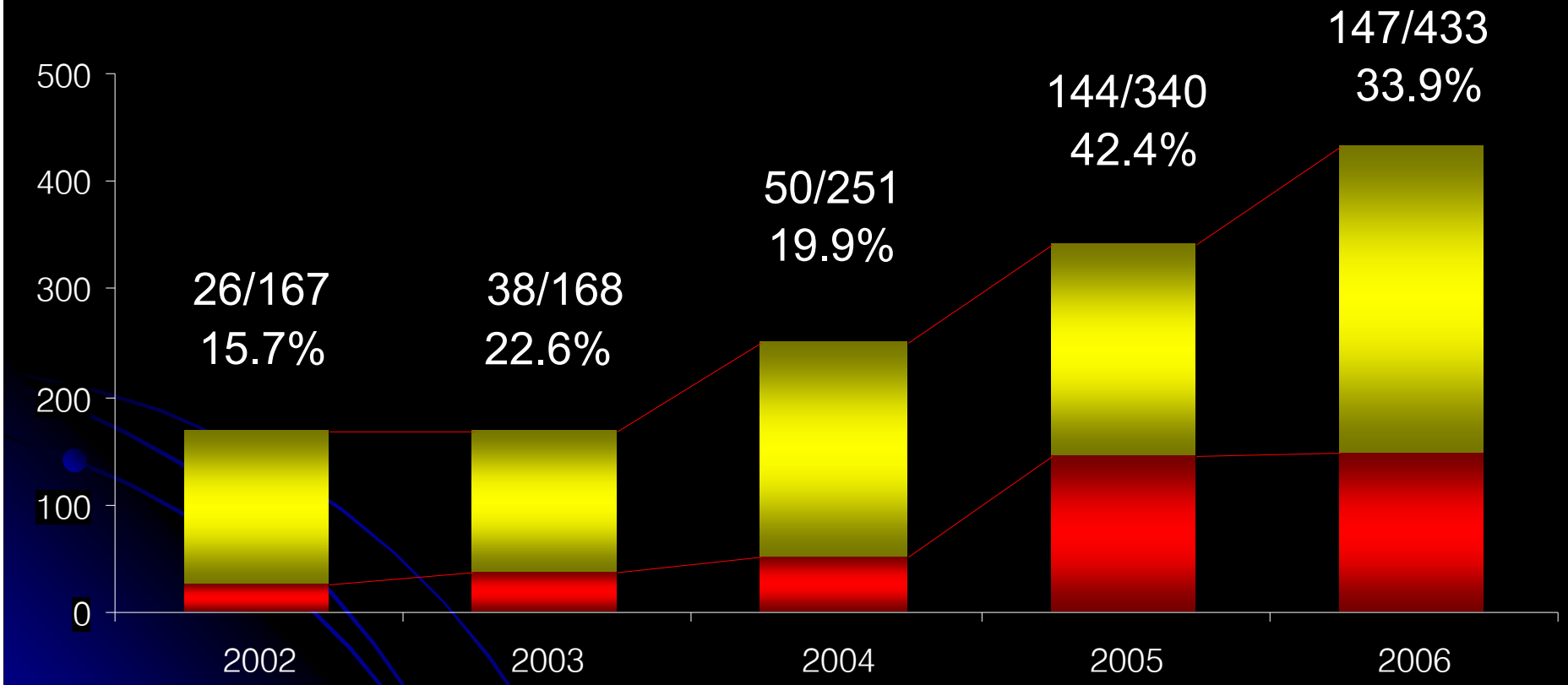
KUMC (n=500)





