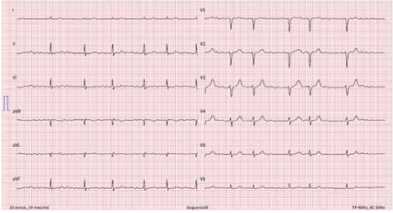


Neues aus der Kardiologie – Nützliches für die Hausarztpraxis

Vorhofflimmern und Vorhofflattern - Diagnose und Behandlung

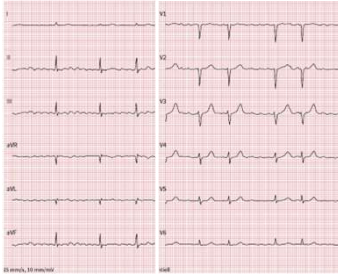
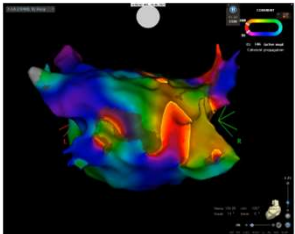


Prof. Dr. med. Amir Jadidi, Leitender Arzt Elektrophysiologie
12. Juni, 2025

herzlich, kompetent, vernetzt

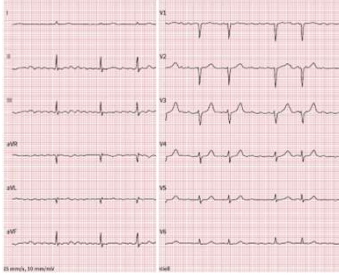
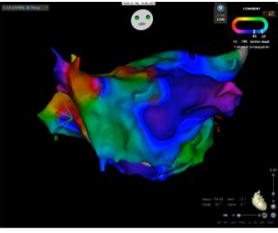
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Vorhofflimmern und Vorhofflattern
Diagnose und Behandlung

2

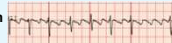
Vorhofflimmern und Vorhofflattern
Diagnose und Behandlung

3

Vorhofflimmern und Vorhofflattern
Diagnose und Behandlung

Vorhofflattern



- Vorhöfe: regelmässig: 240-300/min
- Regelmässig oder unregelmässige HF (meist tachykardie HF 140 - 180/min mit Persistenz über Wochen)

Gefahr für Entwicklung einer Tachymyopathie / systolischen Herzinsuffizienz
→ Sinusrhythmus-Erhalt anstreben (eKV + Katheterablation/CTI-ablation)

- 5-fach höheres Risiko für Schlaganfall – OAK je nach CHADS-VA indiziert
- 70% der Patienten mit Vorhofflattern entwickeln innerhalb 2-3 Jahren Vorhofflimmern
Vorhofflimmern suchen, Risikofaktoren behandeln

Vorhofflimmern

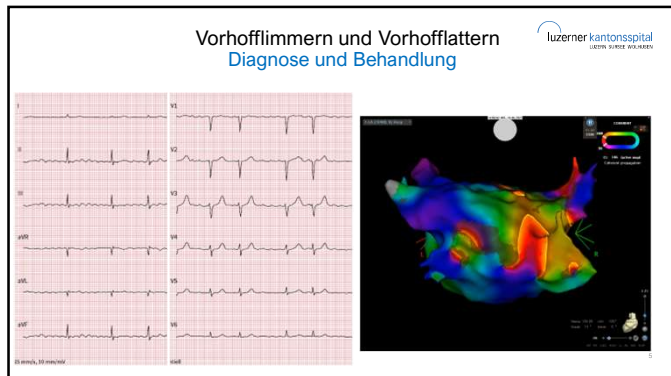


- Vorhöfe: unregelmässig / chaotisch: Vorhoffrequenz 400-600/min
- Ventrikel: Regelmässig oder unregelmässige HF (stark variable HF möglich 90 - 200/min)

