Should we treat asymptomatic atrial fibrillation?

Nicolas Lellouche MD, PhD

Hôpital Henri Mondor Créteil

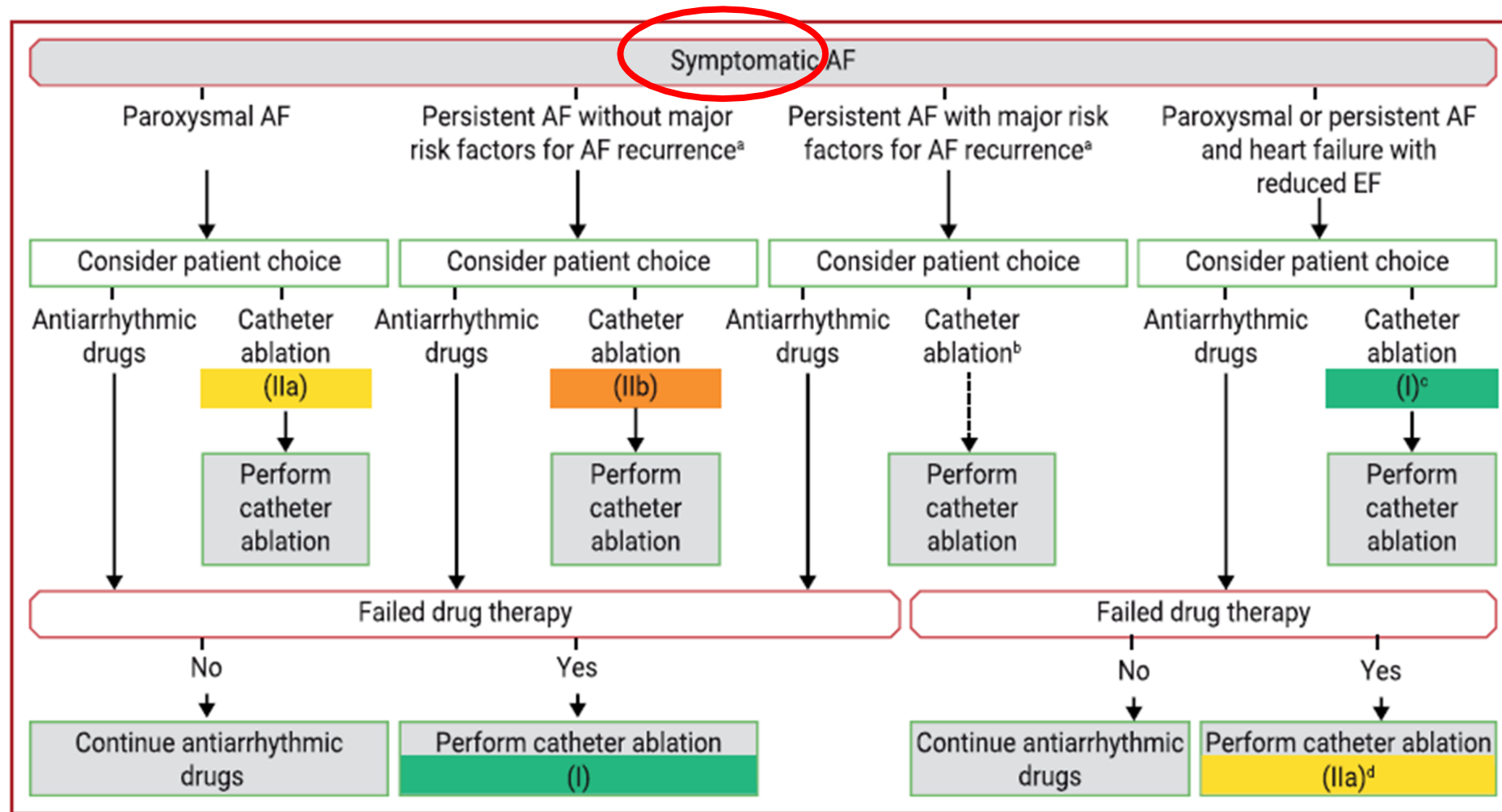# 2020 ESC Guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with the European Association of Cardio-Thoracic Surgery (EACTS)

AF anti-arrhythmic indication

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## Early Rhythm-Control Therapy in Patients with Atrial Fibrillation

P. Kirchhof, A.J. Camm, A. Goette, A. Brandes, L. Eckardt, A. Elvan, T. Fetsch, I.C. van Gelder, D. Haase,
L.M. Haegeli, F. Hamann, H. Heidbüchel, G. Hindricks, J. Kautzner, K.-H. Kuck, L. Mont, G.A. Ng, J. Rekosz,
N. Schoen, U. Schotten, A. Suling, J. Taggeselle, S. Themistoclakis, E. Vettorazzi, P. Vardas, K. Wegscheider,
S. Willems, H.J.G.M. Crijns, and G. Breithardt, for the EAST-AFNET 4 Trial Investigators*
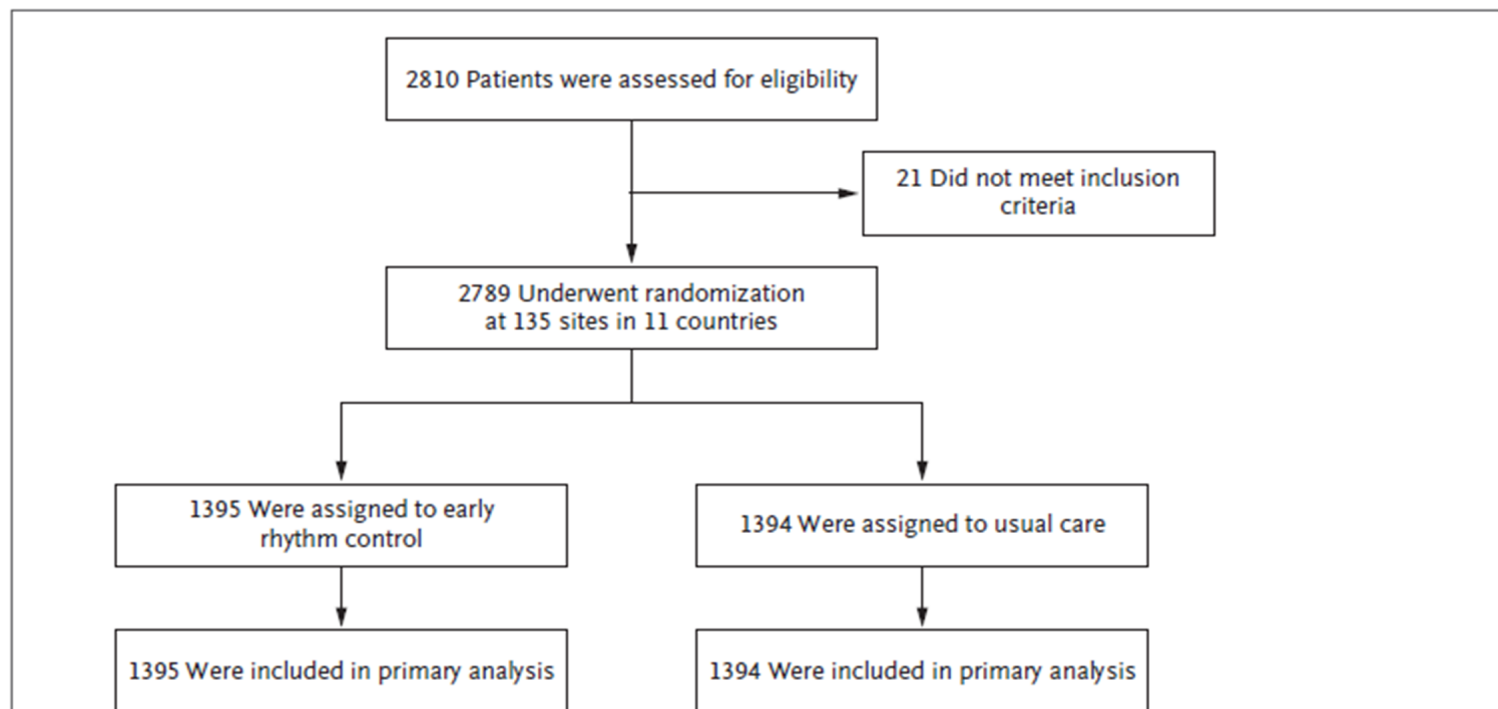
- newly diagnosed AF (< 1 year)

