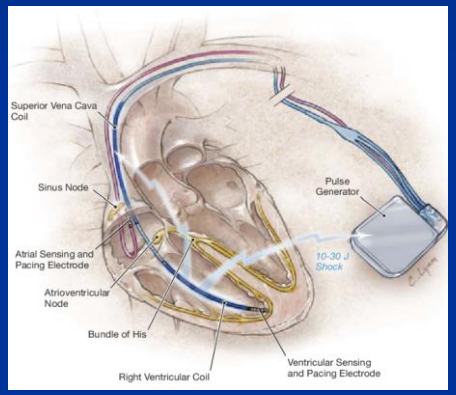
Ασθενής με ιστορικό εμφράγματος, ΚΕΑΚ 40% και πρόσφορες εκφορτίσεις απινιδιστή χωρίς να λαμβάνει αμιωδαρόνη. Πρέπει να υποβληθεί σε κατάλυση κοιλιακής ταχυκαρδίας ως πρώτη επιλογή; ΚΑΤΑ



ΠΑΝΑΓΙΩΤΗΣ ΚΟΡΑΝΤΖΟΠΟΥΛΟΣ, MD, PhD, FEHRA

Καθηγητής Καρδιολογίας

Α' Καρδιολογική Κλινική Πανεπιστημίου Ιωαννίνων

ΠΡΟΣΦΟΡΕΣ ΕΚΦΟΡΤΙΣΕΙΣ ICD – ΙΣΧΑΙΜΙΚΗ ΚΑΡΔΙΟΜΥΟΠΑΘΕΙΑ

Πριν τις επιπλέον θεραπευτικές παρεμβάσεις…

- Διόρθωση δυνητικών αναστρέψιμων αιτιών…
- Βελτιστοποίηση αγωγής καρδιακής ανεπάρκειας…

Recommendations	Class[a]	Level[b]
Optimal medical treatment including ACE-I/ARB/ ARNIs, MRAs, beta-blockers, and SGLT2 inhibitors is indicated in all heart failure patients with reduced EF.[343–347]	I	A

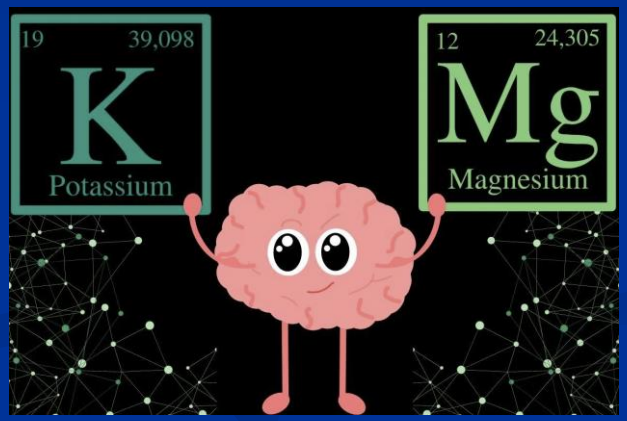
- Σωστός προγραμματισμός ICD…

A propensity-matched study of the association of low serum potassium levels and mortality in chronic heart failure

Ali Ahmed[1,2*], Faiez Zannad[3], Thomas E. Love[4], Jose Tallaj[1,2], Mihai Gheorghiade[5], Olaniyi James Ekundayo[1], and Bertram Pitt[6]

25% μεγαλύτερη θνητότητα σε K^+ 3.5 - 4 mEq/L

European Heart Journal (2007) 28, 1334–1343



Hypomagnesemia in heart failure with ventricular arrhythmias. Beneficial effects of magnesium supplementation

L. CEREMUŻYŃSKI, J. GĘBALSKA, R. WOŁK, E. MAKOWSKA
From the Klinika Kardiologii CMKP, Szpital Grochowski, Warszawa, Poland

Hypomagnesemia was found in 38% and excessive magnesium loss in 72% of patients.