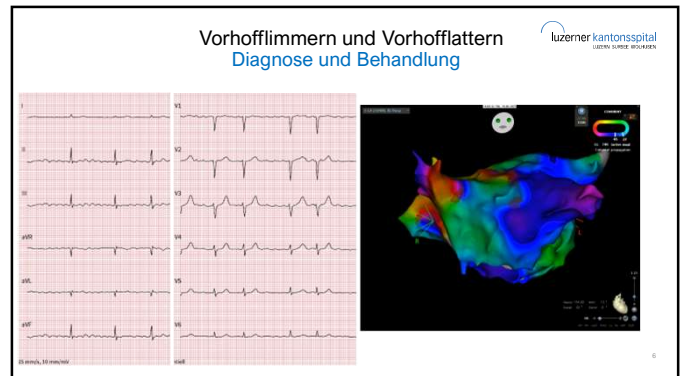
Gefahr für Entwicklung einer Tachymyopathie / systolischen Herzinsuffizienz
→ Sinusrhythmus-Schalt anstreben (eKV + Katheterablation/PVI)

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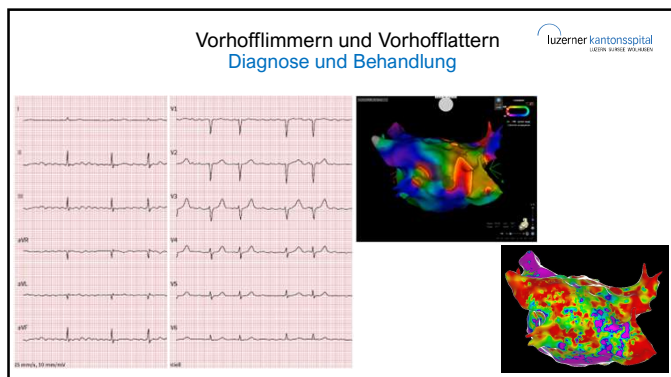
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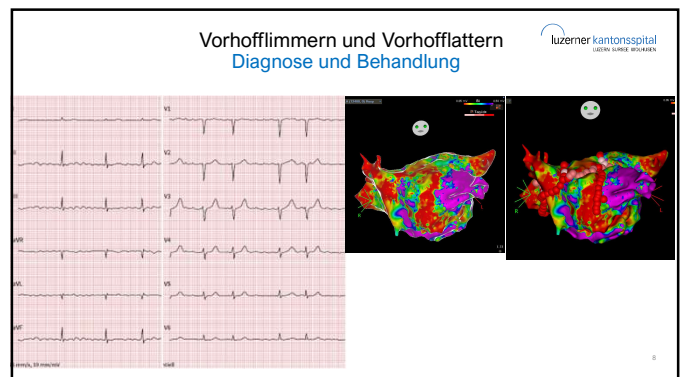
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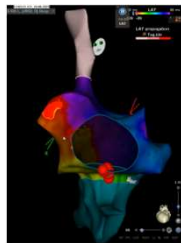
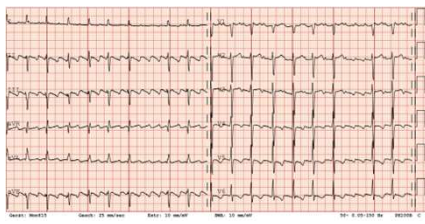
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Vorhofflimmern und Vorhofflattern Diagnose und Behandlung

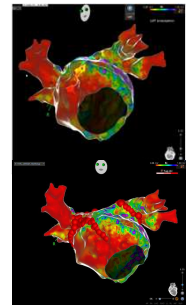
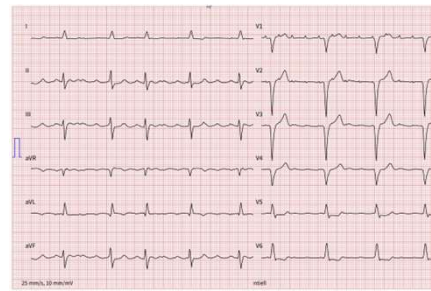
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9

Vorhofflimmern und Vorhofflattern Diagnose und Behandlung

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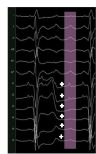
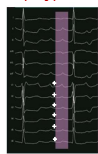
10

