Diagnózu ischemickej choroby srdca každému občanovi – choré dedičstvo Československa

Spoločné sympózium Slovenskej a Českej kardiologickej spoločnosti

Fibrilácia predsiení a ischemická choroba srdca - príbuzní alebo susedia?

ROBERT HATALA

Klinika kardiológie a angiológie

Národný ústav srdcových a cievnych chorôb a.s. a SZU Bratislava

FORMY ISCHEMICKÉ CHOROBY SRDEČNÍ A JEJICH DIAGNOSTICKÁ KRITÉRIA

/F. Kölbel, J. Petrášek, J. Fabián, V. Staněk/

Ischemická choroba srdeční /ICHS/ je středem intenzivního zájmu výzkumných i klinických pracovišť a několikrát byly proto také zpracovány a v zahraničním i domácím písemnictví publikovány návrhy klasifikace tohoto onemocnění. Přesto není klasifikace klinických projevů ICHS v praxi jednotná a proto předkládáme k diskusi návrh, který přihlíží k aktuálním možnostem diagnostiky různých forem tohoto onemocnění v praxi našich zdravotnických zařízení.

Formy ICHS

1. Akutní formy ICHS

1.1 labilní /nestabilní/ angina pectoris
1.2 intermediární koronární syndrom
1.3 akutní infarkt myokardu
1.4 náhlá smrt.

2. Chronické formy ICHS

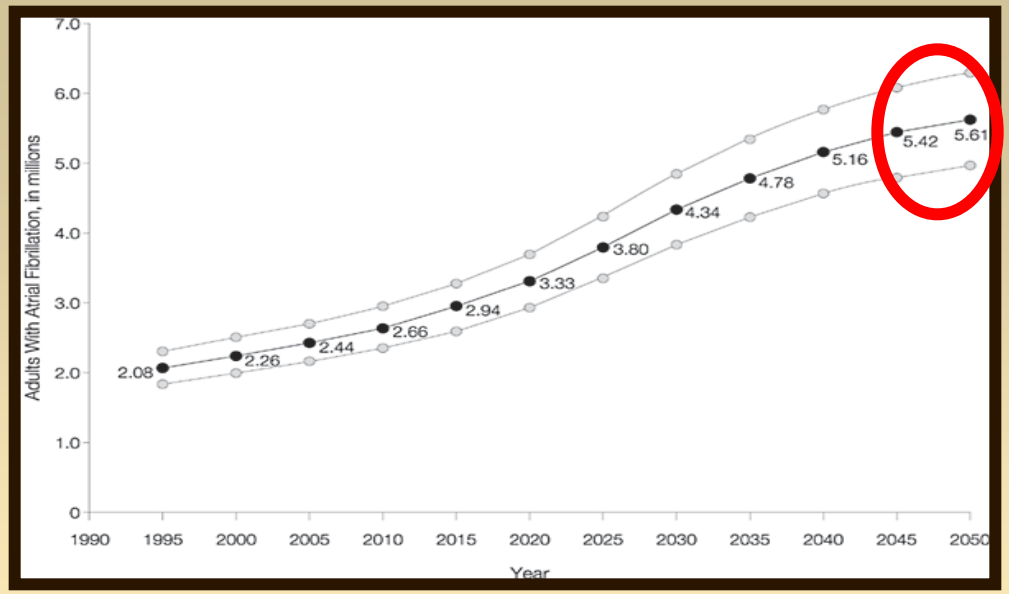
2.3 ICHS s dysrytmiemi /stat. značka 414.8/

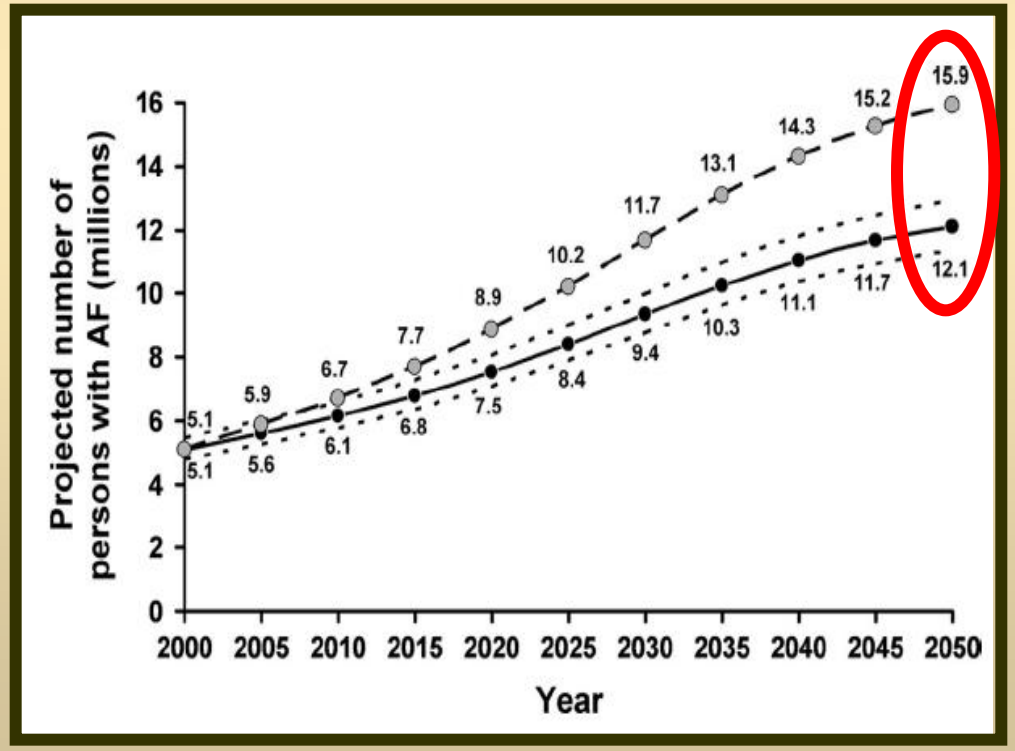
Vznikne-li kterákoli ze srdečních dysrytmií náhle, je třeba pomýšlet především na ICHS jako na možnou příčinu poruchy srdečního rytmu. Dysrytmie však může být přítomna i dlouhodobě, jako jeden z projevů ischemické choroby srdeční.

2.4 ICHS klinická a symptomatická /stat. značka 414/

a/ abnormity klidového a/nebo zátěžového ekg /horizontální nebo sestupné deprese S-T větší než 2 mm/ u osob bez jiných projevů ICHS a po vyloučení jiných možných příčin těchto změn;

b/ ekg známky proběhlého transmurálního infarktu myokardu s opakovaným nálezem patologického kmitu Q bez klinické symptomatologie;





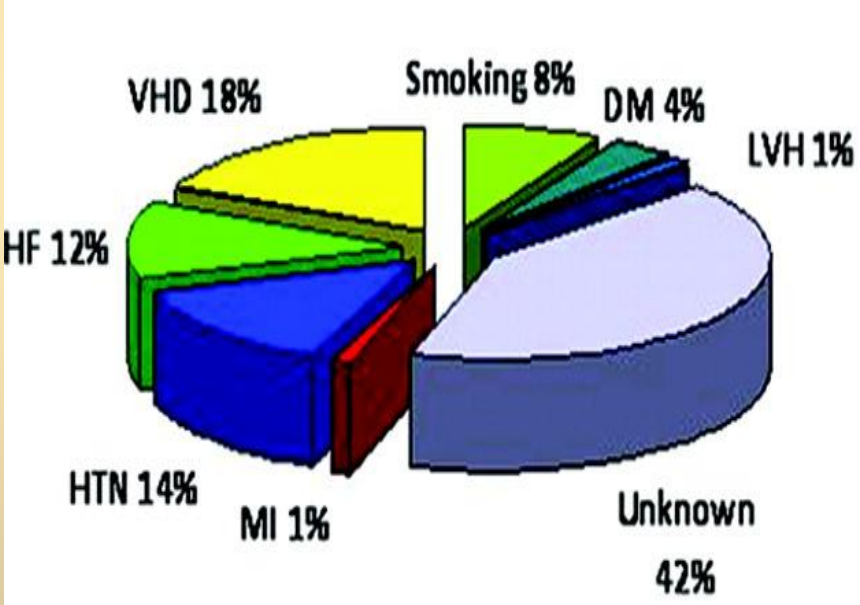
Living in the AFIB Epidemics…

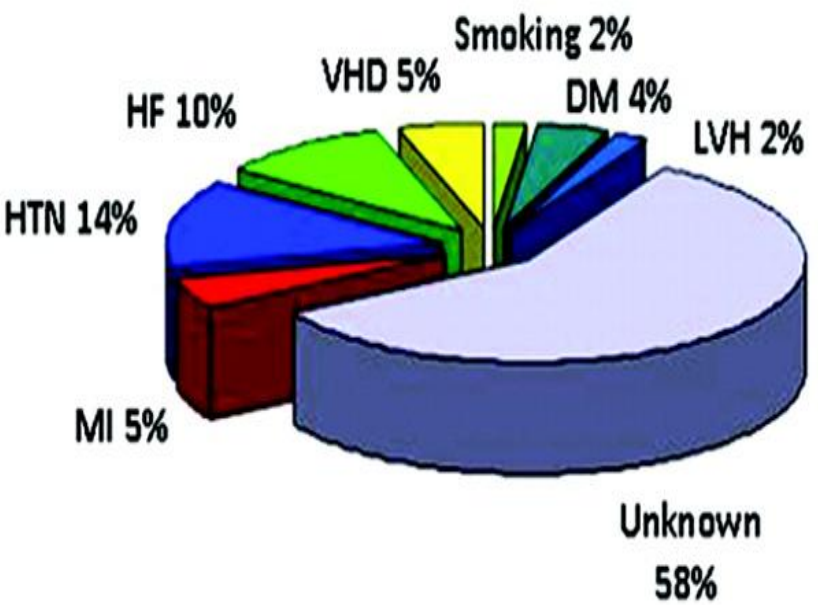
Go A et al., JAMA 2001

Circulation. 2006;114:119-125.

The population-attributable risk of AF in men and women determined from a community-based longitudinal study.