Journal of Internal Medicine 2000; 247: 78-86

ESC European Society of Cardiology
European Heart Journal (2022) **00**, 1–130
https://doi.org/10.1093/eurheartj/ehac262
ESC GUIDELINES

2022 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death

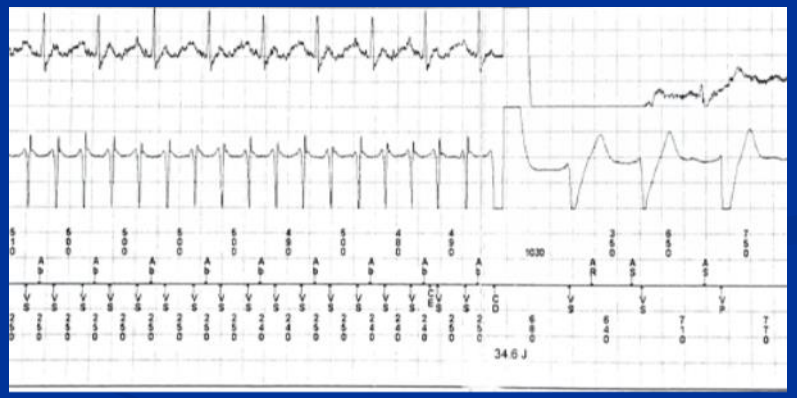
- **Προγραμματισμός ICD**
  - Μεγάλα χρονικά διαστήματα ανίχνευσης…
  - Υψηλές ζώνες παρέμβασης σε VT (>188/min)
  - Burst pacing (ως 2-3 προσπάθειες) και σε fast VT up to 230 bpm

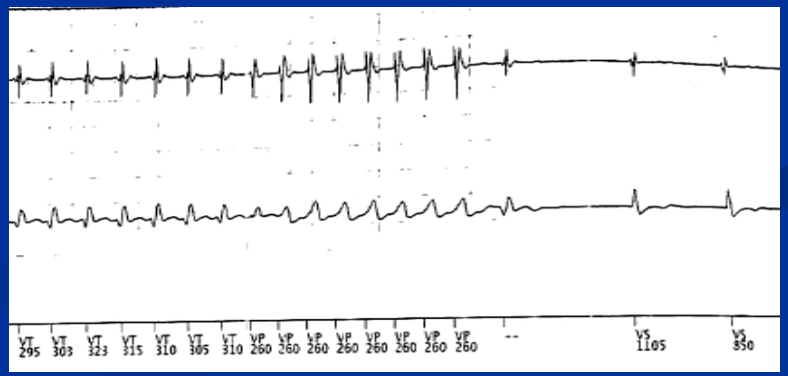
Programming of prolonged detection settings is indicated (duration criteria of at least 6–12 s or 30 intervals).[373,382,383]	I	A
It is recommended to program the slowest tachycardia therapy zone limit ≥188 b.p.m. in primary prevention ICD patients.[382,383]	I	A
In patients with SHD, programming of at least one ATP therapy is recommended in all tachyarrhythmias zones.[375,384,391]	I	A
It is recommended to program algorithms for SVT vs. VT discrimination for tachycardias with rates up to 230 b.p.m.[383–385]	I	B

Αμιωδαρόνη ή Κατάλυση;