- Primary composite endpoint: cardiovascular mortality, stroke or hospitalization for HF or ACS

- Follow-up 5 years
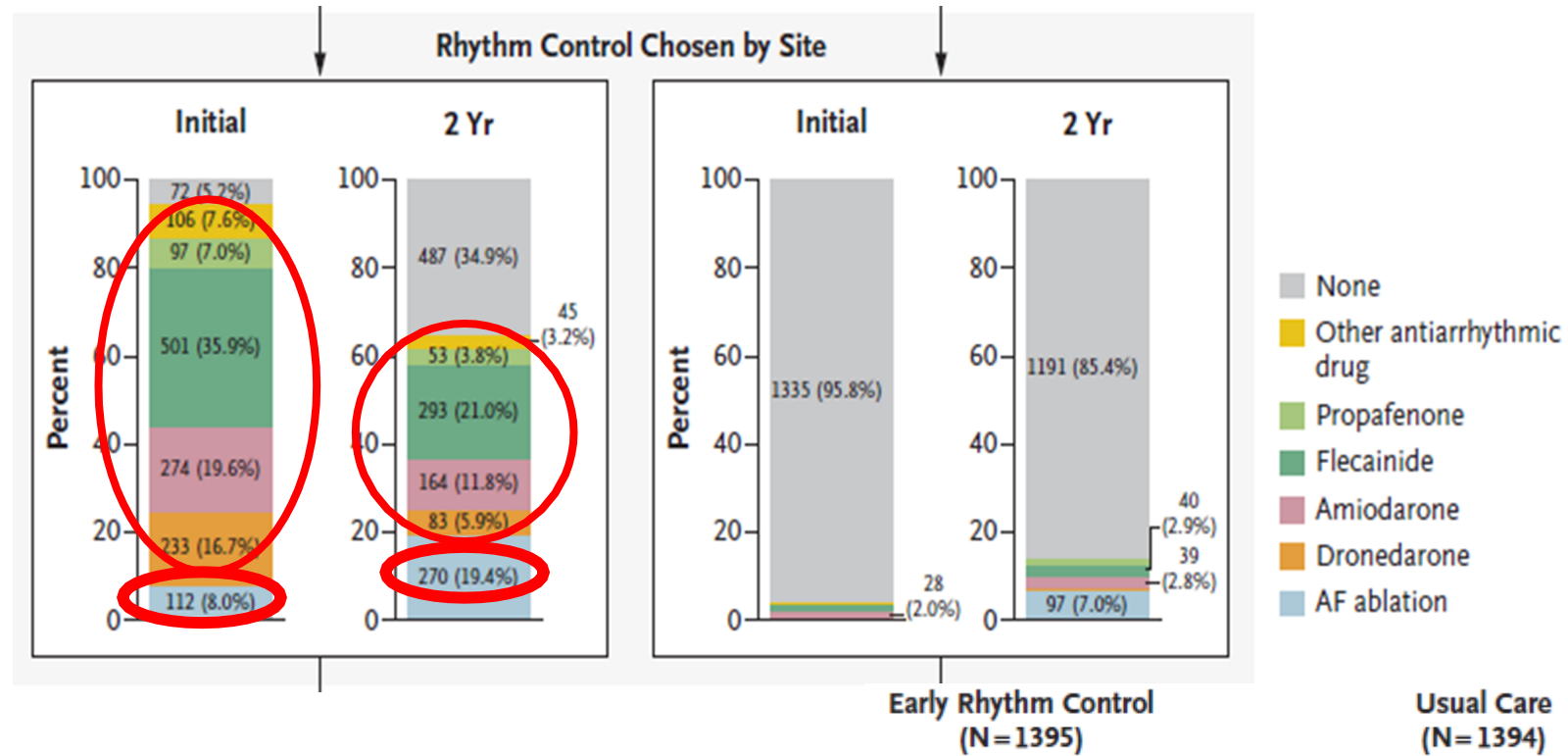
Type of atrial fibrillation — no./total no. (%)	Early Rhythm Control (N=1395)	Usual Care (N=1394)
First episode	528/1391 (38.0)	520/1394 (37.3)
Paroxysmal	501/1391 (36.0)	493/1394 (35.4)
Persistent	362/1391 (26.0)	381/1394 (27.3)

Systematic, early rhythm control strategy for atrial fibrillation in patients with or without symptoms: the EAST-AFNET 4 trial

Stephan Willems[1,2,3], Katrin Borof[4], Axel Brandes [5,6], Günter Breithardt [3,7], A. John Camm[8], Harry J.G.M. Crijns[9], Lars Eckardt[3,7], Nele Gessler [1,2], Andreas Goette[6,10,11], Laurent M. Haegeli[12,13], Hein Heidbuchel[14], Josef Kautzner[15], G. André Ng [16], Renate B. Schnabel [2,4], Anna Suling[17], Lukasz Szumowski[18], Sakis Themistoclakis [19], Panos Vardas[20], Isabelle C. van Gelder[21], Karl Wegscheider [2,3,15], and Paulus Kirchhof [2,3,4,22]*

Graphical Abstract

EAST – AFNET 4 trial population
2789 patients with atrial fibrillation diagnosed within a year prior to randomization
and cardiovascular conditions approximating a CHA_2DS_2VASc score of ≥ 2
2633 with known AF-related symptoms (EHRA score) at baseline
randomized to Early Rhythm Control or Usual Care

| **Early Rhythm Control in all patients** (n=1305/2633)		**Usual Care, including symptom-directed rhythm control therapy** (n=1328/2633)	
Asymptomatic at baseline (n=395)	**Symptomatic** at baseline (n=910)	**Asymptomatic** at baseline (n=406)	**Symptomatic** at baseline (n=922)

No difference in treatment pattern between asymptomatic and symptomatic patients.
Excellent symptom control in both randomized groups at two years.

Ca. 1/4 treated with AF ablation and
3/4 treated with antiarrhythmic drugs
at 2 years

Ca. 8% treated with AF ablation and
9% treated with antiarrhythmic drugs
at 2 years

Similar reduction of cardiovascular death, stroke, or hospitalisation for heart failure or
acute coronary syndrome in symptomatic and asymptomatic patients
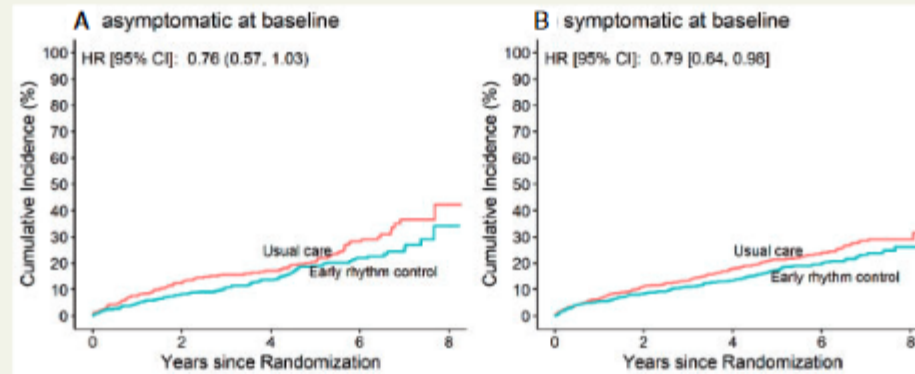
Our findings support the systematic, early initiation of rhythm control therapy
in asymptomatic patients with atrial fibrillation and concomitant
cardiovascular conditions.