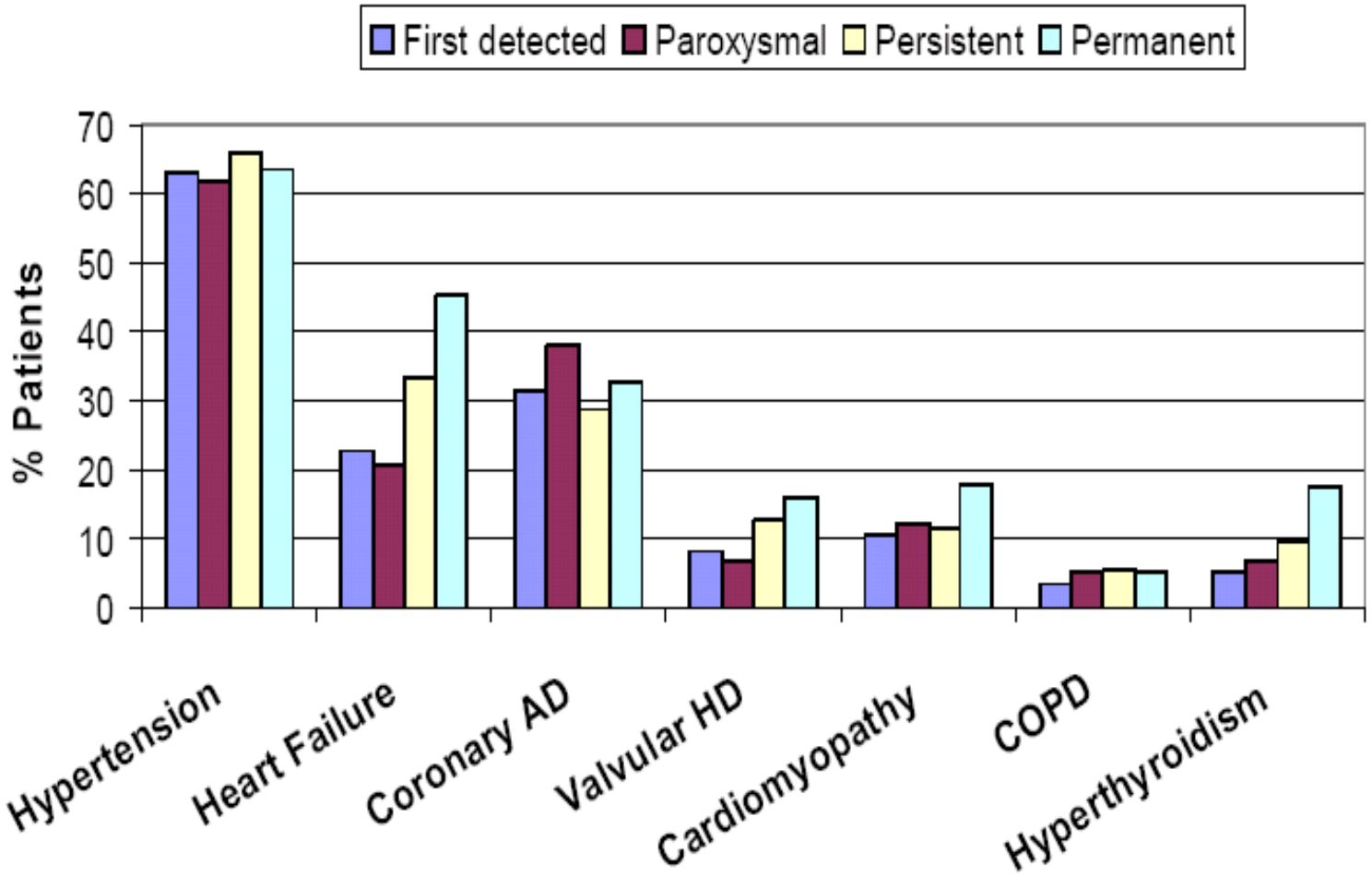
For both men and women, a substantial portion of atrial fibrillation risk remains unexplained !





Magnani J W et al. Circulation 2011;124:1982-1993

COMORBIDITY in pts with AF



Nieuwlaat R et al., EHJ 2005

REALFIB

Komorobidity a rizikové faktory pre CMP

		EURO Heart Survey (Holstenson et al, 2011)				
	RealFib	**GR**	**I**	**PL**	**S**	**NL**
C: Srdcové zlyhanie	**45%**	**16%**	**20%**	**34%**	**32%**	**21%**
H: Hypertenzia	**91%**	**65%**	**70%**	**68%**	**56%**	**52%**
A: Vek 75 rokov a viac	**29%**	**20%**	**35%**	**15%**	**30%**	**41%**
D: Diabetes mellitus	**26%**	**21%**	**16%**	**12%**	**22%**	**16%**
S: CMP/TIA	**19%**	**4%**	**5%**	**5%**	**6%**	**6%**
V: Koronárna choroba	60%	36%	30%	50%	27%	41%
A: Vek 65-75 rokov	38%	43%	35%	37%	30%	29%
Sc: Ženské pohlavie	48%	40%	39%	44%	44%	49%

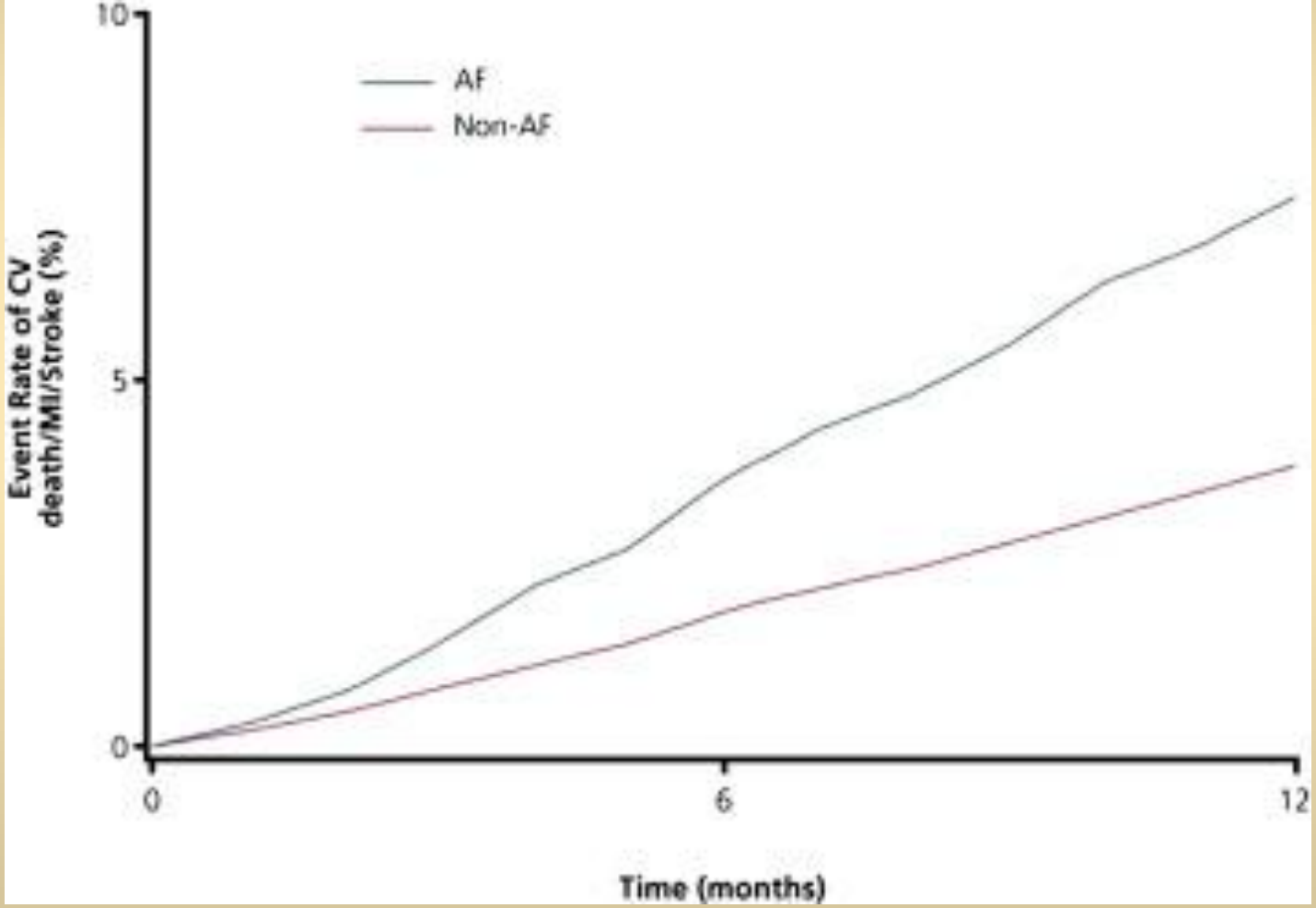
CMP, cievna mozgová príhoda; TIA, tranzitórny ischemický atak, koronárna choroba z EHS: MI (akútna+anamnéza) + angína pectoris

Concomitant diseases in AFIB patients
(German AFNET Registry)

	First detected 10.8% (n = 1035)	Paroxysmal 30.2% (n = 2893)	Persistent 19.5% (n = 1873)	Permanent 32.8% (n = 3141)
Demographics				
Age (years)	67.0 ± 12.3	65.5 ± 11.3	67.6 ± 11.2	71.7 ± 9.2
Female gender (%)	40.1	41.2	35.2	38.7
Concomitant disease				
Hypertension (%)	68.9	65.9	70.6	71.1
Coronary artery disease (%)	26.8	25.0	28.4	31.0
Old infarction (%)	14.5	11.2	14.0	14.5
Previous PCI/CABG (%)	14.7	16.7	16.6	17.6
Angina (%)	15.5	12.9	13.2	13.1
Heart failure (%)	31.6	24.1	41.4	45.2
Valvular heart disease (%)	27.7	25.1	37.0	48.1
Rheumatic origin (%)	3.1	2.5	3.3	5.3
Non-rheumatic origin (%)	24.6	22.6	33.7	42.7
Valve replacement (%)	2.4	3.9	4.3	7.6
Cardiomyopathy (%)	7.2	6.8	13.6	13.8

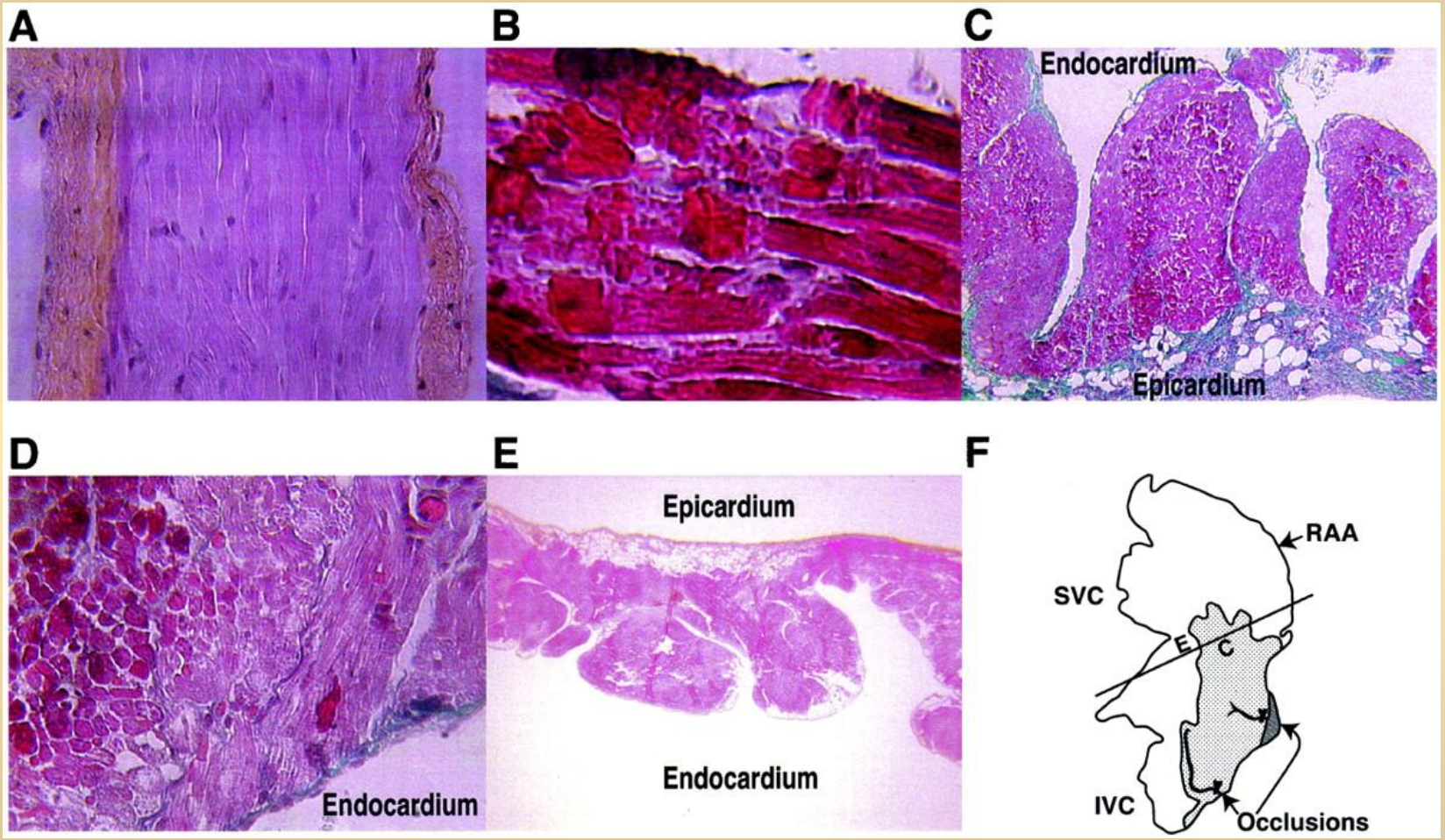
Nabauer M et al., Europace 2009

AFIB impact on prognosis of pts with atherothrombosis (death / MI / stroke)



Goto et al., Am Heart J 2008

Can direct atrial ischemia create substrate for AF ?