Vorhofflattern: Diagnose im EKG

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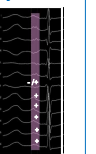
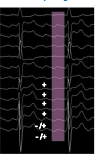
Polarität der P-Welle erlaubt Differenzierung von RA- vs. LA-Flattern

LA-Ürsprung: positiv konkordante P-Wellen V1-6



Perimitral-Flattern LA-Dach-Flattern

RA-Ürsprung: P mit Negativität in V1-6

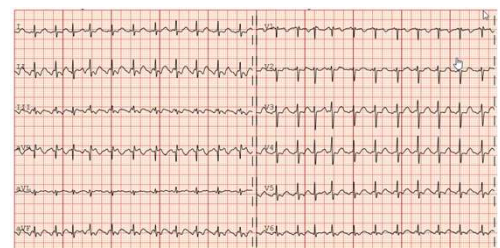


Typisches Flattern (CTI-abhängig) AT aus RA lat. (Crista term.)

11

Vorhofflimmern oder Vorhofflattern ?

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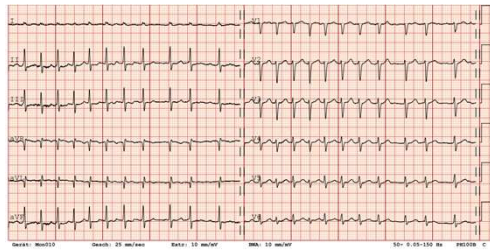


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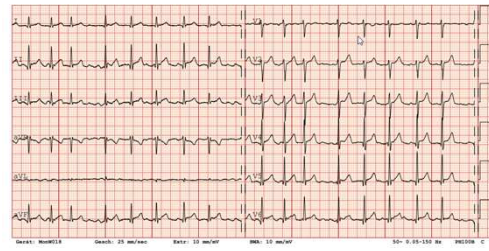
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Vorhofflimmern oder Vorhofflattern ?


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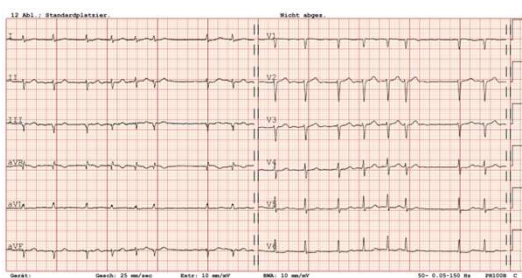
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Vorhofflimmern oder Vorhofflattern ?


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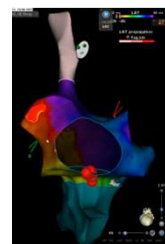
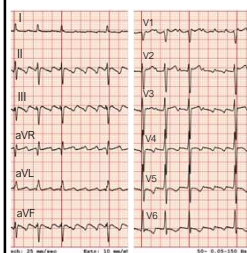
14

Vorhofflimmern oder Vorhofflattern ?


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15

Vorhofflimmern und Vorhofflattern
Diagnose und Behandlung

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16

Therapie von Vorhofflimmern Sinusrhythmus-Erhalt vs. Frequenzkontrolle im Vorhofflimmern



Early Rhythm-Control Therapy in Patients with Atrial Fibrillation
P. Kirchhof, A.J. Camm, A. Goette, A. Boriani, L. Eckardt, A. Ellahi, T. Frensch, J.C. van Gelder, D. Haase, L.M. Haegeli, F. Hainke, H. Heidbüchel, G. Hindricks, J. Kautzner, K.-H. Kuck, L. Moris, G.A. Ng, J. Reekes, N. Schone, U. Schotten, A. Sillig, J. Taggart, S. Therasioulaki, L. Vetter, P. Vardas, K. Wegscheider, S. Wilens, H.J. G.M. Crijns, and G. Breithardt, for the EAST-AFNET 4 Trial Investigators*

17

Therapie von Vorhofflimmern Sinusrhythmus-Erhalt vs. Frequenzkontrolle im Vorhof.....