Questions

- Are asymptomatic patients really asymptomatic?

- What is the risk to develop Heart Failure in asymptomatic AF patients?

Improvement of « symptoms » in asymptomatic patients?

ELSEVIER

CARDIOLOGY

Letter to the editor

"Asymptomatic" persistent or permanent atrial fibrillation: A misnomer in selected patients

CrossMark

Anand V. Ganapathy [a,c], Seena Monjazeb [b], Krithika S. Ganapathy [c], Farah Shanoon [c], Mehdi Razavi [c,*]

[a] School of Medicine, Baylor College of Medicine, 1 Baylor Plaza, Houston, TX 77030, USA
[b] School of Medicine, University of Texas Medical Branch, 301 University Boulevard, Galveston, TX 77555, USA
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After cardioversion, the average duration of sinus rhythm was 11.4 days (4–22 days). During this period, 7 patients (54%) experienced an improvement in respiration, and 10 patients (77%) had an improvement in energy. Three patients (23%) had no improvement in either condition.

However the global importance of the improvement is low

Catheter Ablation of Asymptomatic Longstanding Persistent Atrial Fibrillation: Impact on Quality of Life, Exercise Performance, Arrhythmia Perception, and Arrhythmia-Free Survival

SANGHAMITRA MOHANTY, M.D., M.S.,*,† PASQUALE SANTANGELI, M.D.,*
PRASANT MOHANTY, M.B.B.S., M.P.H.,* LUIGI DI BIASE, M.D., PH.D.,*,‡,§,¶
SHAWNA HOLCOMB, R.N.,* CHINTAN TRIVEDI, M.D., M.P.H.,* RONG BAI, M.D.,*,#
DAVID BURKHARDT, M.D.,* RICHARD HONGO, M.D.,‖ STEVEN HAO, M.D.,‖
SALWA BEHEIRY, R.N.,‖ FRANCESCO SANTORO, M.D.,§ GIOVANNI FORLEO, M.D.,**
JOSEPH G. GALLINGHOUSE, M.D.,* RODNEY HORTON, M.D.,* JAVIER E. SANCHEZ, M.D.,*
SHANE BAILEY, M.D.,* PATRICK M. HRANITZKY, M.D.,* JASON ZAGRODZKY, M.D.,* and
ANDREA NATALE, M.D., F.H.R.S., F.E.C.C., F.A.C.C. *,‡,‖,††,‡‡,§§,¶¶

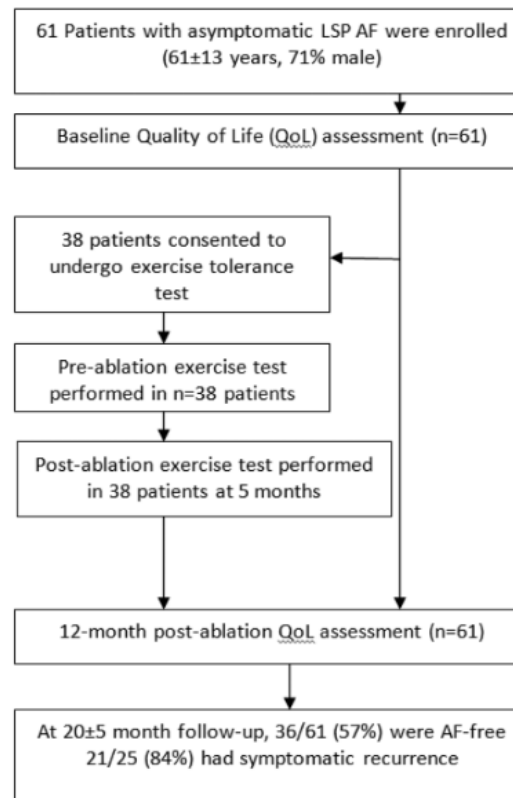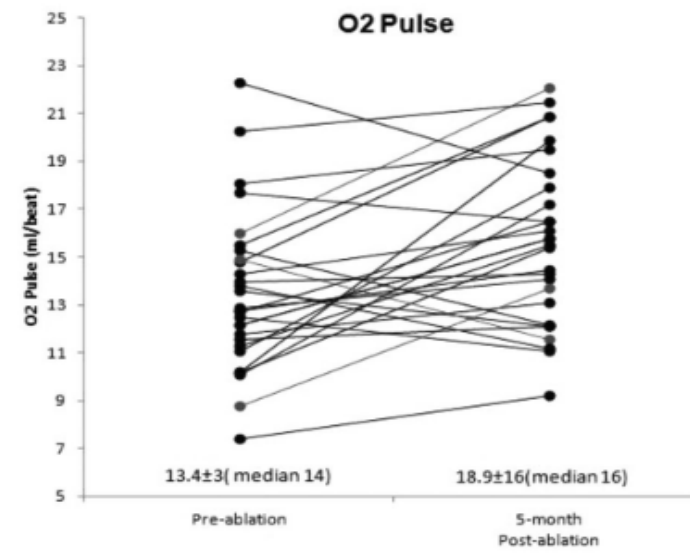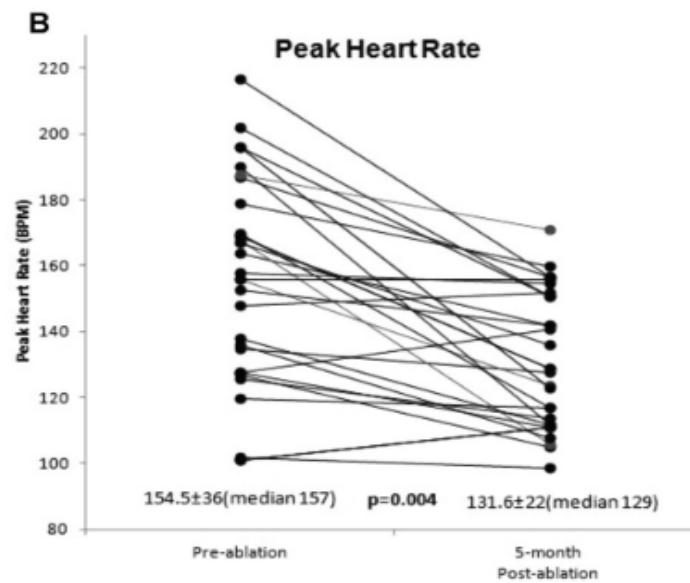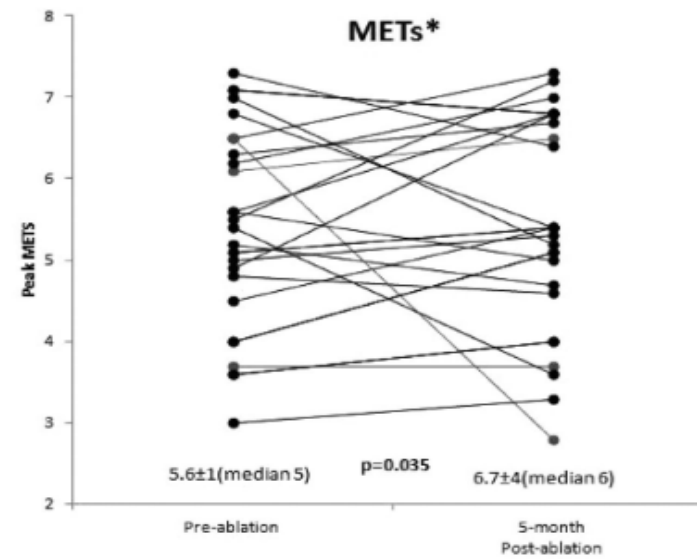**Figure 1.** *Flow chart of the study design and outcome.*