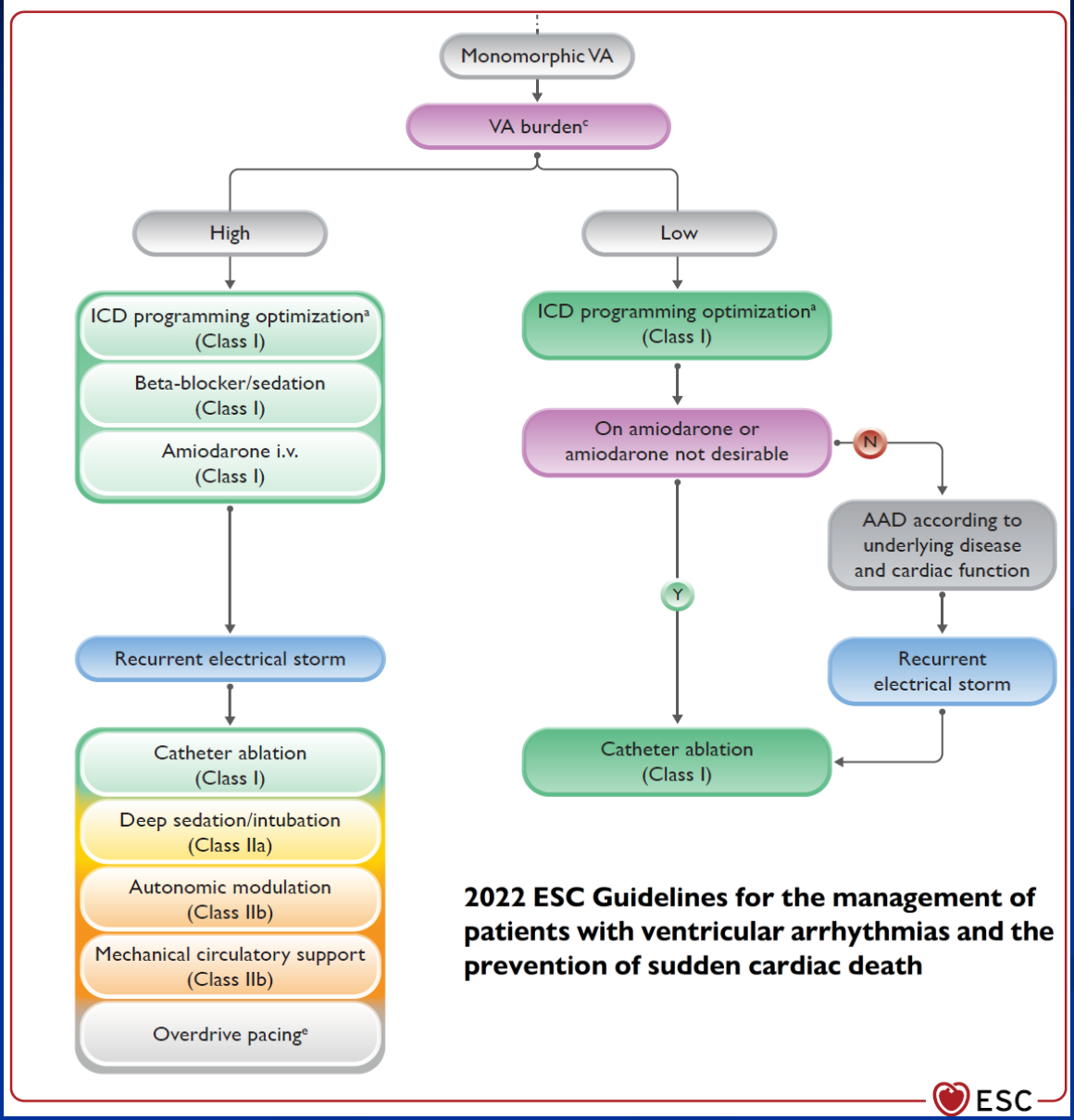
- ***Βασικά ερωτήματα στη διαχείριση του ασθενούς…***

- Ηλεκτρική θύελλα;
- Πολλαπλές εκφορτίσεις ή πολλαπλά ATP; Επιτυγχάνουν τα ATP;
- CL της VT. Είναι **slow VT ?**
  …προτιμητέα η κατάλυση