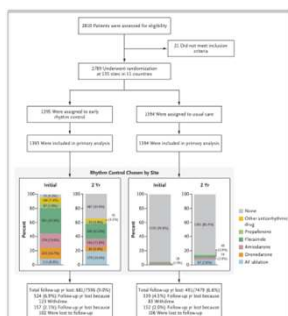
Early Rhythm-Control Therapy in Patients with Atrial Fibrillation

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ABSTRACT
RESULTS
In 155 centers, 2789 patients with early atrial fibrillation (median time since diagnosis, 36 days) underwent randomization. The trial was stopped for efficacy at the third interim analysis after a median of 5.3 years of follow-up per patient. A first primary outcome event occurred in 39% of the patients assigned to early rhythm control (1.9 per 100 person-years) and in 11% of the patients assigned to usual care (0.9 per 100 person-years) (hazard ratio, 0.79; 95% confidence interval, 0.65 to 0.94; $P=0.0005$). The mean (SD) number of nights spent in the hospital did not differ significantly between the groups (3.8(2.3) vs 5.1(2.5) days per year, respectively; $P=0.20$). The percentage of patients with a primary safety outcome event did not differ significantly between the groups; serious adverse events related to rhythm-control therapy occurred in 4.9% of the patients assigned to early rhythm control and 1.4% of the patients assigned to usual care. Symptoms and left ventricular function at 2 years did not differ significantly between the groups.
CONCLUSIONS
Early rhythm-control therapy was associated with a lower risk of adverse cardiovascular outcomes than usual care among patients with early atrial fibrillation and cardiovascular conditions. (Funded by the German Ministry of Education and Research and others; EAST-AFNET 4 [ISRCTN number, 18827047/188600]. ClinicalTrials.gov number, NCT01206552; EudraCT number, 2010-021294-20.)

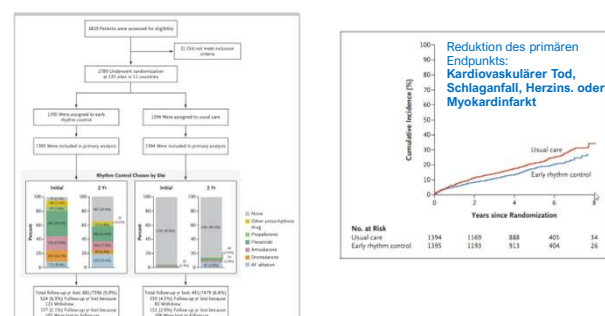
18

Therapie von Vorhofflimmern Sinusrhythmus-Erhalt vs. Frequenzkontrolle im Vorhof



19

Therapie von Vorhofflimmern Sinusrhythmus-Erhalt vs. Frequenzkontrolle im Vorhof



20

Therapie von Vorhofflimmern Sinusrhythmus-Erhalt vs. Frequenzkontrolle im Vorhof.....