A

Peak VO2/kg

Peak VO2 (ml/kg/min)

19.7±5(median 20)   p=0.04   23.4±13(median 23)

Pre-ablation   5-month Post-ablation

METs*

Peak METS

5.6±1(median 5)   p=0.035   6.7±4(median 6)

Pre-ablation   5-month Post-ablation

B

Peak Heart Rate

Peak Heart Rate (BPM)

154.5±36(median 157)   p=0.004   131.6±22(median 129)

Pre-ablation   5-month Post-ablation

O2 Pulse

O2 Pulse (ml/beat)

13.4±3(median 14)   18.9±16(median 16)

Pre-ablation   5-month Post-ablation
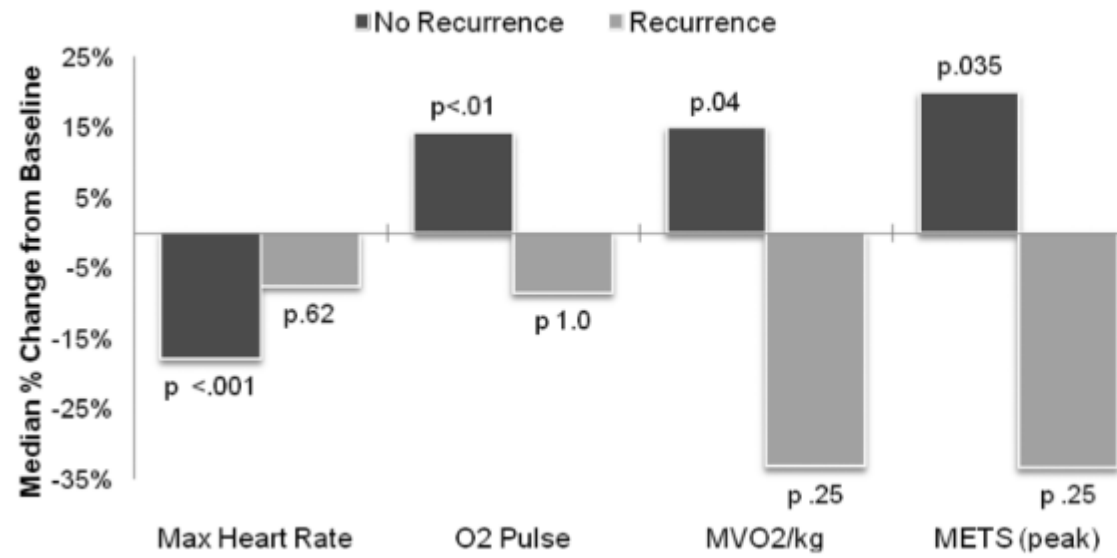
Figure 3. *Exercise parameters in successful versus failed procedures. As assessd at the follow-up exercise test, patients with recurrence did not show improvement in exercise capacity.*

RESEARCH ARTICLE

Prognostic impact of catheter ablation in patients with asymptomatic atrial fibrillation

Tetsuma Kawaji[1,2], Satoshi Shizuta[1]*, Munekazu Tanaka[1], Shushi Nishiwaki[1], Takanori Aizawa[1], Shintaro Yamagami[3], Akihiro Komasa[1], Takashi Yoshizawa[4], Masashi Kato[2], Takafumi Yokomatsu[2], Shinji Miki[2], Koh Ono[1], Takeshi Kimura[5]

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Methods

We performed a post-hoc analysis of 537 risk-matched pairs of AF patients receiving first-time catheter ablation or conservative management. The primary outcome measure was a composite of cardiovascular death, heart failure (HF) hospitalization, ischemic stroke, or major bleeding. The study patients were divided into asymptomatic and symptomatic patients, and were further divided according to the presence or absence of previous AF-related complications (ischemic stroke or HF hospitalization).
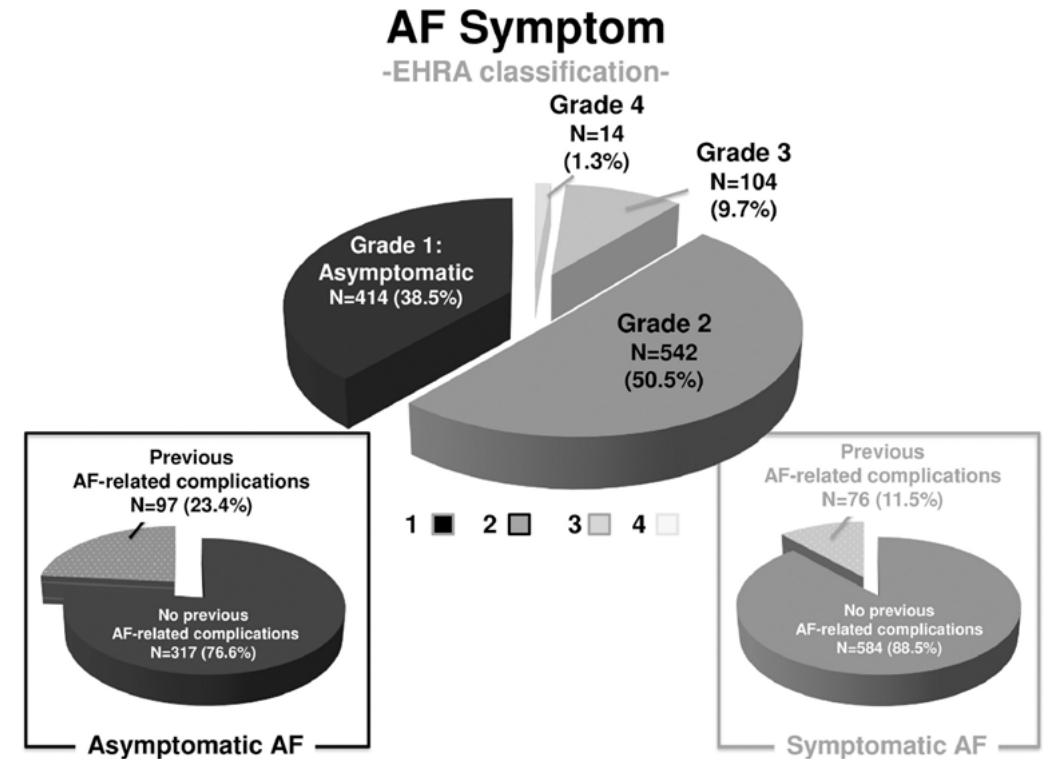