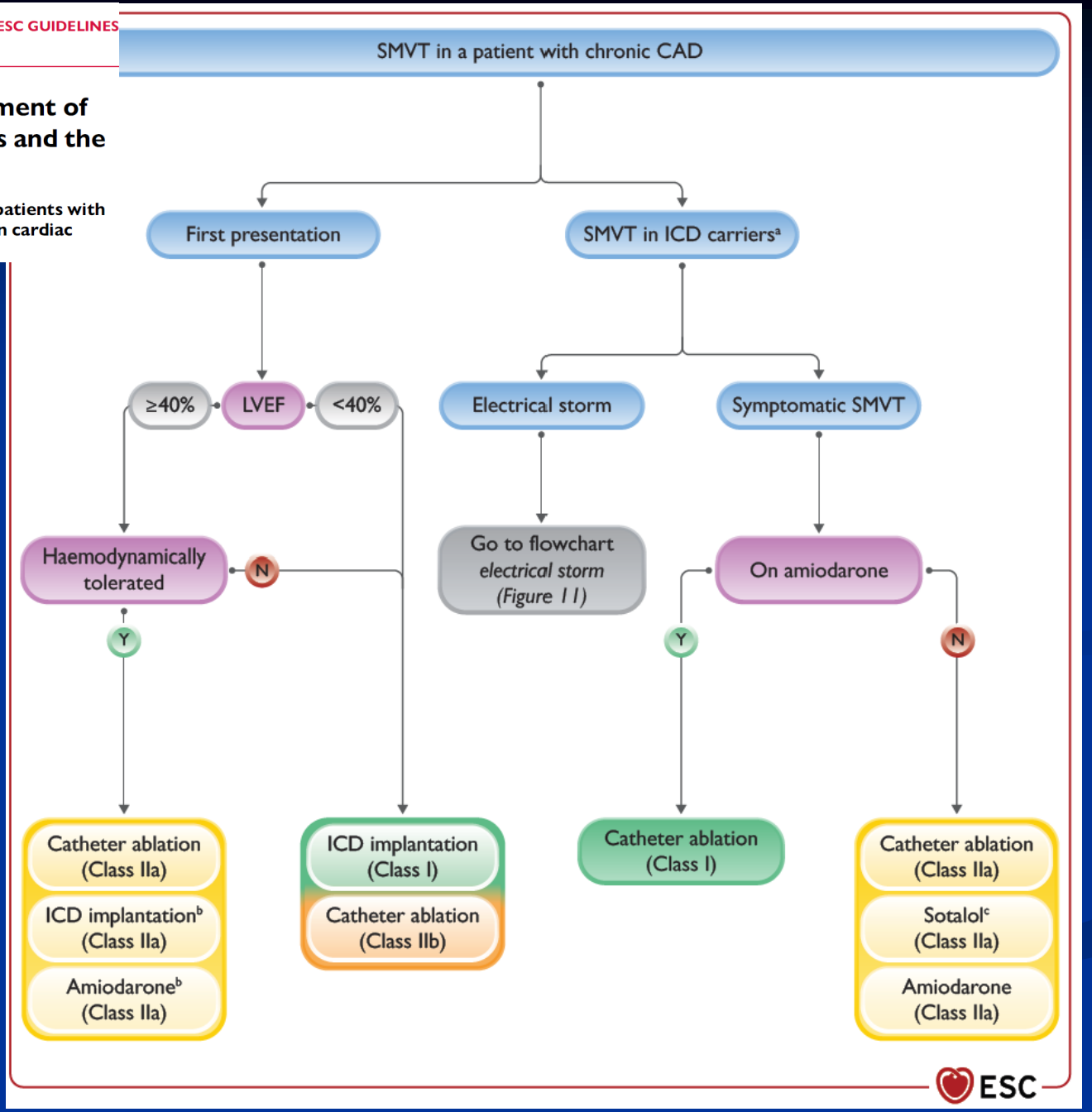
ΗΛΕΚΤΡΙΚΗ ΘΥΕΛΛΑ ΜΕ ΜΟΝΟΜΟΡΦΗ VT



ESC European Society of Cardiology
European Heart Journal (2022) 00, 1–130
https://doi.org/10.1093/eurheartj/ehac262

2022 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death

Developed by the task force for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death of the European Society of Cardiology (ESC)



VANISH Clinical Trial

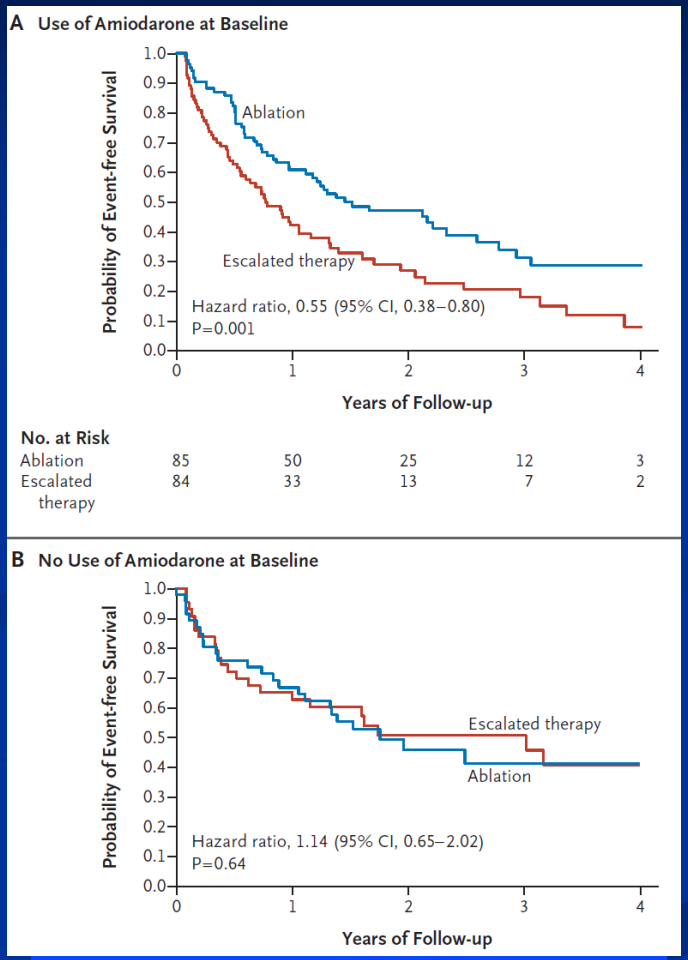
The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JULY 14, 2016 VOL. 375 NO. 2