Table 1. Demographic and Clinical Characteristics of the Patients at Baseline *

Characteristic	Early Rhythm Control (n=1398)	Usual Care (n=1398)
Age - yr	70.2 (4.4)	70.4 (4.2)
Female sex - no. (%)	647 (46.3)	648 (46.3)
Body mass index	29.2 (4.4)	29.3 (4.4)
Type of atrial fibrillation - no./total no. (%)		
Paroxysmal	520/1398 (36.9)	520/1398 (37.0)
Persistent	878/1398 (63.0)	878/1398 (63.0)
Permanent	0/1398 (0.0)	0/1398 (0.0)
Sinus rhythm at baseline - no./total no. (%)	762/1398 (54.5)	743/1398 (53.2)
Median days since atrial fibrillation diagnosis (IQR)	36.0 (0.0 to 141.0)	36.0 (0.0 to 141.0)
Presence of atrial fibrillation symptoms - no./total no. (%)	350/1398 (25.0)	350/1398 (25.0)
Presence of cardiovascular risk factors	540/1398 (38.6)	540/1398 (38.6)
Coronary artery disease	178 (12.7)	178 (12.7)
Previous stroke or transient ischaemic attack - no. (%)	150/1398 (10.7)	150/1398 (10.7)
Ischemic heart disease	150/1398 (10.7)	150/1398 (10.7)
Hypertension - no. (%)	1200/1398 (85.9)	1200/1398 (85.9)
Diabetes	120/1398 (8.6)	120/1398 (8.6)
Dyslipidemia	80/1398 (5.7)	80/1398 (5.7)
Chronic kidney disease (eGFR < 30 mL/min/1.73 m ²)	40/1398 (2.9)	40/1398 (2.9)
Chronic liver disease (Child-Pugh class 3 or 4) - no. (%)	0/1398 (0.0)	0/1398 (0.0)
Medication at discharge - no./total no. (%)		
Oral anticoagulation with NOAC or VKA	1200/1398 (85.9)	1200/1398 (85.9)
Diagnosis of diabetes	80/1398 (5.7)	80/1398 (5.7)
Dyslipidemia	120/1398 (8.6)	120/1398 (8.6)
ACE inhibitors or angiotensin II receptor blockers	80/1398 (5.7)	80/1398 (5.7)
Mineralocorticoid receptor antagonists	40/1398 (2.9)	40/1398 (2.9)
Diuretics	120/1398 (8.6)	120/1398 (8.6)
Statins	80/1398 (5.7)	80/1398 (5.7)
Beta-blockers	120/1398 (8.6)	120/1398 (8.6)

21

Therapie von Vorhofflimmern Sinusrhythmus-Erhalt vs. Frequenzkontrolle im Vorhof.....

Table 2. Efficacy Outcomes *

Outcome	Early Rhythm Control	Usual Care	Treatment Effect
First primary outcome - events/person-yr (incidence/100 person-yr)	245/1399 (3.3)	316/1332 (2.3)	0.79 (0.66 to 0.94)†
Components of first primary outcome - events/person-yr (incidence/100 person-yr)			
Death from cardiovascular causes	67/1395 (1.0)	94/1098 (1.3)	0.72 (0.52 to 0.96)†
Stroke	40/1313 (3.0)	62/1054 (5.9)	0.63 (0.44 to 0.97)†
Hospitalization with worsening of heart failure	179/1329 (13.4)	185/1016 (18.2)	0.85 (0.65 to 1.12)†
Hospitalization with acute coronary syndrome	13/1762 (0.7)	63/1045 (6.0)	0.83 (0.58 to 1.18)†
Second primary outcome - nights spent in hospital/yr	5.8 (2.1 to 9.5)	5.3 (2.5 to 8.1)	1.08 (0.92 to 1.28)†
Key secondary outcomes at 2 yr			
Change in left ventricular ejection fraction - %	1.5 (0.8)	0.9 (0.8)	0.23 (-0.46 to 0.91)†
Change in EQ-5D score	-1.0 (2.1 to 4.0)	-2.7 (2.3 to 3.0)	1.07 (-0.68 to 2.81)†
Change in SF-12 Mental Score**	0.7 (0.5 to 0.9)	1.6 (0.5 to 2.7)	1.20 (-0.94 to 3.34)†
Change in SF-12 Physical Score**	0.3 (0.1 to 0.5)	0.3 (0.2 to 0.4)	0.33 (-0.39 to 1.06)†
Change in MACRA score	0.1 (0.3 to 0.1)	0.1 (0.2 to 0.1)	-0.14 (-0.39 to 0.12)†
Sinus rhythm - no. of patients with feature/total no. (%)	922/1322 (69.8)	687/1102 (62.3)	3.33 (2.10 to 4.56)†
Asymptomatic - no. of patients with feature/total no. (%)	863/1339 (64.3)	800/1171 (68.3)	1.34 (0.93 to 1.75)†

-21%

-28%

-35%

22

Therapie von Vorhofflimmern Pulmonalvenen-Isolation (PVI) durch Kardio-selektive Elektroporation (Farapuls)