Fig 1. EHRA symptom grades and the prevalence of previous AF-related complications. AF = atrial fibrillation; EHRA = European Hear Rhythm Association.
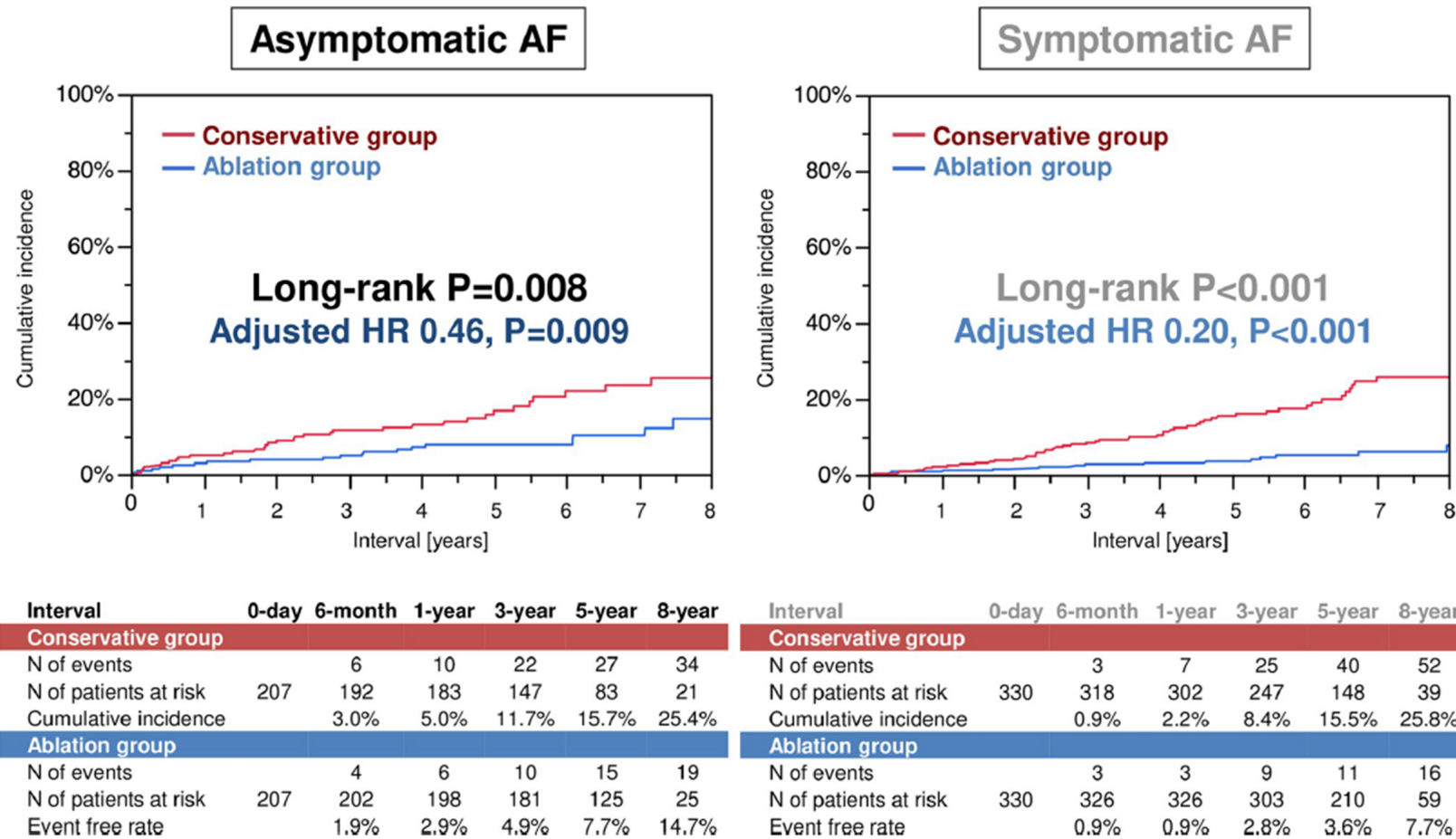
Fig 2. The Kaplan-Meier curves for the cumulative incidence of the primary outcome measure defined as a composite of cardiovascular death, heart failure hospitalization, ischemic stroke, or major bleeding in asymptomatic and symptomatic AF patients. AF = atrial fibrillation; HR = hazard ratio.

Asymptomatic AF

Interval	0-day	6-month	1-year	3-year	5-year	8-year
Conservative group						
N of events		6	10	22	27	34
N of patients at risk	207	192	183	147	83	21
Cumulative incidence		3.0%	5.0%	11.7%	15.7%	25.4%
Ablation group						
N of events		4	6	10	15	19
N of patients at risk	207	202	198	181	125	25
Event free rate		1.9%	2.9%	4.9%	7.7%	14.7%

Symptomatic AF

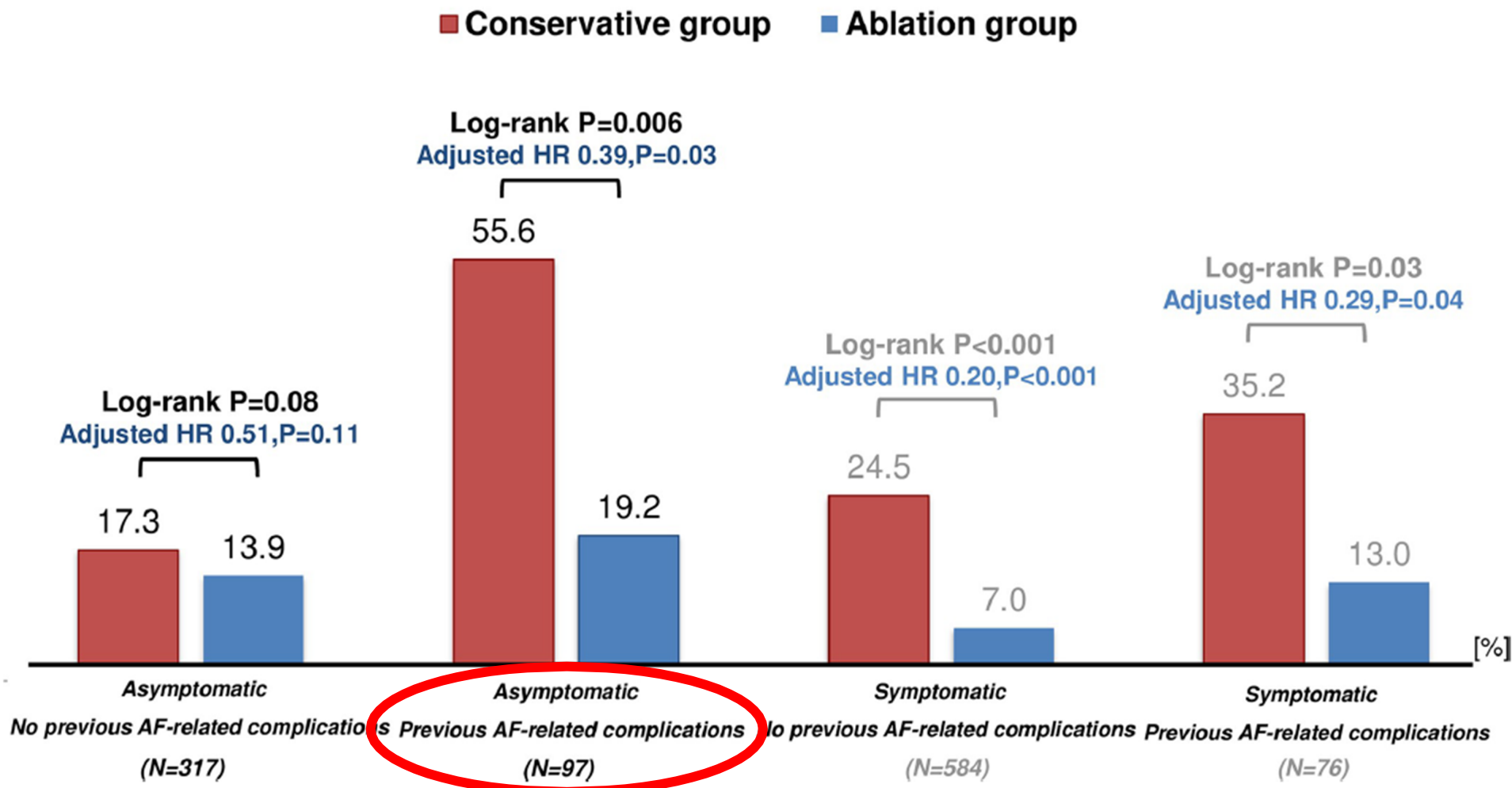| Interval	0-day	6-month	1-year	3-year	5-year	8-year
Conservative group						
N of events		3	7	25	40	52
N of patients at risk	330	318	302	247	148	39
Cumulative incidence		0.9%	2.2%	8.4%	15.5%	25.8%
Ablation group						
N of events		3	3	9	11	16
N of patients at risk	330	326	326	303	210	59
Event free rate		0.9%	0.9%	2.8%	3.6%	7.7%