Ventricular Tachycardia Ablation versus Escalation of Antiarrhythmic Drugs

John L. Sapp, M.D., George A. Wells, Ph.D., Ratika Parkash, M.D., William G. Stevenson, M.D., Louis Blier, M.D., Jean-Francois Sarrazin, M.D., Bernard Thibault, M.D., Lena Rivard, M.D., Lorne Gula, M.D., Peter Leong-Sit, M.D., Vidal Essebag, M.D., Ph.D., Pablo B. Nery, M.D., Stanley K. Tung, M.D., Jean-Marc Raymond, M.D., Laurence D. Sterns, M.D., George D. Veenhuyzen, M.D., Jeff S. Healey, M.D., Damian Redfearn, M.D., Jean-Francois Roux, M.D., and Anthony S.L. Tang, M.D.

Antiarrhythmic drug received at time of qualification — no. (%)		
Amiodarone	84 (66.1)	85 (64.4)
Dose <300 mg/day	73 (57.5)	77 (58.3)
Dose ≥300 mg/day	11 (8.7)	8 (6.1)
Other medication	43 (33.9)	47 (35.6)
Sotalol	43 (33.9)	46 (34.8)
Procainamide	0	1 (0.8)
Other medications — no./total no. (%)		
Beta-blocker	122/127 (96.1)	124/132 (93.9)
Angiotensin-converting–enzyme inhibitor	83/127 (65.4)	85/132 (64.4)
Angiotensin-receptor blocker	28/127 (22.0)	31/132 (23.5)
Diuretic	89/127 (70.1)	90/132 (68.2)
Digoxin	25/127 (19.7)	27/132 (20.5)
Aspirin	85/112 (75.9)	99/118 (83.9)
Calcium-channel blocker	19/127 (15.0)	14/132 (10.6)
Warfarin	42/112 (37.5)	47/119 (39.5)
Non-warfarin anticoagulant	12/127 (9.4)	11/132 (8.3)



Primary Outcome, According to Receipt of Amiodarone during the Index Arrhythmia.

Ventricular Tachycardia and ICD Therapy Burden With Catheter Ablation Versus Escalated Antiarrhythmic Drug Therapy

Michelle Samuel, MPH, PHD,[a] Jeff S. Healey, MD,[b] Isabelle Nault, MD,[c] Laurence D. Sterns, MD,[d] Vidal Essebag, MD, PHD,[e,f] Christopher Gray, MD,[g] Tomasz Hruczkowski, MD,[h] Martin Gardner, MD,[g] Ratika Parkash, MD,[g] John L. Sapp, MD[g]