Sinno H et al. Circulation 2003;107:1930-1936

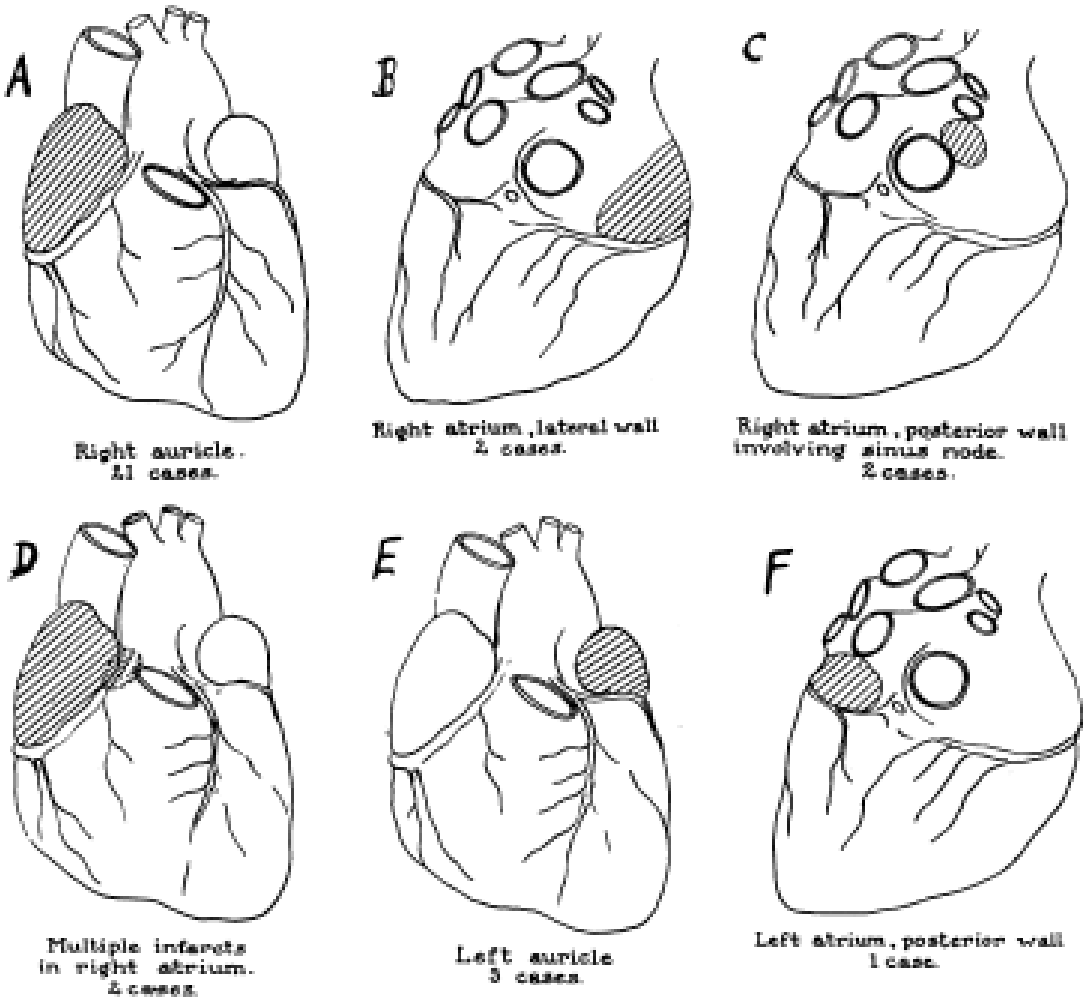


FIG. 2.—Diagrams to show the situation of human atrial infarcts.

(A) Right auricle, 21 cases. (B) Right atrium, lateral wall, 2 cases. (C) Right atrium, posterior wall involving sinus node, 2 cases. (D) Multiple infarcts in right atrium, 2 cases. (E) Left auricle, 3 cases. (F) Left atrium, posterior wall, 1 case.

INFARCTION OF THE CARDIAC AURICLES (ATRIA): CLINICAL, PATHOLOGICAL, AND EXPERIMENTAL STUDIES

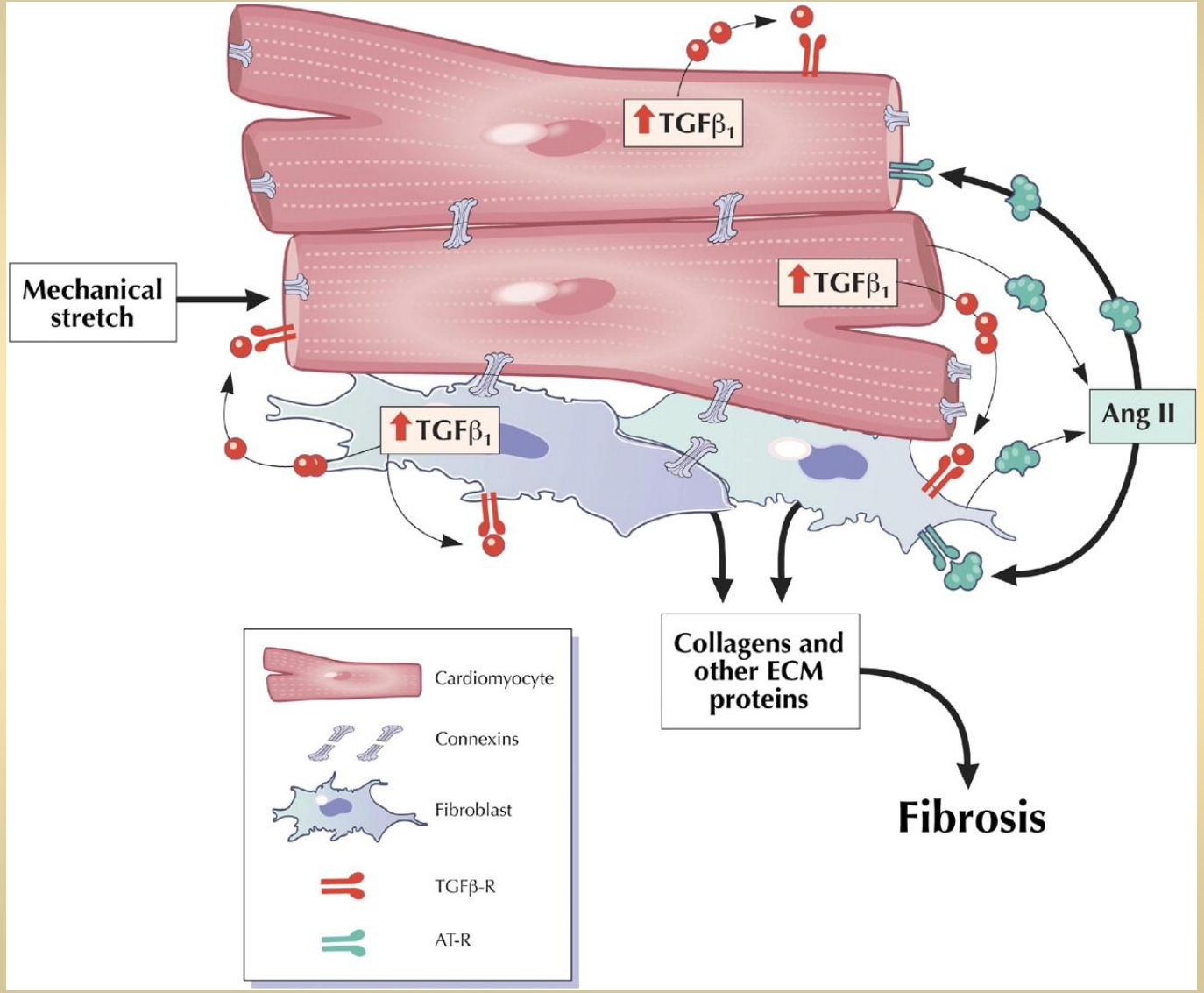
BY

E. H. CUSHING, H. S. FEIL, E. J. STANTON, AND W. B. WARTMAN

From the Departments of Medicine and Surgery and the Institute of Pathology of Western Reserve University and the University Hospitals of Cleveland, U.S.A.

Received December 8, 1941

Cardiomyocyte-Fibroblast Crosstalk



Burstein, B. et al. J Am Coll Cardiol 2008;51:802-809

Transient ST-Segment Depression During Paroxysms of Atrial Fibrillation in Otherwise Normal Individuals

	Treadmill Stress Test*	Thallium-201 Myocardial Scintigraphy	Myocardial Contrast Stress Echocardiography
Patients with CAD (+/− for ischemia) (n = 27)	18/6	23/4	24/3
Patients without CAD (+/− for ischemia) (n = 56)	21/27	23/33	7/49
Sensitivity, % (95% CI)	75.0 (53.3–90.2)	85.2 (66.3–95.8)	88.9 (70.8–97.6)
Specificity, % (95% CI)	56.3 (41.2–70.5)	58.9 (45.0–71.9)	87.5 (75.9–94.8)
PPV, % (95% CI)	46.2 (30.1–62.8)	50.0 (34.9–65.1)	77.4 (58.9–90.4)
NPV, % (95% CI)	81.8 (65.4–93.0)	89.2 (74.6–97.0)	94.2 (84.1–98.8)

In patients without a history of CV disease there was no strong association between transient ischemic type ST-segment depression during paroxysms of AF and underlying occult CAD.

Aznaouridis KA et al., JACC 2007

Vol.6, No.1, 44-50 (2014)
http://dx.doi.org/10.4236/health.2014.61007

Clinical profile and angiographic findings among patients with atrial fibrillation presenting for selective coronary angiography

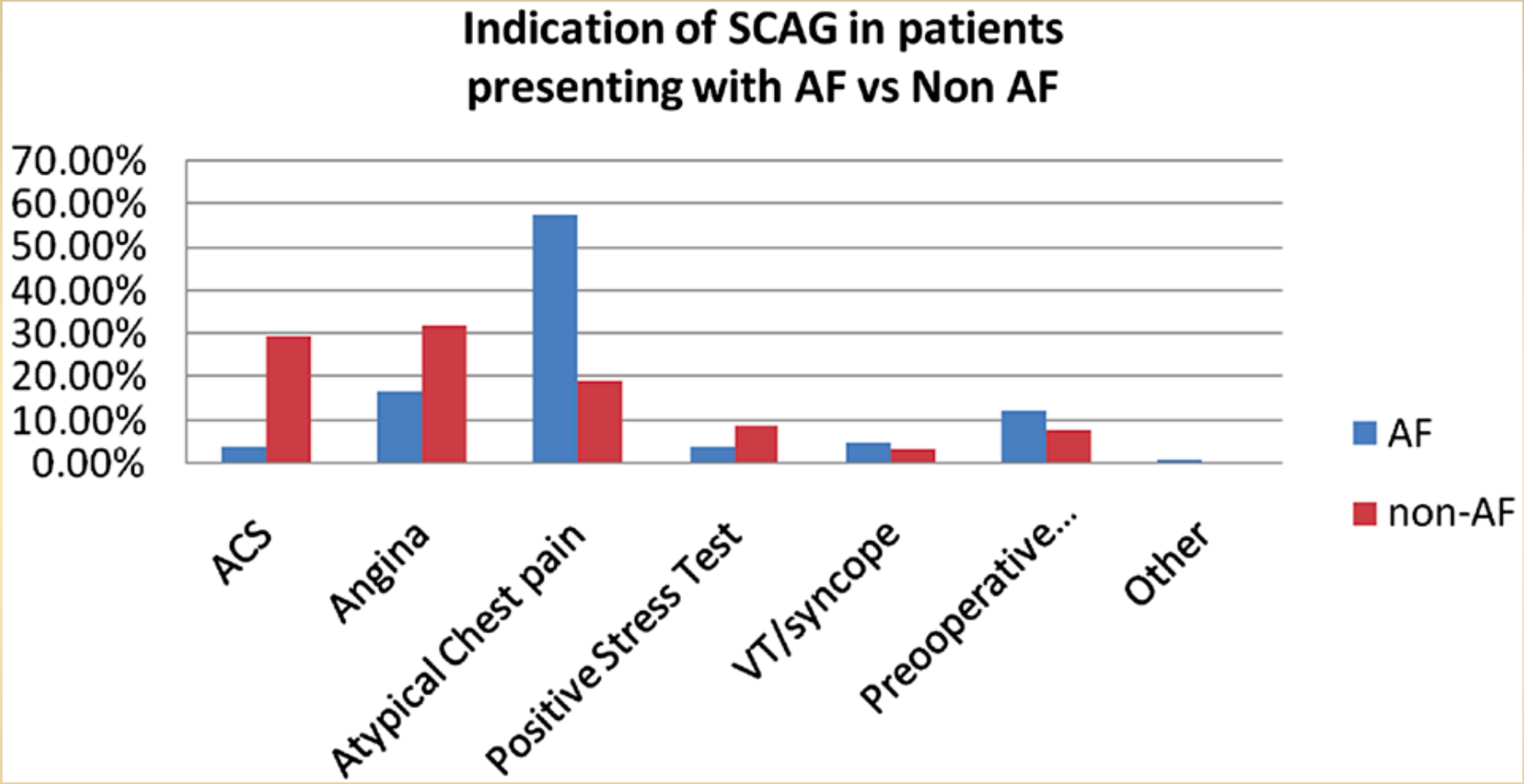
Wael Elabbassi[1*], Mohammed Andaleeb Chowdhury[2], Brano Liska[3], Robert Hatala[4]