Fig 3. The 8-year cumulative incidence of a composite of cardiovascular death, heart failure hospitalization, ischemic stroke, or major bleeding according to the symptom status and previous AF-related complications. HR = hazard ratio; LVEF = left ventricular ejection fraction.

lower risk for the primary outcome measure even in the asymptomatic AF patients. However, the advantage of catheter ablation was significant only in the presence of the previous AF-related complications (prior ischemic stroke or HF hospitalization). The attenuated effect of

Risk assessment for incident heart failure in individuals with atrial fibrillation

Renate B. Schnabel[1,2]*[†], Michiel Rienstra[1,3][†], Lisa M. Sullivan[4], Jenny X. Sun[4],
Carlee B. Moser[4], Daniel Levy[5], Michael J. Pencina[1,4], João D. Fontes[1],
Jared W. Magnani[1,6], David D. McManus[1,7], Steven A. Lubitz[8], Thomas M. Tadros[1],
Thomas J. Wang[1,9], Patrick T. Ellinor[8,9], Ramachandran S. Vasan[1,6,10,11], and
Emelia J. Benjamin[1,6,10,11,12]

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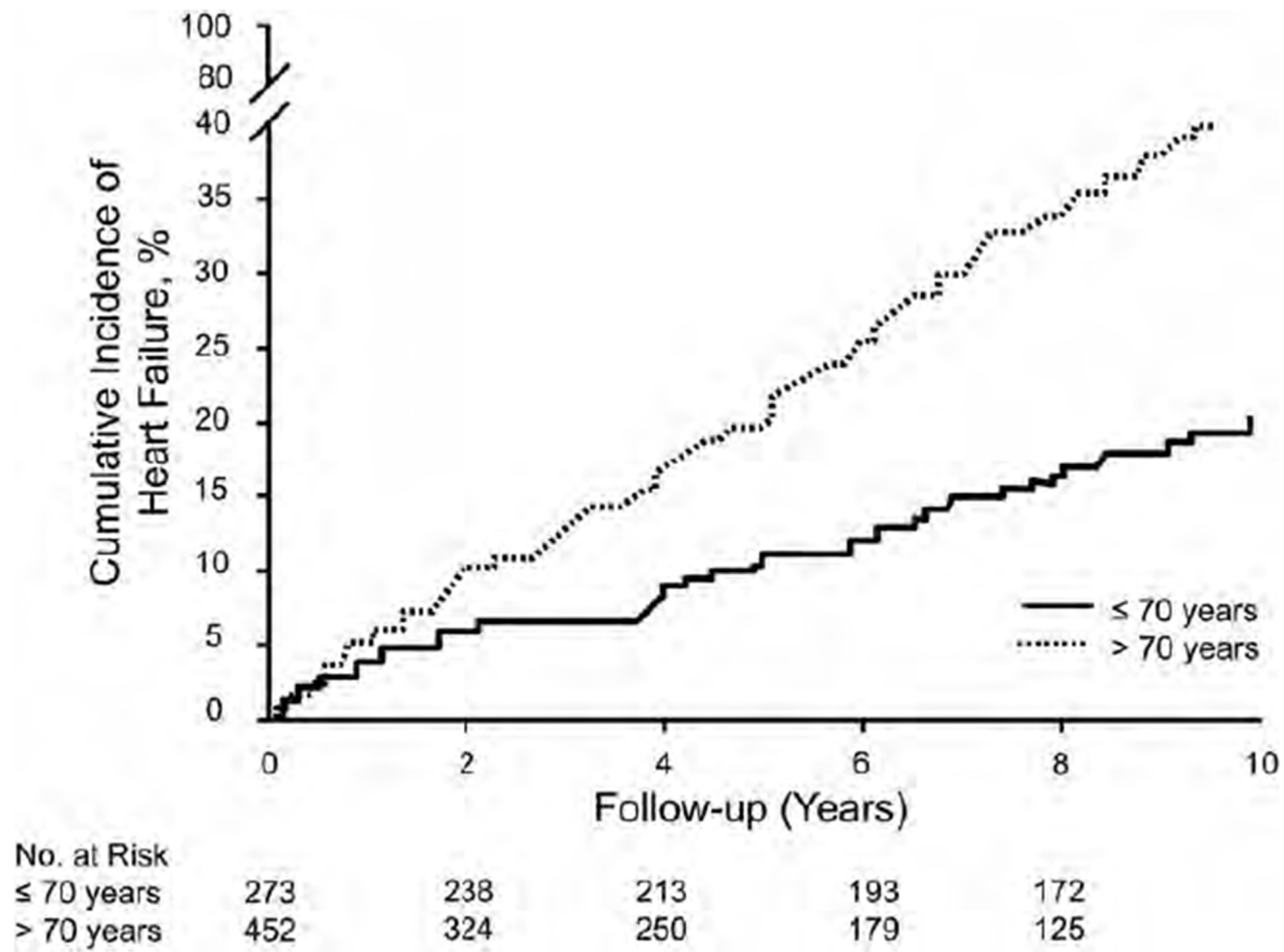
15% à 10 ans
Attention chez les patients jeunes++

Figure 1 Cumulative incidence of heart failure stratified by age of atrial fibrillation onset ($\leq$70 and >70 years) in both sexes ($P_{\text{log rank}} < 0.001$).

Table 3 Multivariable-adjusted Cox proportional hazards regression coefficients for 10-year risk of heart failure

Variable	β	SE	P-value
Age	0.063	0.011	<0.001
Body mass index	0.062	0.016	<0.001
Left ventricular hypertrophy	0.708	0.227	0.002
Diabetes	0.632	0.186	0.001
Significant murmur	0.607	0.224	0.007
Prevalent myocardial infarction	3.589	1.430	0.01
Age × prevalent myocardial infarction	−0.039	0.019	0.048