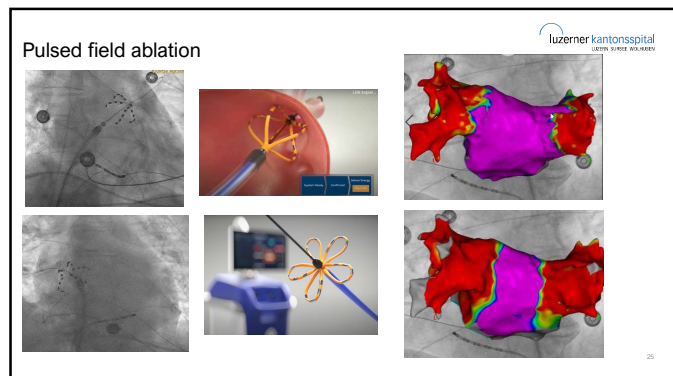


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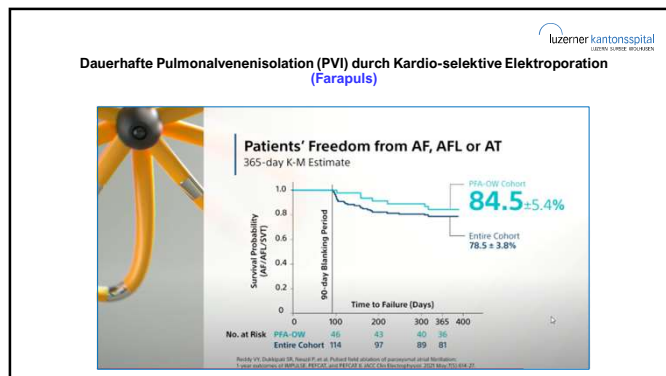
Pulmonalvenen-Isolation (PVI) durch Kardio-selektive Elektroporation (Farapuls)



24



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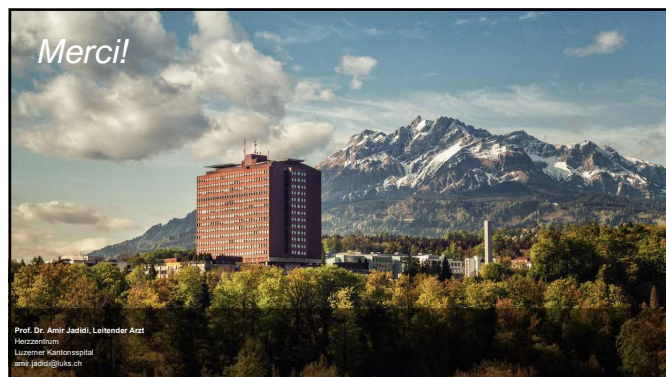


26

Zusammenfassung

- Vorhofflimmern entsteht primär durch schnelle fokale Aktivität aus den Pulmonalvenen. Im EKG findet sich wechselnde P-Wellen-Morphologie, als Ausdruck multipler simultaner Fokusaktivität.
- Pulmonalvenen-Isolation (PVI) hat eine hohe Erfolgsrate bei Patienten mit paroxysmalem Vorhofflimmern (85-90%).
- Bei persistierendem Vorhofflimmern liegt die Erfolgsrate bei 75% und kann eine zusätzliche individualisierte Substrat-Modifikation erfordern, um Arrhythmieherde, die ausserhalb der Pulmonalvenen liegen zu behandeln.
- Die Katheterablation von typischem Vorhofflattern (cavo-trikuspidal Isthmus-Flattern) ist mit hohen Erfolgsraten von 90-95% assoziiert und verhindert rezidivierendes Vorhofflattern und kardiale Dekompensationen.
- Neue grosse klinische Studien (z.B. EAST AF, NEJM 2020) zeigen den prognostischen Vorteil der Sinusrhythmus-erhaltenden Therapie mit Reduktion von Schlaganfall (-35%), Herzinsuffizienz (-20%) sowie der Mortalität (-20%).
- PVI sollte als primäre Therapie bei Vorhofflimmern angeboten werden, um Krankheitsprogression und Komplikationen zu vermeiden.

27



28