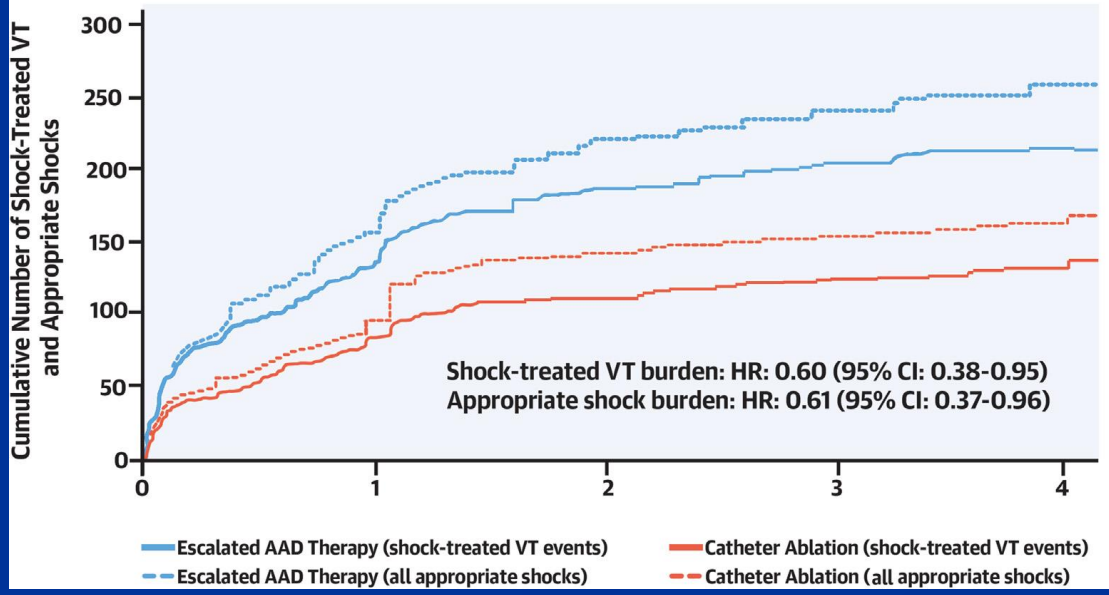
VANISH Trial
- **Prior MI**
- **VT despite antiarrhythmic drugs (AADs)**

N = 259

Randomization

- **Catheter Ablation N = 132**
- **Escalated AAD N = 129**

- **Reductions in appropriate shocks, and shock-treated VT events**
- **Significant reductions in overall VT burden, appropriate ATP burden, and ATP-treated VT event burden only in patients with amiodarone-refractory VT**



JACC Clin Electrophysiol 2023;9:808-821.

VT ablation vs Antiarrhythmic drugs

- Regarding safety, catheter ablation is a safe procedure with a low risk of treatment-related events compared to antiarrhythmic drugs.

- The **mean long-term success rate of VT ablation varies from 30% to 70%,** depending on the underlying SHD. Peri-procedural complications, in particular stroke, cardiac tamponade, or death, may occur.

- Long-term safety is a concern for Antiarrhythmic Drugs.

Catheter ablation versus medical therapy for treatment of ventricular tachycardia associated with structural heart disease: Systematic review and meta-analysis of randomized controlled trials and comparison with observational studies

Robert D. Anderson, MBBS,[*†‡] Nilshan Ariyarathna, MBBS,[†] Geoffrey Lee, MBCHB, PhD,[*] Sohaib Virk, MBBS,[†] Ivana Trivic, BSc,[†‡] Timothy Campbell, BSc,[†‡] Clara K. Chow, MBBS, PhD,[†‡] Jonathan Kalman, MBBS, PhD,[*] Saurabh Kumar, BSc(Med)/MBBS, PhD[†‡]

- In this updated meta-analysis of RCTs, **CA of scar-related VT in addition to medical therapy (with or without AADs)** reduces VT recurrence and electrical VT storm in patients with SHD.
- **No statistically significant all-cause or cardiac-specific mortality benefit** was observed with CA.

- It is a safe procedure with a low risk of complications when performed by experienced electrophysiologists in expert centers.

Heart Rhythm 2019;16:1484–1491

Limitations

- **VT ablations performed** in the studies were performed in **expert centers** by experienced operators committed to a comprehensive approach, whereas **the results may not be generalizable in less experienced centers.**

- **Oral propranolol is superior to metoprolol** in controlling VT electrical storms in terms of recurrent arrhythmic events and ICD Shocks.