$S_0(10) = 0.705$ (10-year baseline survival).
Beta values are given for 1 unit increase for continuous variables (see *Table 1* pooled sex) and for the condition present in dichotomous variables.
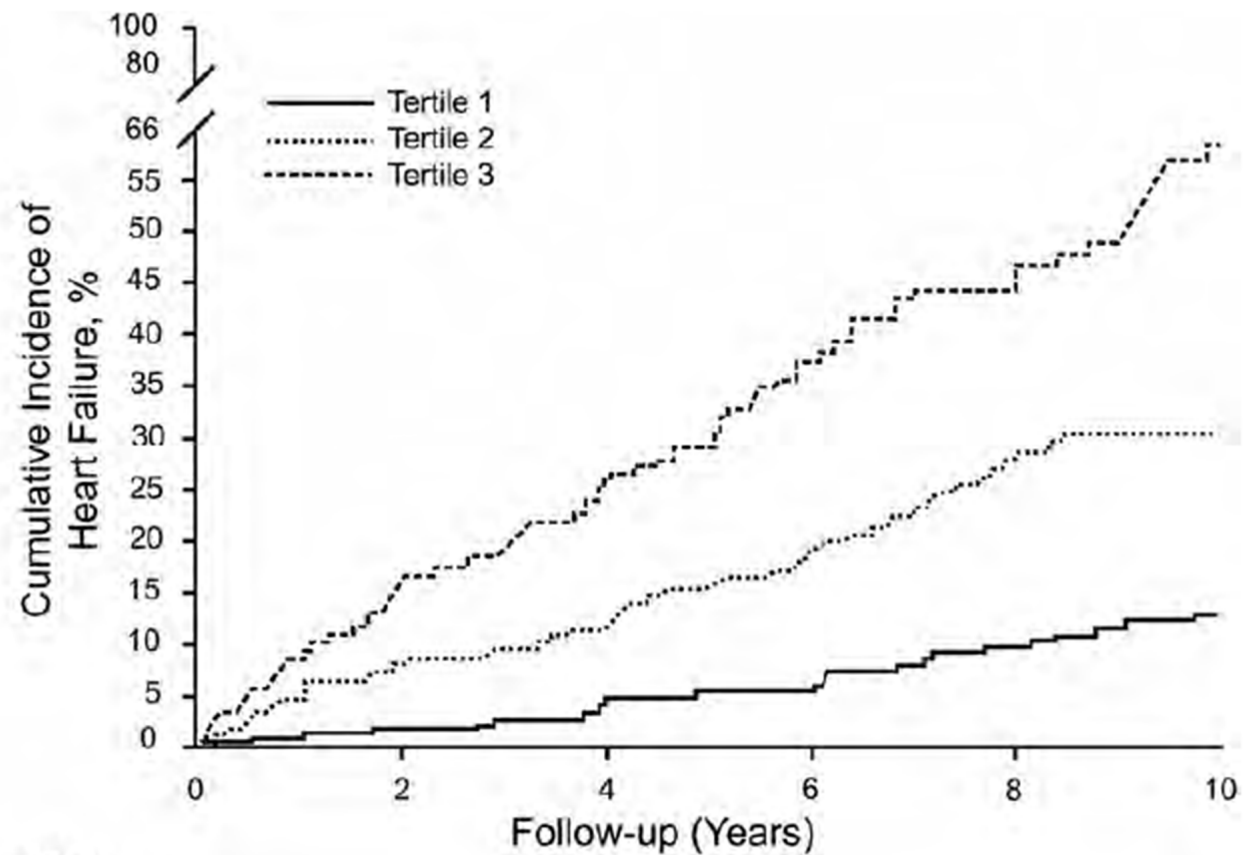
Figure 2 Kaplan–Meier 10-year survival curves for tertiles of the risk algorithm in both sexes.

COMPLICATION RISK: CAN THE PROCEDURE BE JUSTIFIED IN ASYMPTOMATIC PATIENTS?

Table 7. Major Complications in the Overall Population

Type of Complication	No. of Patients	Rate, %
Death	25	0.15
Tamponade	213	1.31
Pneumothorax	15	0.09
Hemothorax	4	0.02
Sepsis, abscesses, or endocarditis	2	0.01
Permanent diaphragmatic paralysis	28	0.17
Total femoral pseudoaneurysm	152	0.93
Total artero-venous fistulae	88	0.54
Valve damage/requiring surgery	11/7	0.07
Atrium-esophageal fistulae	6	0.04
Stroke	37	0.23
Transient ischemic attack	115	0.71
PV stenoses requiring intervention	48	0.29
Total	741	4.54

FASTTRACK **CLINICAL RESEARCH**

Arrhythmias

A worldwide survey on incidence, management, and prognosis of oesophageal fistula formation following atrial fibrillation catheter ablation: the POTTER-AF study

Role of the PFA
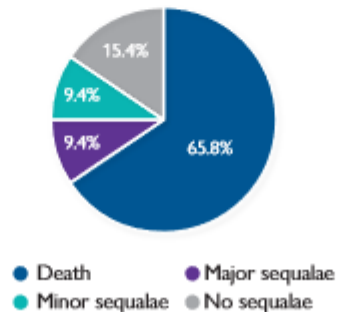
2024 European Heart Rhythm Association/ Heart Rhythm Society/Asia Pacific Heart Rhythm Society/Latin American Heart Rhythm Society expert consensus statement on catheter and surgical ablation of atrial fibrillation
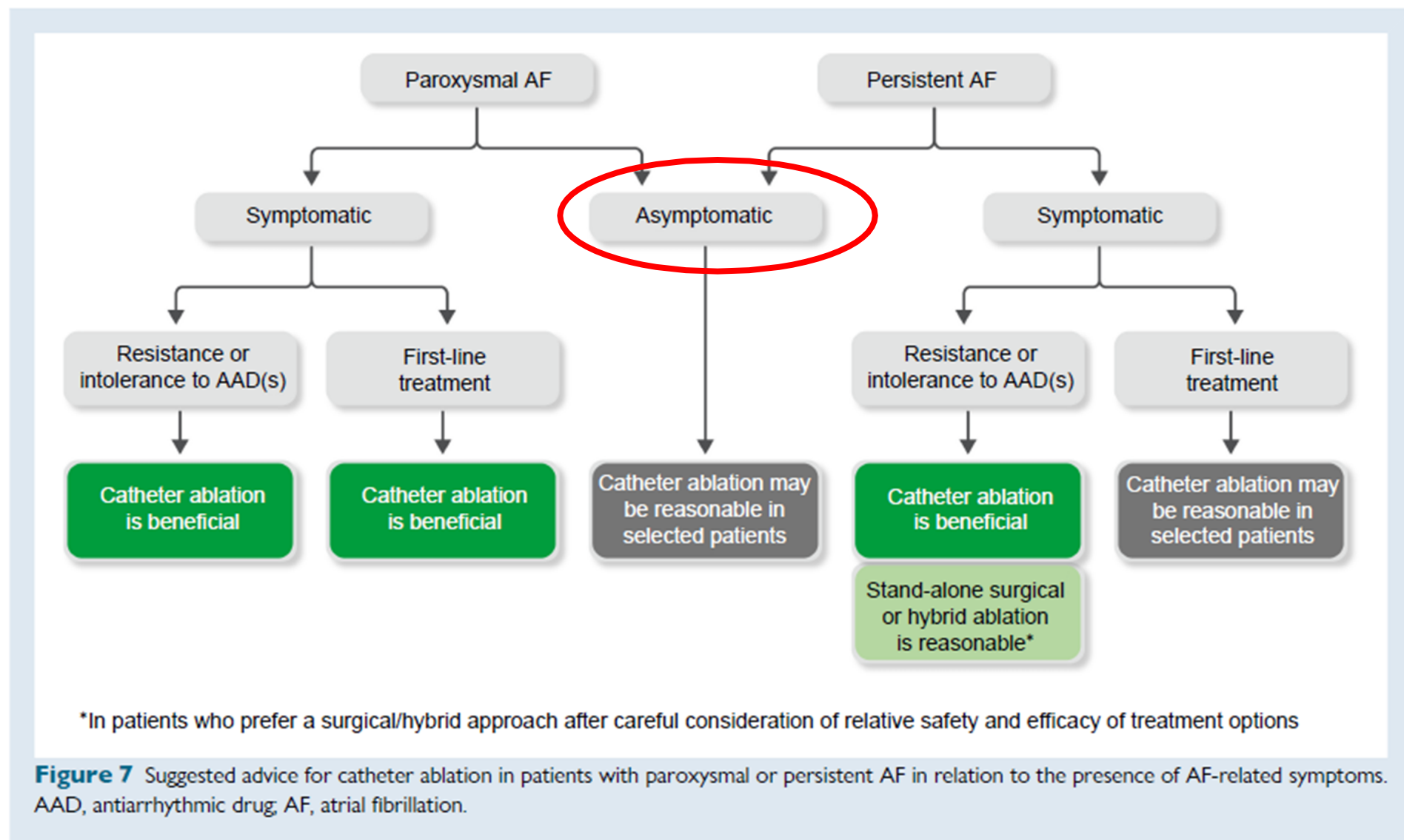
Figure 7 Suggested advice for catheter ablation in patients with paroxysmal or persistent AF in relation to the presence of AF-related symptoms. AAD, antiarrhythmic drug; AF, atrial fibrillation.