AF Ablation/Catheter Ablation in KUMC

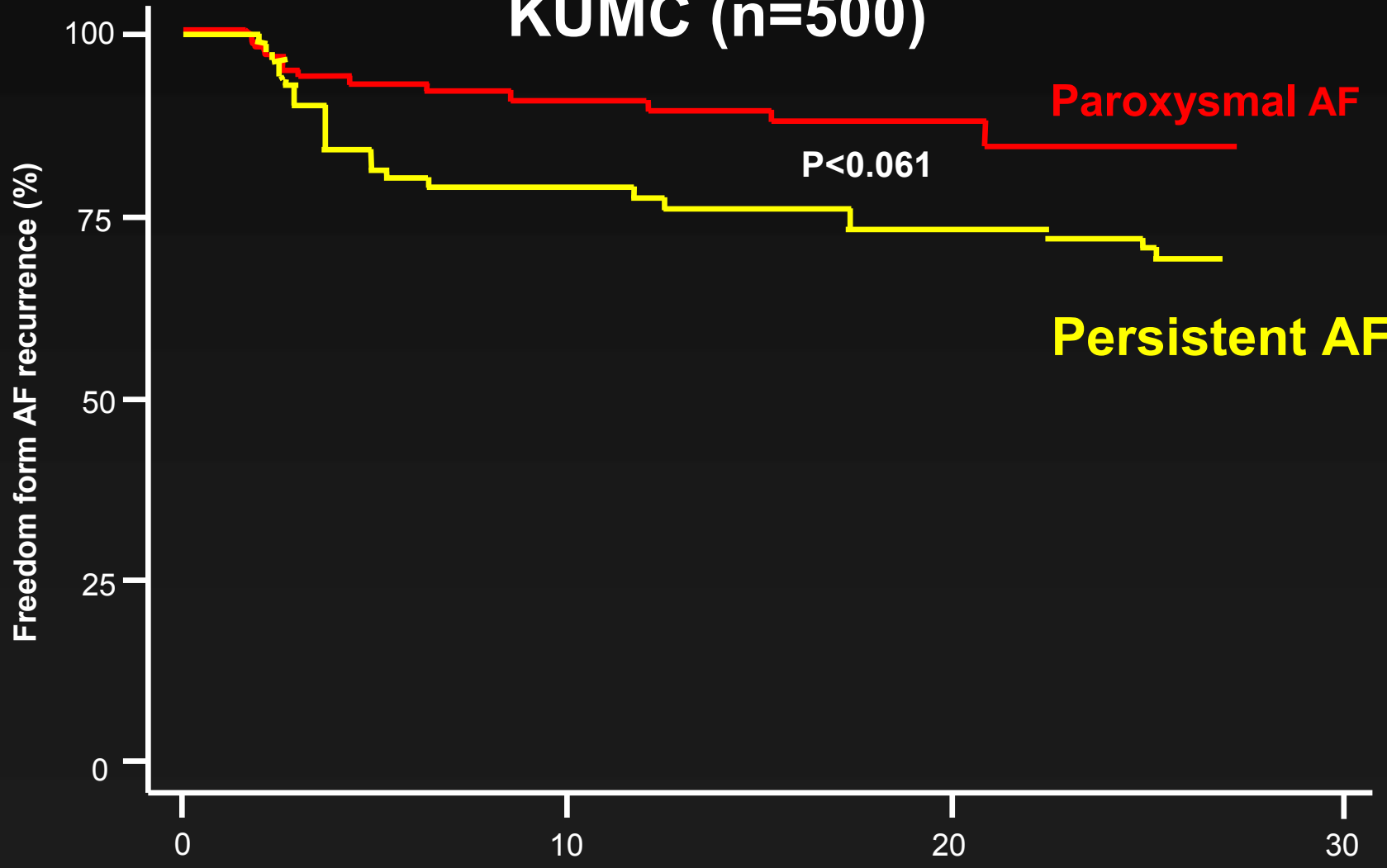
(2002-2006)