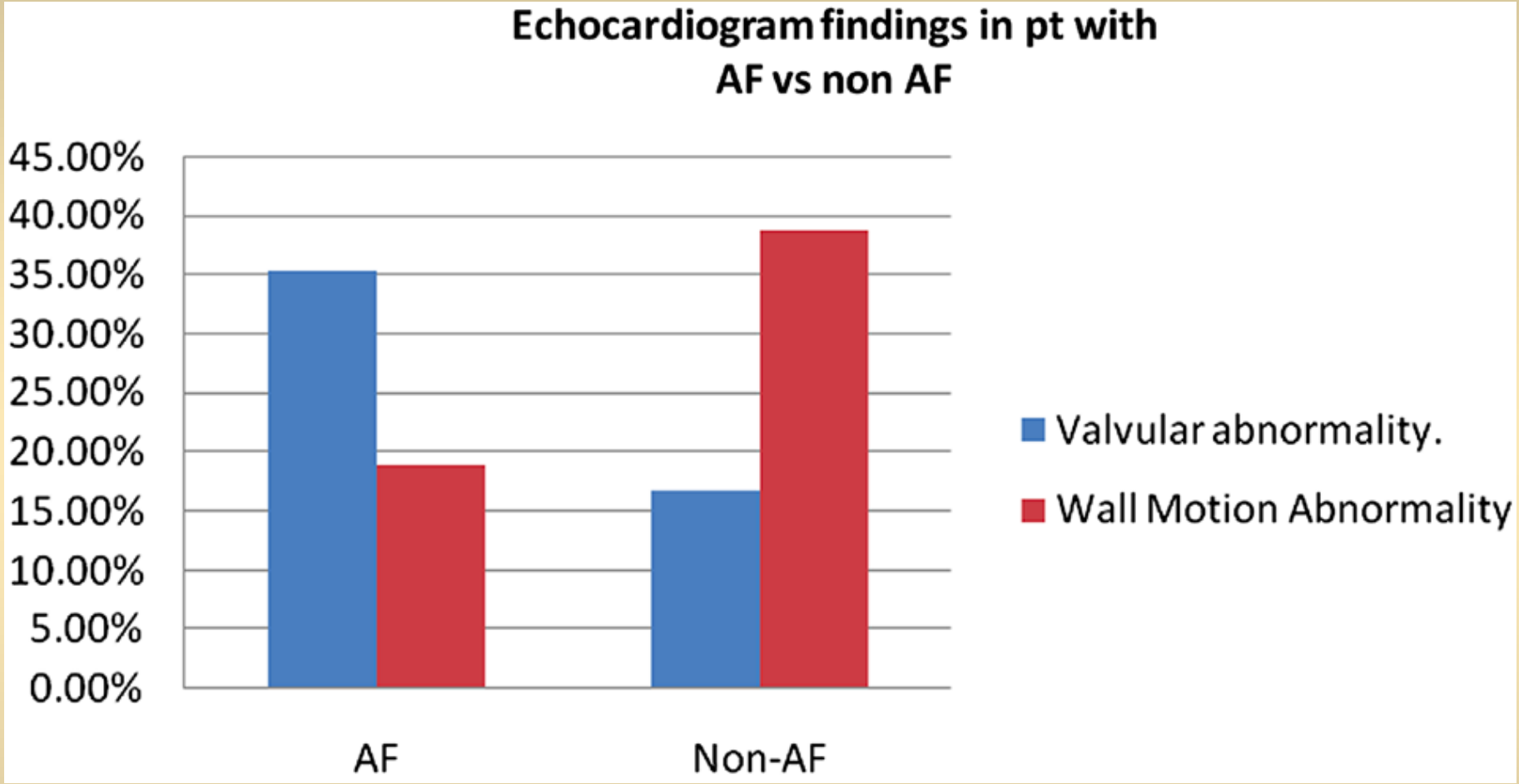
Aim: retrospective study to assess the prevalence of CAD in relation to presence/absence of AF in an unselected patient population referred for chest pain for coronary angiography

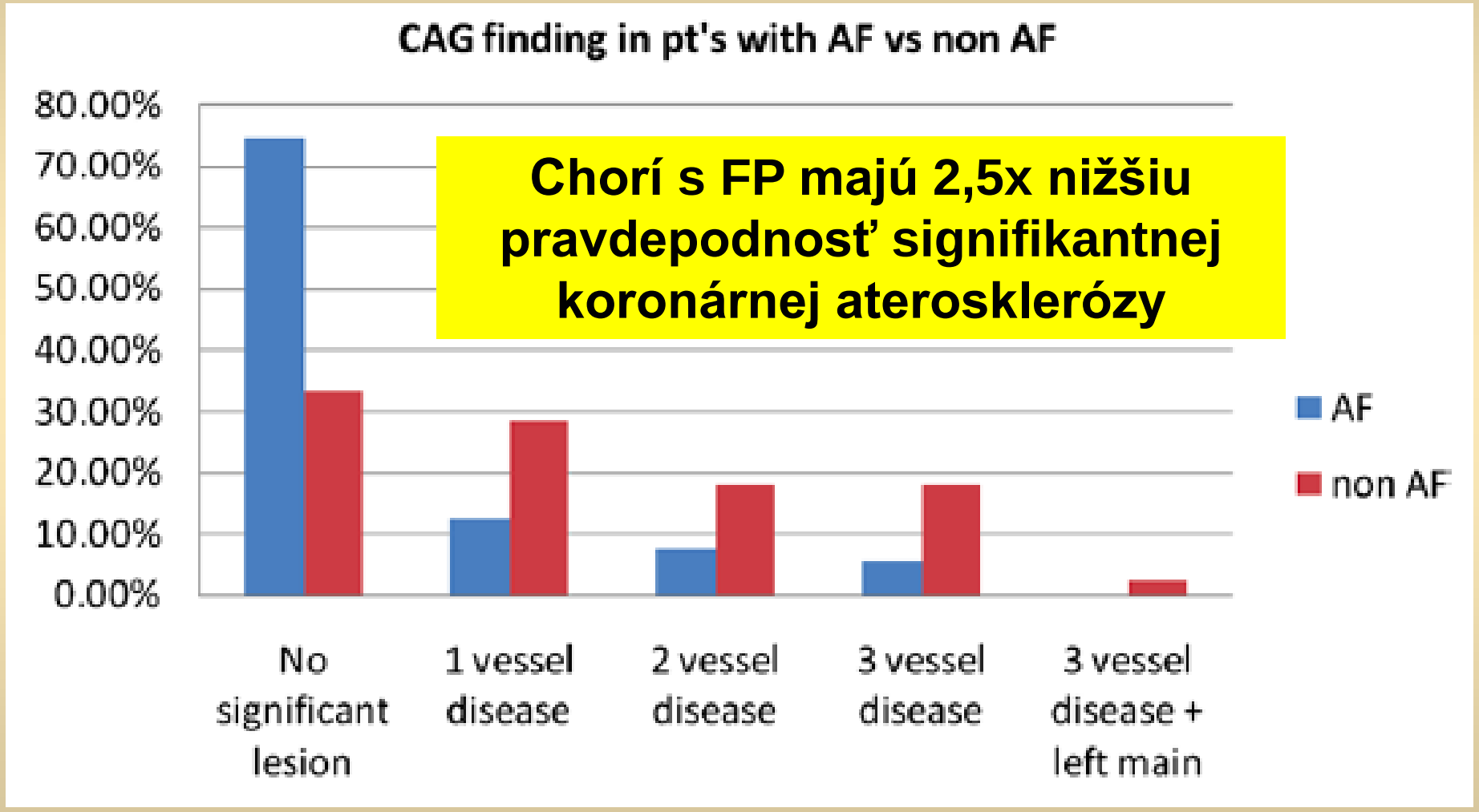
Records of unselected patients admitted to a single institution (NCVI) in 2 randomly selected months (April and November 2010) were evaluated. We compared patients with AF at admission or documented within the last 12 months and those without AF.

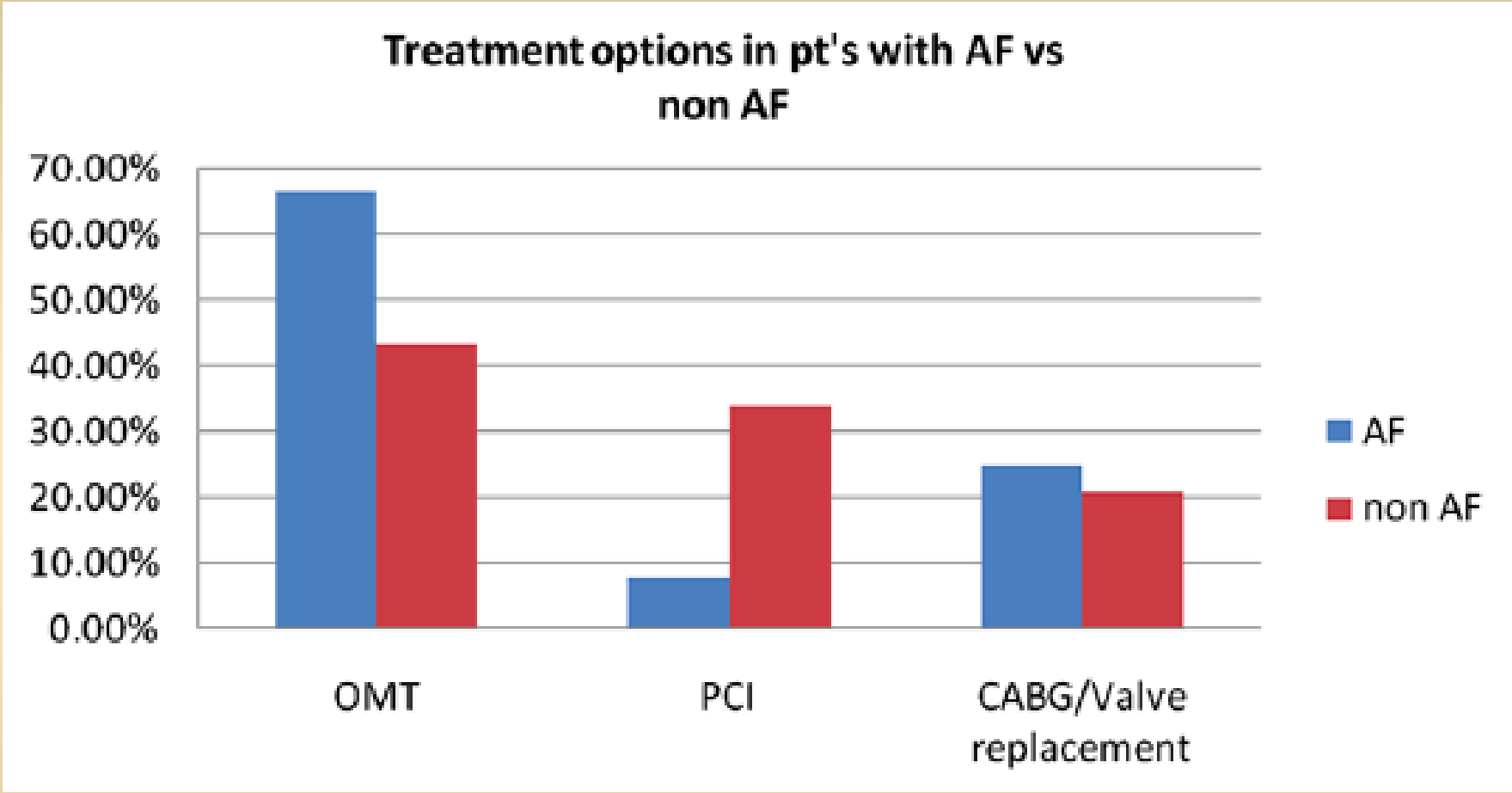
Angiographic findings and clinical profile among patients with AF presenting for coronary angiography