ESC
European Society
of Cardiology

2024 ESC Guidelines for the management of atrial fibrillation developed in collaboration with the European Association for Cardio-Thoracic Surgery (EACTS)

Developed by the task force for the management of atrial fibrillation of the European Society of Cardiology (ESC), with the special contribution of the European Heart Rhythm Association (EHRA) of the ESC.
Endorsed by the European Stroke Organisation (ESO)

Disparition du caractère symptomatique de la FA pour l'indication de traitement
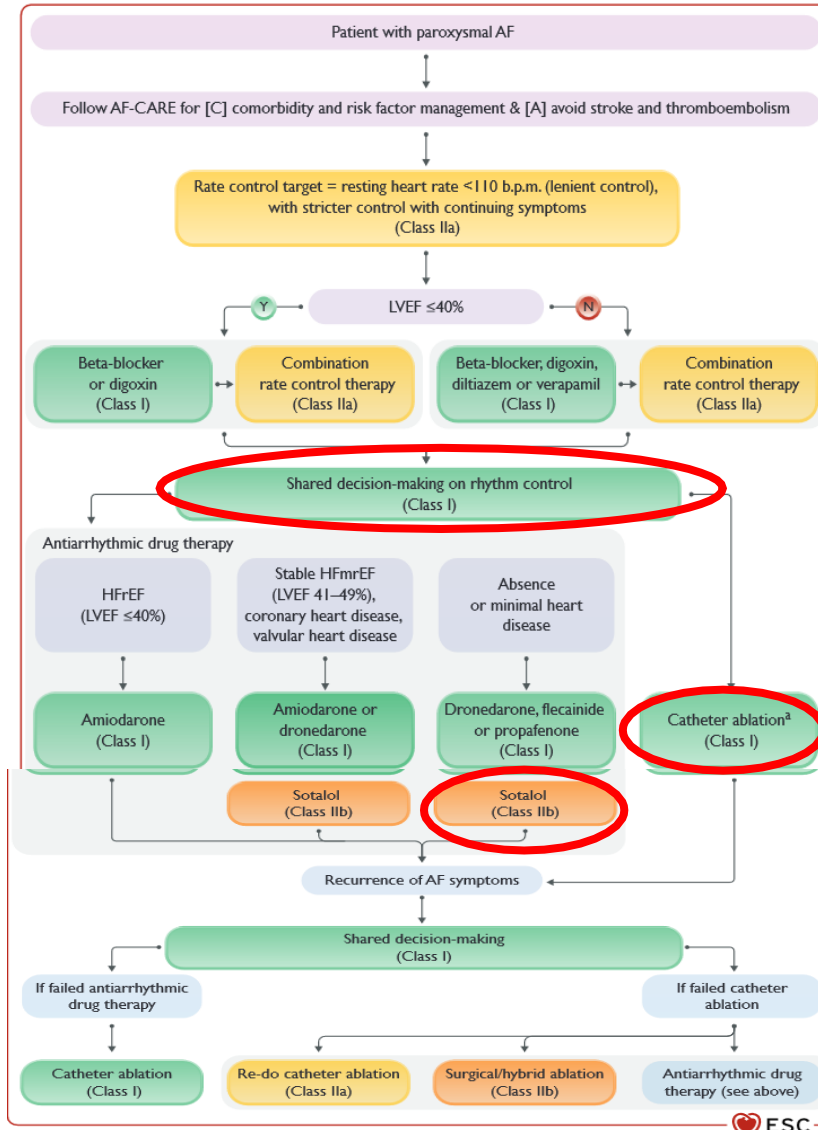
the treatment effect.[5] Therefore, only highly selected asymptomatic patients could be candidates for catheter ablation, and only after detailed discussion of associated risks and potential benefit of delaying AF progression.[4,603] Randomized trials have shown that AF catheter ablation
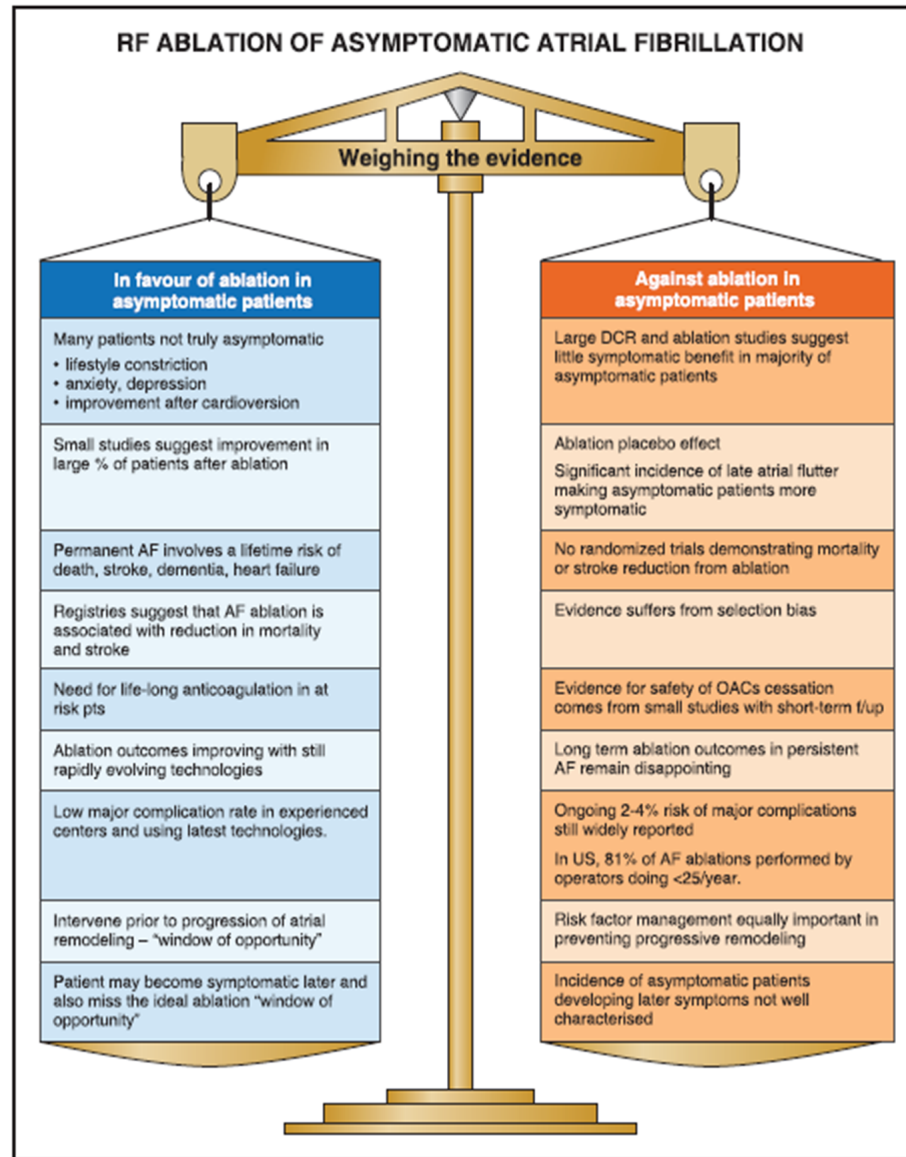
Figure. Radiofrequency ablation of asymptomatic atrial fibrillation (AF).
DCR indicates cardioversion; OAC, oral anticoagulant; and RF, radiofrequency.

CONCLUSION I

-AF ablation possible in some asymptomatic patients: young patients++, beginning of the disease, PVI alone if possible to reduce procedure complications ?

-Assess if the patient is a real asymptomatic with direct current cardioversion

-Evaluation of the risk of developing Heart Failure: age, long standing persistent AF, comorbidities

CONCLUSION II

-Evaluation of the risk of the procedure (often similar to the risk of developing HF++): age, long standing persistent AF, comorbidities

-Discussion with the patient +++

-Patient choice+++

-Need for RCT++

THANK YOU FOR YOUR ATTENTION!!!