Long-term Freedom from AF Recurrence

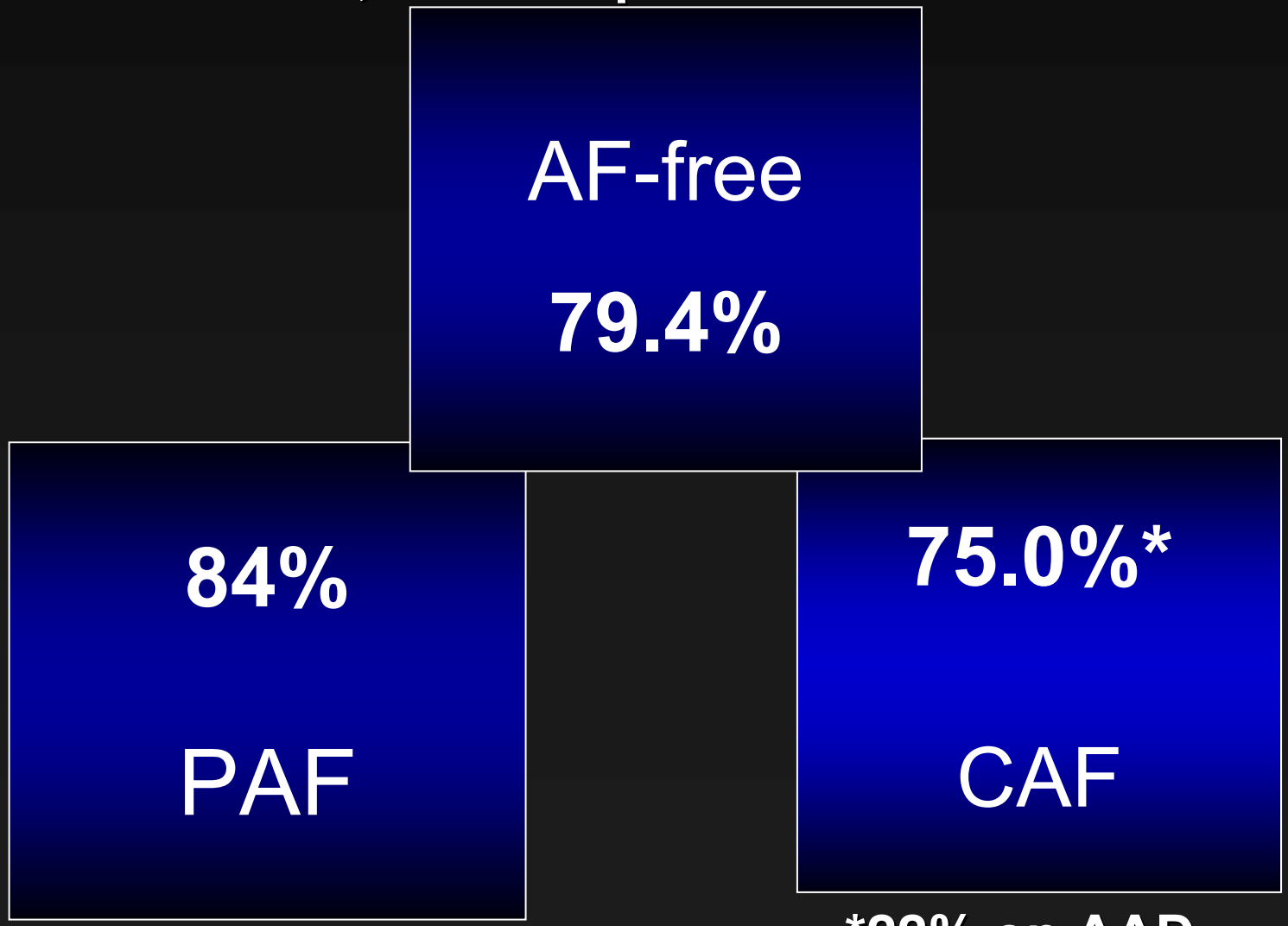
Patients with Paroxysmal AF and Persistent AF

KUMC (n=500)



Catheter Ablation for AF in KUMC

N=500, Follow-up for 18.8±7.2 months



***22% on AAD**

Catheter Ablation as First-Line Therapy for AF

- Pts with very symptomatic AF who refuse AAD
- Pts in whom the only AAD choice is amiodarone
- Pts with symptomatic tachy-brady syndrome
- Pts at high risk for stroke who cannot or refuse to take warfarin therapy

First-detected AF

- “Asymptomatic AF”
- “Alcohol”
- “Obstructive sleep apnea”
- “LVH reduction with ACEI/ARB”
- “Adequate drugs (rate or rhythm control)”
- “Catheter ablation”

“Confront disease at its First stage.”

Aulus Flaccus Persius 34-62 AD

Roman Satirist

Acknowledgements

Hui-Nam Pak
Hong Euy Lim
Jong-Il Choi
Soon Jun Hong
Sung Mi Park
Do Sun Lim
Wan Joo Shim

Lee Sun-Mi
Lee Jae-Hwan
You Do Hyung
Ming-Fu Lin
Steven J Kim
Graydon Beatty

Lee Hyun Soo
Go Kyung Jeong
Moon Ji-Young
Kim Na Young
Lim Ra Seung
Kang Joon Won
Ji Woo Jin

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