Heart Rhythm 2019;16:1484–1491

The Effectiveness of Catheter Ablation in the Management of Ventricular Tachycardia in Comparison With Antiarrhythmic Drugs in Patients With Structural Heart Disease: A Meta-Analysis

Jithin Karedath [1], Antonia Lisseth Valle Villatoro [2], Sana Faisal [3, 4], Indu Kathuria Anand [5], Venkata Anirudh Chunchu [6], Muhammad Umer [7], Samprith Ala [6], Adil Amin [8]

Author name	Year	Setting	Groups	Sample size	Follow-up duration	Mean age	Males (%)
Al-Khatib et al. [8]	2014	Multicenter	Catheter ablation	13	6 months	64.5 years	92.59%
			Antiarrhythmic drugs	14			
Arenal et al. [9]	2022	Single center	Catheter ablation	71	24 months	76 years	96%
			Antiarrhythmic drugs	73			
Sapp et al. [10]	2016	Multicenter	Catheter ablation	132	48 months	68.5 years	93.05%
			Antiarrhythmic drugs	127			

FIGURE 3: Forest plot comparing the effect of CA and AAM on the recurrence of ventricular tachycardia

FIGURE 4: Forest plot comparing the effect of CA and AAM on all-cause mortality

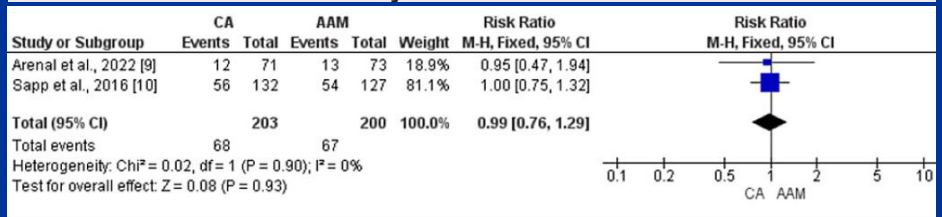


FIGURE 6: Forest plot comparing the effect of CA and AAM on ICD shock

Cureus. 2023 Jan 10;15(1):e33608. doi: 10.7759/cureus.33608.

ORIGINAL RESEARCH

Low-dose Amiodarone Is Safe: A Systematic Review and Meta-analysis

RONPICHAI CHOKESUWATTANASKUL, MD,[1,2] NUPUR SHAH, MD,[3] SUSAMA CHOKESUWATTANASKUL, MD,[4] ZHIGANG LIU, MD,[5] and RANJAN THAKUR, MD, MPH, FHRS[1]

- As compared with 200 mg/day of amiodarone, the pooled estimated incidence of overall side effects was 0.11 (95% CI: 0.04–0.27), while the incidence of side effects requiring medication discontinuation was 0.02 (95% CI: 0.01–0.06) for the dose of 100 mg/day.

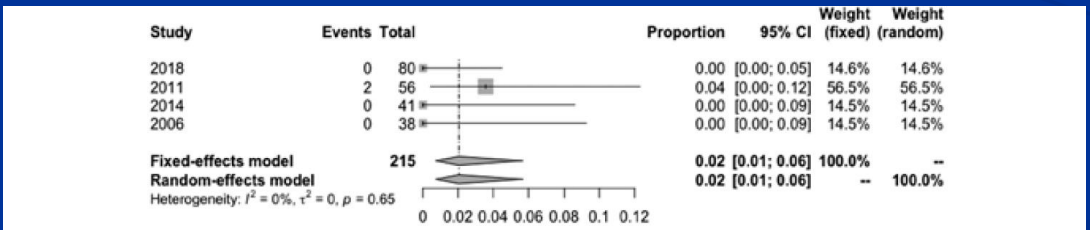


Figure 5: Forest plots of the included studies assessing the incidence of serious adverse effects of very-low-dose amiodarone.

J Innov Cardiac Rhythm Management 2020;11:4054–4061.

Πέρα από την αμιωδαρόνη…

REVIEW ARTICLE

WILEY Journal of Arrhythmia Open Access

Impact of ranolazine on ventricular arrhythmias – A systematic review

George Bazoukis MD, MSc[1] | Gary Tse MD, PhD[2,3] | Konstantinos P. Letsas MD, PhD[1] | Costas Thomopoulos MD, PhD[4] | Katerina K. Naka MD, PhD[5] | Panagiotis Korantzopoulos MD, PhD[6] | Xenophon Bazoukis MD, MSc[7] | Paschalia Michelongona MD[1] | Stamatis S. Papadatos MD[8] | Konstantinos Vlachos MD[1] | Tong Liu MD, PhD[9] | Michael Efremidis MD[1] | Adrian Baranchuk MD, PhD[10] | Stavros Stavrakis MD, PhD[11] | Costas Tsioufis MD, PhD[12]

These data reported a beneficial impact of ranolazine in ventricular tachycardia/fibrillation, premature ventricular beats, and ICD interventions in different clinical settings.