- 494 patients were included
- 122 patients had AF (24.5%)
  - older (mean 65.5 years vs. 60 years; P=0.041),
  - more often women (41% vs. 29%; p=0.013)
  - history of congestive heart failure (39% vs. 17%; p=0.001)
- Indication for SCAG among AF patients was more frequently atypical chest pain, shortness of breath and palpitations (57% vs.19%; P=0.001)

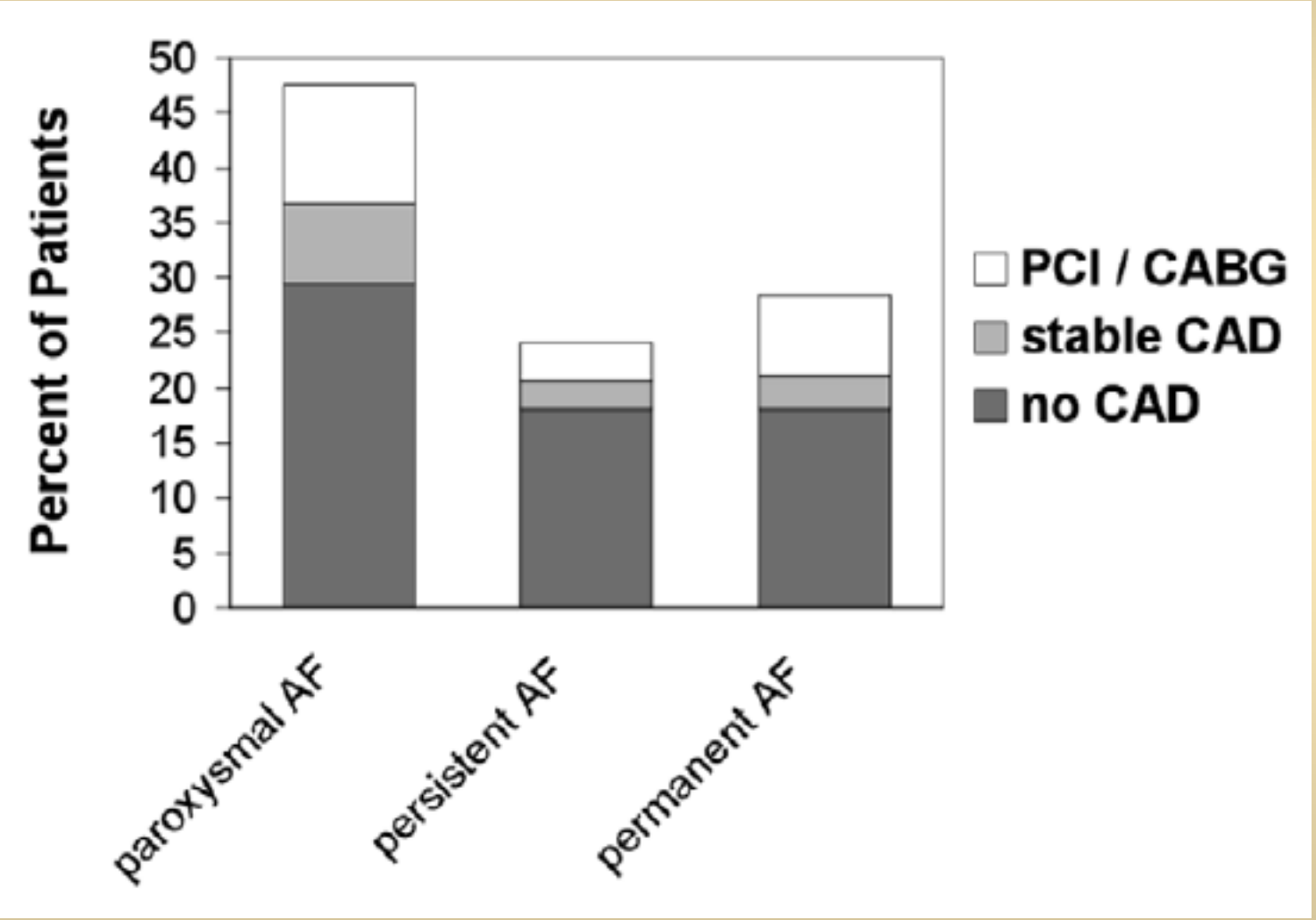

Indication of SCAG in patients presenting with AF vs Non AF
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
ACS
Angina
Atypical Chest pain
Positive Stress Test
VT/syncope
Preooperative...
Other
AF
non-AF


Echocardiogram findings in pt with AF vs non AF
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
AF
Non-AF
Valvular abnormality.
Wall Motion Abnormality


CAG finding in pt's with AF vs non AF
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
No significant lesion
1 vessel disease
2 vessel disease
3 vessel disease
3 vessel disease + left main
AF
non AF
Chorí s FP majú 2,5x nižšiu pravdepodnosť signifikantnej koronárnej aterosklerózy

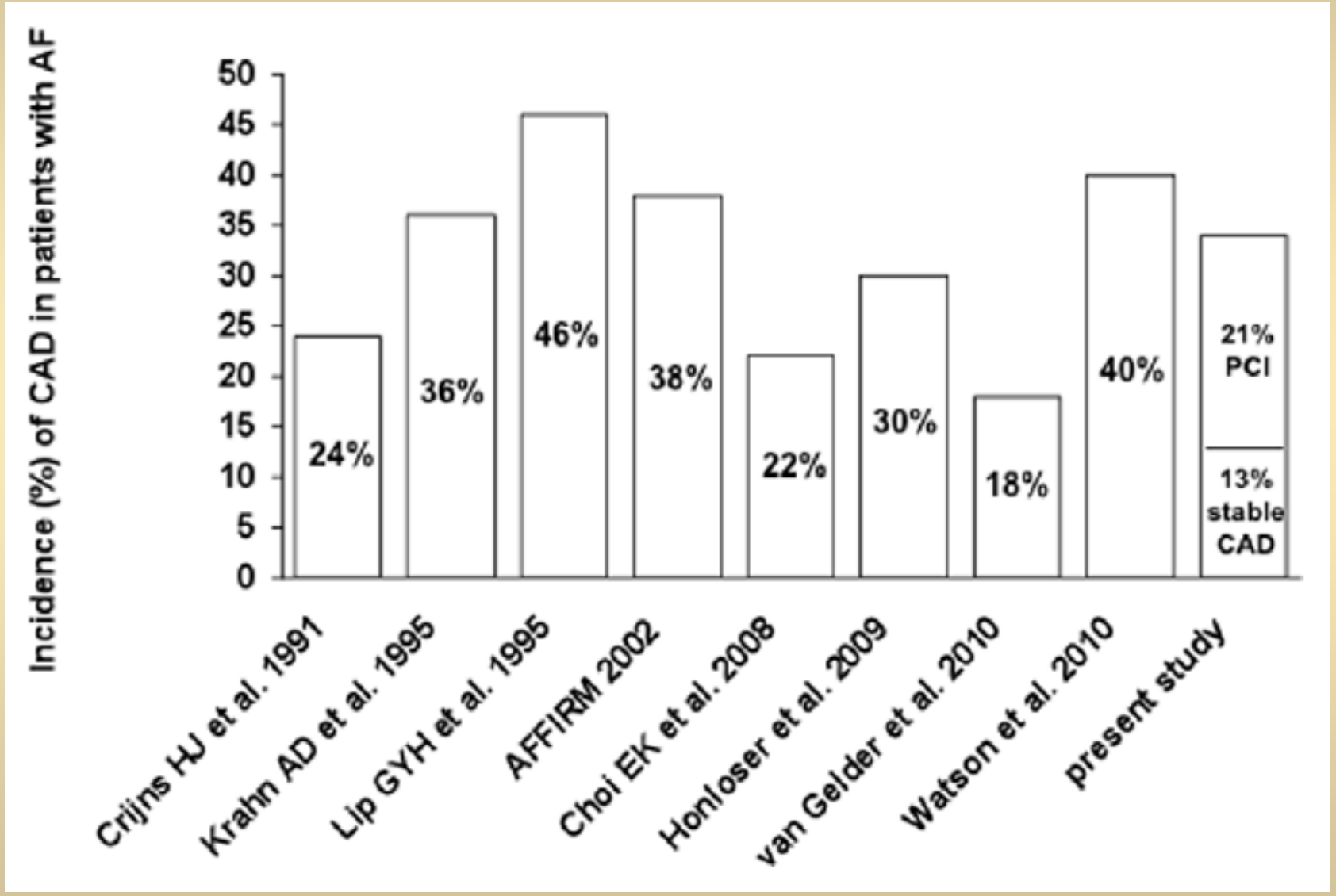

Treatment options in pt's with AF vs non AF
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
OMT
PCI
CABG/Valve replacement
AF
non AF

Prevalence and management of CAD (drugs vs. PCI/CABG) according to subtype of AF (diff ns)



Kralev S et al., pOne 2012: doi:10.1371/journal.pone.0024964.g003

Overview of reported incidences of coronary artery disease in patients presenting with atrial fibrillation.



Kralev S et al., pOne 2012: doi:10.1371/journal.pone.0024964.g003

Left Atrial Function in Acute Transient Left Ventricular Ischemia Produced During Percutaneous Transluminal Coronary Angioplasty of the Left Anterior Descending Coronary Artery

Ulrich Sigwart, MD, Milan Grbic, MD, Jean-Jacques Goy, MD, and Lukas Kappenberger, MD

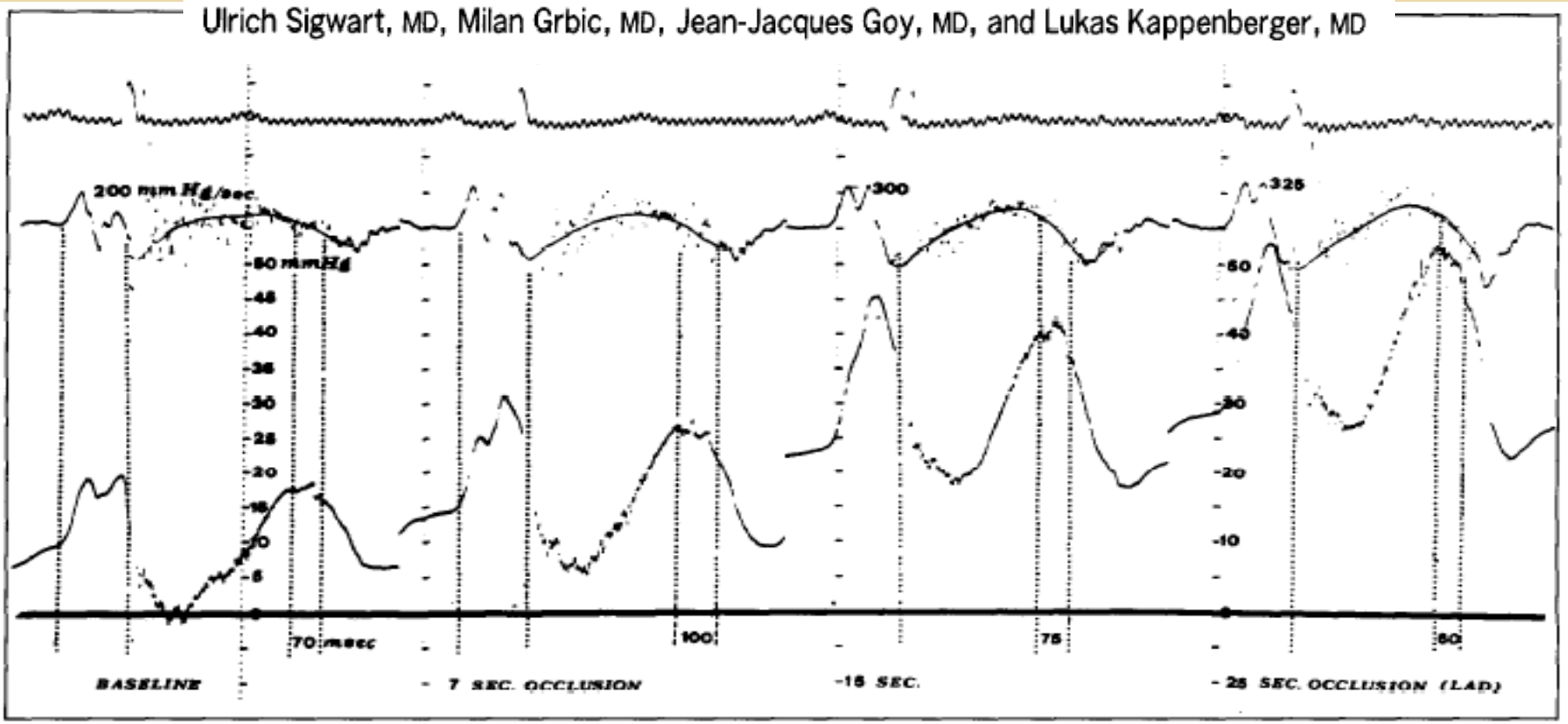


FIGURE 3. Left atrial pressure recorded at rest and during left anterior descending (LAD) occlusion with left atrial first derivative. During acute ischemia there is left atrial pressure increase (prominent A wave) with LA max dP/dt increase and shortening of the isovolumic relaxation time.

Sigwart U et al., Am J Cardiol. 1990 Feb 1;65(5):282-6.

Prognostic risk of atrial fibrillation in acute myocardial infarction complicated by left ventricular dysfunction: the OPTIMAAL experience

Mika Lehto[1*], Steven Snapinn[2†], Kenneth Dickstein[3], Karl Swedberg[4], and Markku S. Nieminen[1] on behalf of the OPTIMAAL investigators

[1]*Division of Cardiology, Helsinki University Central Hospital, Helsinki, Finland*
[2]*Merck Research Laboratories, West Point, PA, USA*
[3]*University of Bergen, Cardiology Division, Central Hospital in Rogaland, Stavanger, Norway*
[4]*Department of Medicine, Sahlgrenska University Hospital, Göteborg, Sweden*

Received 8 July 2004; revised 26 October 2004; accepted 28 October 2004; online publish-ahead-of-print 9 December 2004

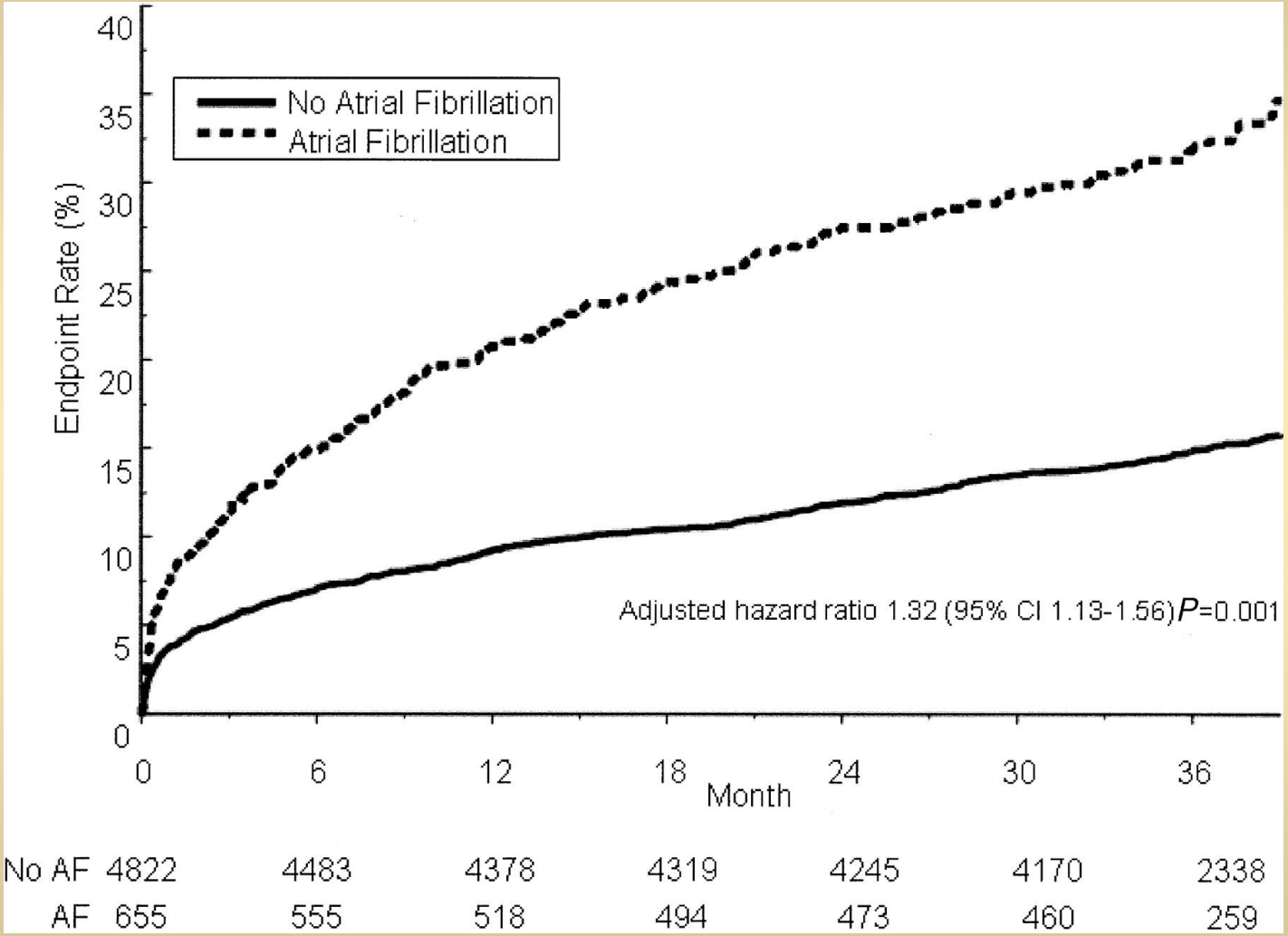
KEYWORDS
Atrial fibrillation;
Acute myocardial infarction;
Heart failure;
Cardiovascular mortality and morbidity;
Prospective randomized endpoint trial

Aims The present study aimed to determine the frequency and the impact on clinical outcome of atrial fibrillation (AF) in patients with acute myocardial infarction (AMI) and left ventricular dysfunction.

Methods and results In the OPTIMAAL trial, 5477 patients with AMI and signs of left ventricular dysfunction were included. At baseline, 655 patients (12%) had AF, and 345 (7.2%) developed new-onset AF during follow-up (2.7 $\pm$ 0.9 years). Older patients, patients with history of angina and worse Killip class had and developed AF more frequently ($P < 0.001$). Patients with AF at baseline were at increased risk relative to those without AF for mortality [adjusted hazard ratio (HR) of 1.32, $P = 0.001$] and for stroke (HR 1.77, $P < 0.001$). New-onset AF was associated with increased subsequent mortality for the first 30 days following randomization (HR 3.83, $P < 0.001$) and the entire trial period (HR 1.82, $P < 0.001$). Risk of stroke was increased for the first 30 days (HR 14.6, $P < 0.001$) and for the whole trial period (HR 2.29, $P < 0.001$).

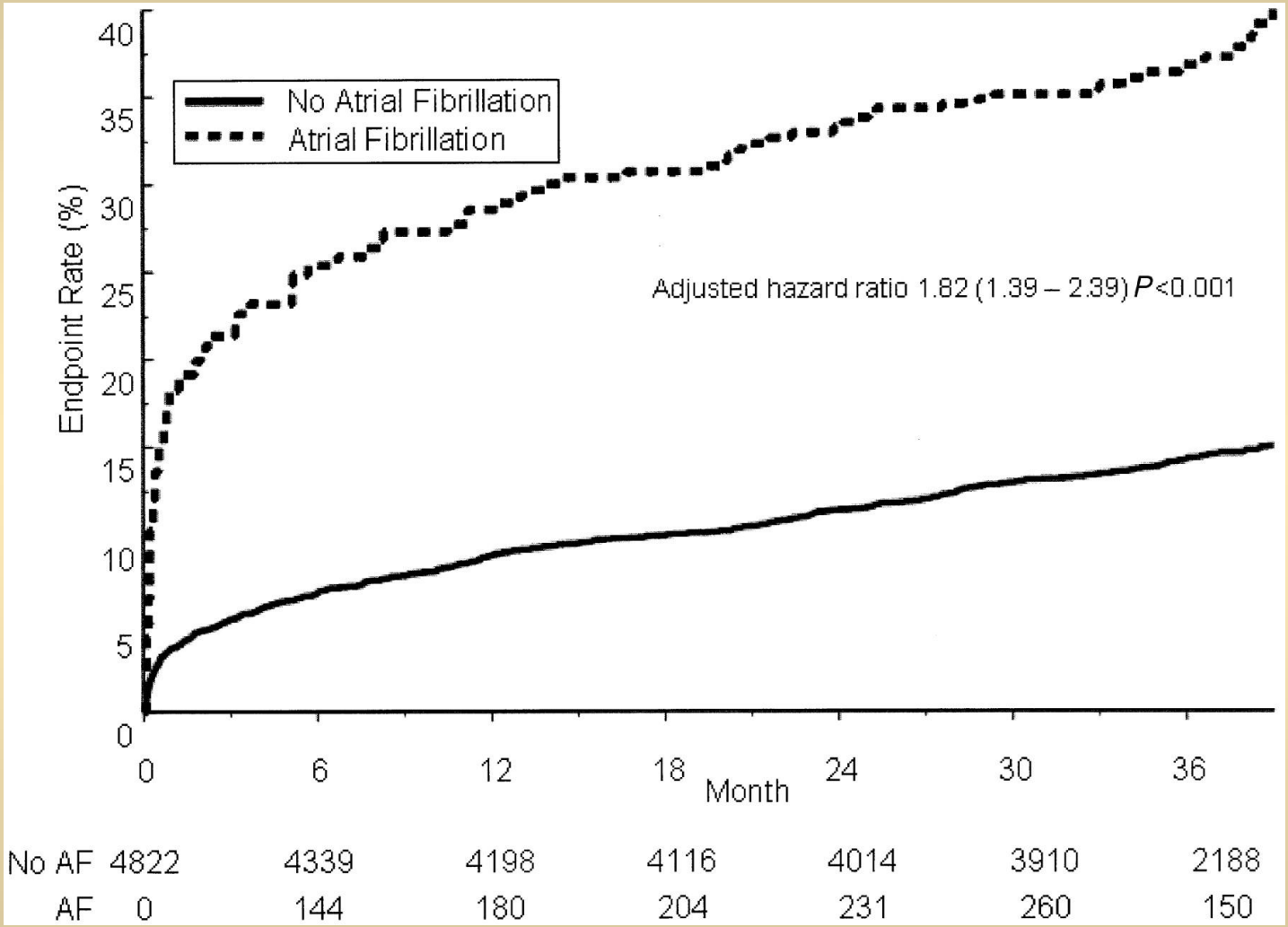
Conclusion AF is frequently observed in patients with AMI complicated by heart failure. Current AF, and the development of new AF soon after AMI, is associated with increased risk of death and stroke.

Kaplan–Meier curves for total mortality stratified by the presence of AF at baseline.



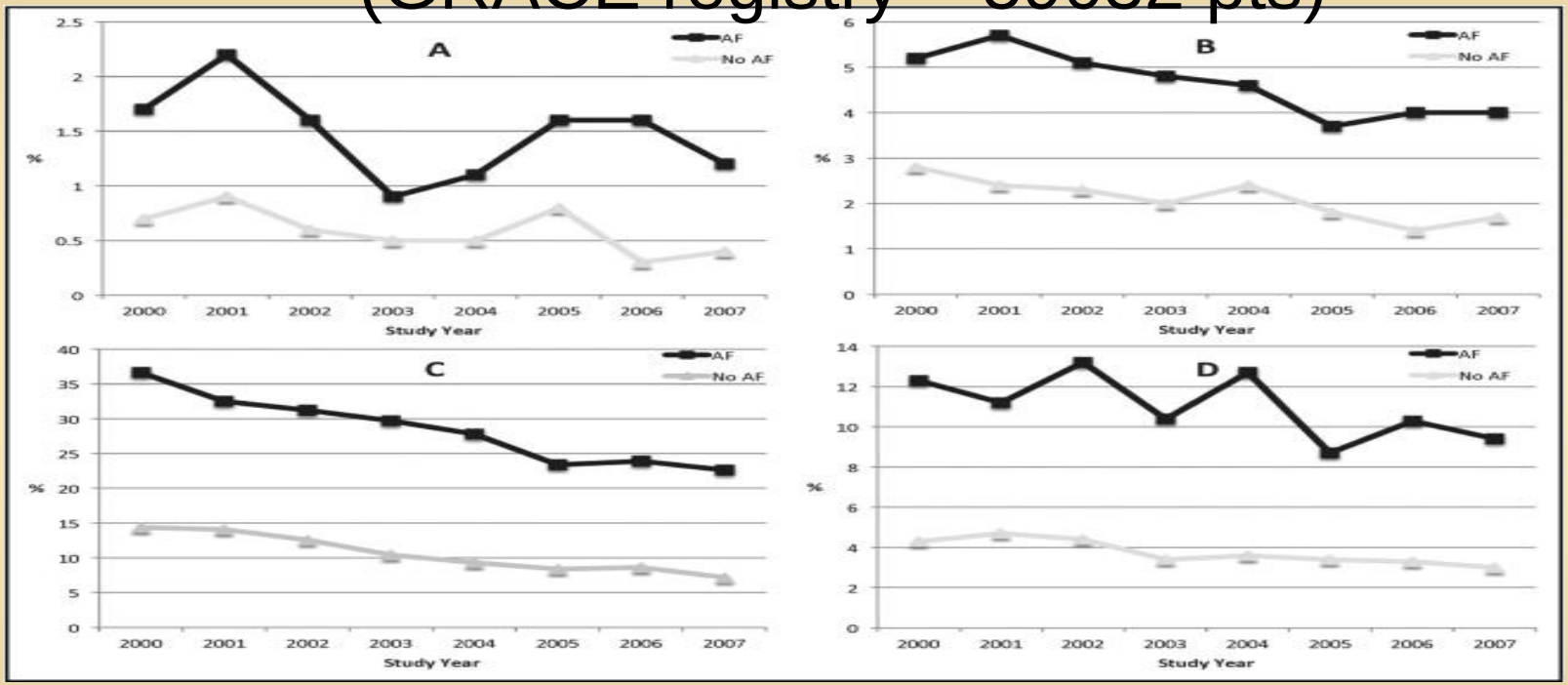
Lehto M et al. Eur Heart J 2005;26:350-356

Kaplan–Meier curves for total mortality of acute MI stratified by the time-dependent presence of de novo AF.



Lehto M et al. Eur Heart J 2005;26:350-356

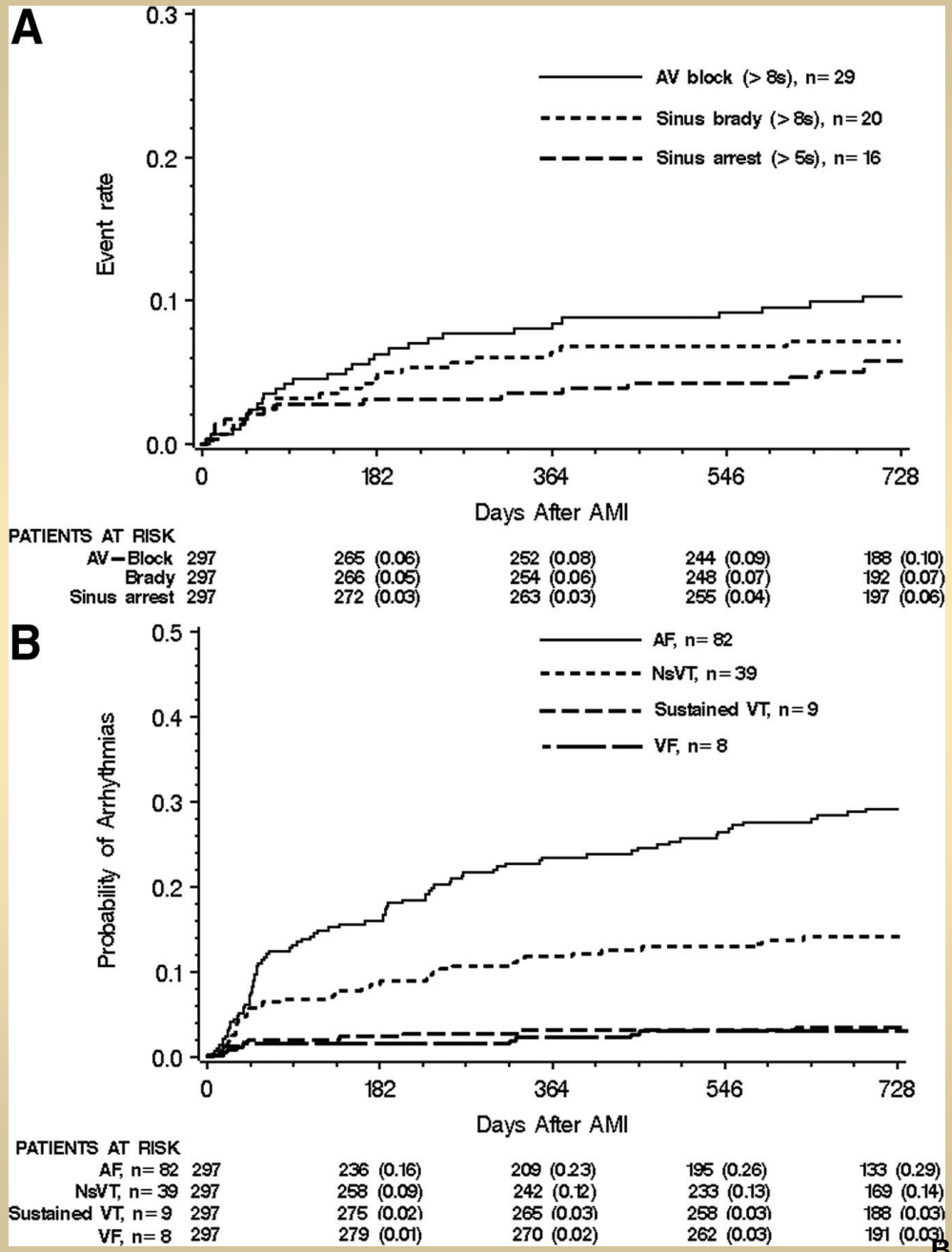
Trends in Atrial Fibrillation in Patients Hospitalized with an Acute Coronary Syndrome (GRACE registry – 59032 pts)



Rates of major in-hospital complications in patients with any type AF hospitalized with ACS by study year between 2000 and 2007

A - stroke, **B-** major bleeding, **C-** heart failure, **D-**death

McManus D et al., Am J Med 2012 , 125, 1076-1084 http://dx.doi.org/10.1016/j.amjmed.2012.05.024



Kaplan-Meier graphs showing time to first bradyarrhythmia or tachyarrhythmia.

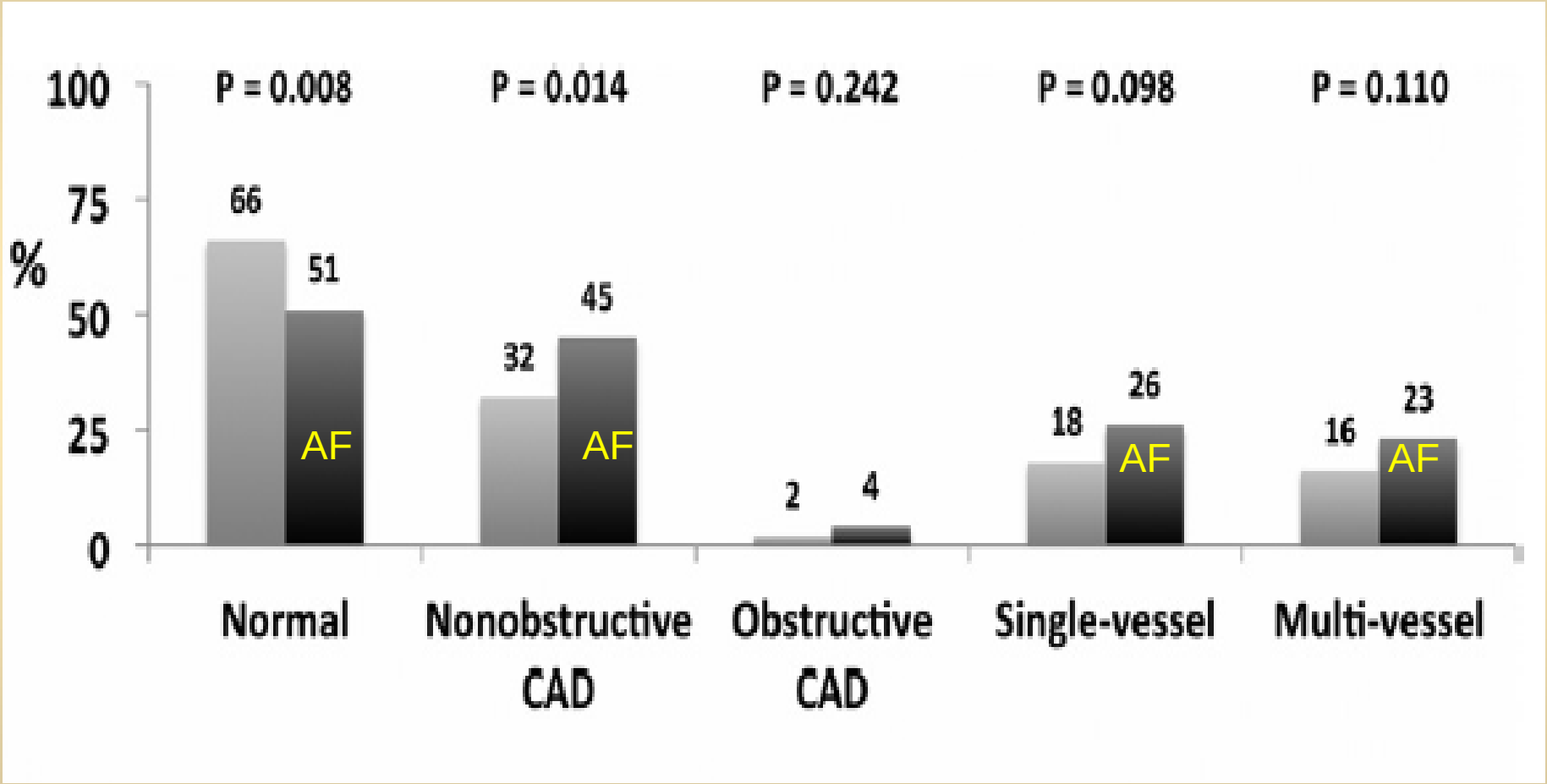
Bloch Thomsen P E et al. Circulation 2010;122:1258-1264

AF po prekonaní IM

- Až 25% pacientov po IM má nediagnostikovanú fibriláciu predsiení
- FP, osobitne v prvých týždňoch po IM, významne zvyšuje mortalitné riziko pacienta
- Mortalita nie je determinovaná samotnou arytmiou, ale kontextom rozvíjajúceho sa SZ a TE komplikáciami
- Aktívne pátrať po FP prvé mesiace po IM a pri jej potvrdení adekvátne liečiť !

Prevalence of coronary artery disease in patients with idiopathic AF and matched healthy controls in SR

3243 patients with CTA



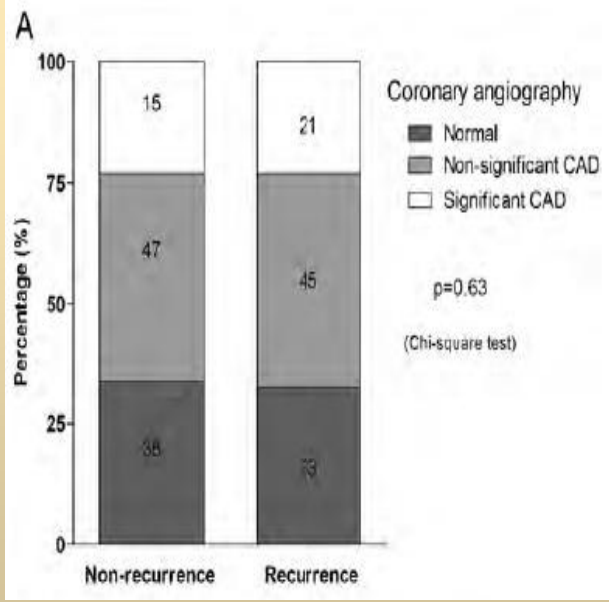
Weijs B et al., Heart Rhythm 2012;9:1923–1929

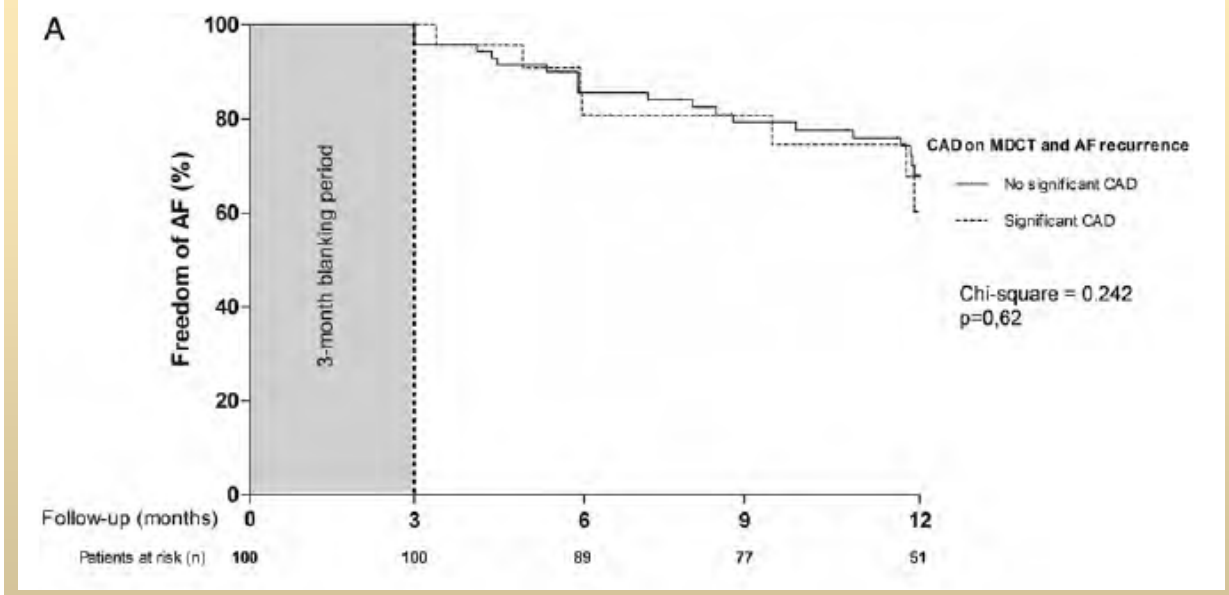
The presence of coronary atherosclerosis on MDCT is **NOT ASSOCIATED** with a higher risk for AF recurrence after RFCA.

Impact of coronary atherosclerosis on the efficacy of radiofrequency catheter ablation for atrial fibrillation

Dennis W. den Uijl, Mark J. Boogers, Marieke Compier, Serge A. Trines, Arthur J.H.A. Scholte, Katja Zeppenfeld, Martin J. Schalij, Jeroen J. Bax, and Victoria Delgado*

Department of Cardiology, Leiden University Medical Center, Albinusdreef 2, 2333 ZA Leiden, The Netherlands

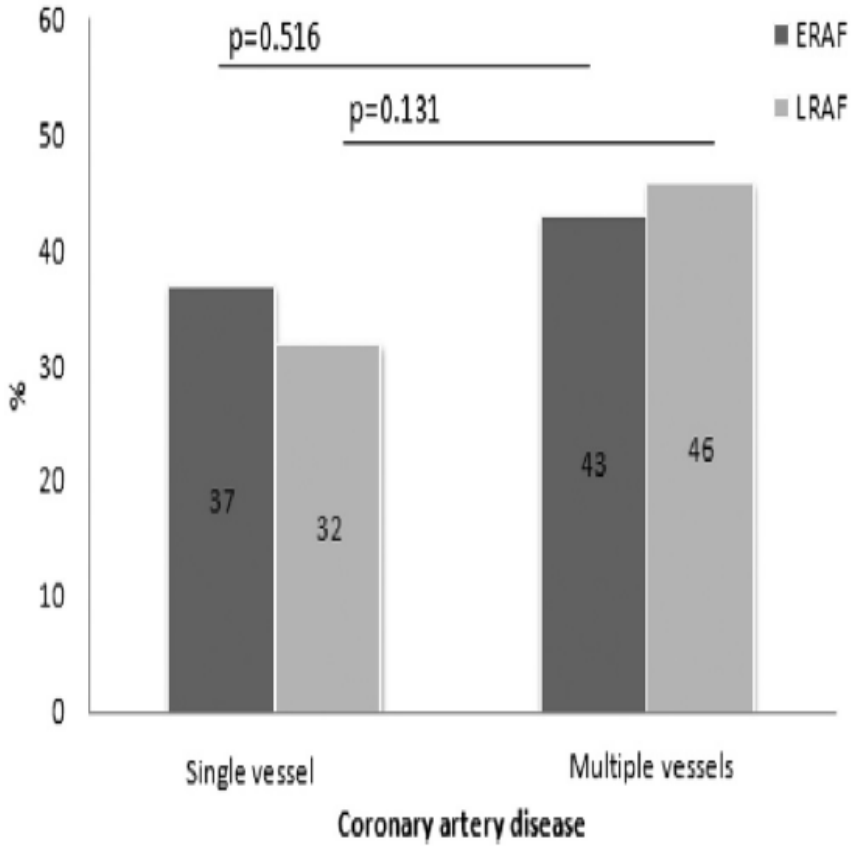


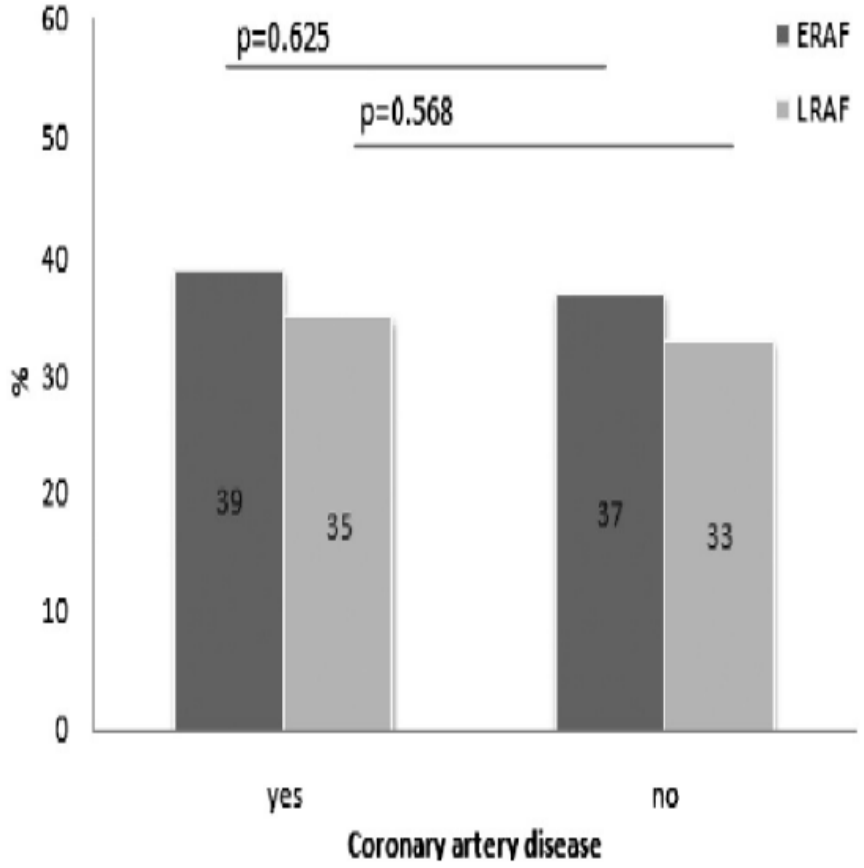


Presence and extent of coronary artery disease as predictor for AF recurrences after catheter ablation: The Leipzig Heart Center AF Ablation Registry ☆

Jelena Kornej *, Gerhard Hindricks, Arash Arya, Philipp Sommer, Daniela Husser, Sascha Rolf, Andreas Bollmann

Leipzig University Heart Center, Department of Electrophysiology, Germany





Fibrilácia predsiení a ICHS – príbuzní alebo susedia?

- Medicína dôkazov nedáva presvedčivé argumenty pre kauzálny vzťah medzi koronárnou aterosklerózou a fibriláciou predsiení
- FP a ICHS zdieľajú viacerá spoločné RF
- FP signifikantne zhoršuje prognózu akútnych koronárnych príhod

Tichá koronárna choroba – príčina, následok alebo nevinný svedok FP?

- Prevalencia subklinickej koronárnej AS môže byť u chorých s “idiopatickou” FP vyššia
- Masívna akútna ischémia však môže byť príčinou vzniku FP (AKS)
- **ALE chýbajú dôkazy pre kauzálnu úlohu KCHS (bez IM) v etiológii FP**
- Koronárna angiografia nemá byť prvoplánové vyšetrenie u chorých s FP

FP a KCHS – príbuzní alebo susedia?

- Fibrilácia predsiení a ICHS nie sú pokrvní príbuzní, hoci majú vzdialených predkov
- Osobitne sa im darí v podobných životných podmienkach, tieto treba preto likvidovať v zárodku
- Koexistencia FP a ICHS ako susedov v jednom dome môže mať tragické následky pre celý dom

Koexistencia “susedov” - FP a ICHS - výrazne zhoršuje prognózu pacienta, osobitne pri akútnych koronárnych príhodách