J Arrhythm 2018;34(2):124-128.

ESC European Society of Cardiology
Europace (2022) **24**, 1809–1823
https://doi.org/10.1093/europace/euac087
CLINICAL RESEARCH
Ventricular tachyarrhythmias and ablation

Effectiveness and safety of mexiletine in patients at risk for (recurrent) ventricular arrhythmias: a systematic review

Martijn H. van der Ree [1†], Laura van Dussen[2,3†], Noa Rosenberg[2,3], Nina Stolwijk[2,3], Sibren van den Berg[2,3], Vincent van der Wel[3], Bart A.W. Jacobs[3,4], Arthur A.M. Wilde [1], Carla E.M. Hollak [2,3], and Pieter G. Postema [1*]

- In total, 221 studies were included reporting on 8970 patients treated with mexiletine.
- Decrease in ventricular arrhythmias: 64% for ventricular tachycardia, and 33% for ventricular fibrillation.
- Data from 13 studies: the proportions of survival are similar (90% in mexiletine vs. 92% in control patients).

ESC European Society of Cardiology
Europace (2022) **24**, 1504–1511
https://doi.org/10.1093/europace/euac101
EHRA SYSTEMATIC REVIEW

Mexiletine for recurrent ventricular tachycardia in adult patients with structural heart disease and implantable cardioverter defibrillator: an EHRA systematic review

Michal Miroslaw Farkowski [1]*, Michal Karlinski [2], Mariusz Pytkowski[1], Carlo de Asmundis[3], Michal Lewandowski [1], Giacomo Mugnai[4,5], Giulio Conte [6], Eloi Marijon [7], Ante Anic [8], Serge Boveda [3,9], and Rui Providencia[10,11]

- Mexiletine seems to reduce the number of VT/VF, ICD therapies, and ES episodes especially when CA was unsuccessful or contraindicated;
- Mexiletine can be effective with or without co-administration of amiodarone;
- Mexiletine was discontinued in 14% of cases, mainly for gastrointestinal or neurological SAE.

Perspective on Antiarrhythmic Drug Combinations

James A. Reiffel, MD[a,*], Victoria M. Robinson, MBChB, MRCP[b], and Peter R. Kowey, MD[c]

Physicians use multiple drugs in combination to treat hypertension, heart failure, diabetes mellitus, angina, hyperlipidemia, and many other cardiovascular conditions and risk factors. However, administering antiarrhythmic drugs (AAD) in combination is rarely discussed. Yet, the possibility of increasing efficacy and/or tolerance and/or safety of AADs (by adding mechanisms, offsetting adverse mechanisms, and/or using lower doses) exists. Unfortunately, this topic has not been reviewed in any contemporary cardiac literature of which we are aware, although information regarding AAD combinations has been published. In conclusion, and accordingly, this review discusses the possibility of using AAD combinations for both ventricular arrhythmias and atrial fibrillation, in which the rationale for such combinations, considerations for such combinations, and supporting literature are covered. **(Am J Cardiol 2023;192:116−123)**

CENTENNIAL COLLECTION 100

Antiarrhythmic Drug Therapy: Where Do We Go From Here?

Peter R. Kowey, MD; Gerald V. Naccarelli, MD

- History has taught us that the successful treatment of patients with any complex medical problem requires flexibility and individualization as well as perseverance.

«Η ιστορία μας έχει διδάξει ότι η επιτυχής θεραπεία ασθενών με οποιοδήποτε περίπλοκο ιατρικό πρόβλημα απαιτεί ευελιξία και εξατομίκευση καθώς και επιμονή»

Circulation 2024;149:801-803.

Συμπερασματικά… Σε πρόσφορες εκφορτίσεις ICD;

Εξατομίκευση της απόφασης και όχι «τυφλή» υιοθέτηση των κατευθυντήριων οδηγιών

Προφίλ ασθενούς, συννοσηρότητες, χαρακτηριστικά κοιλιακών ταχυαρρυθμιών.

Βέλτιστη φαρμ.αγωγή καρδ.ανεπάρκειας, μαγνήσιο, K^+ >4 mEq/L. Σωστός προγραμματισμός ICD

Έναρξη αμιωδαρόνης, ελάττωση δόσης μετά τη σταθεροποίηση. Πιθανή προσθήκη μεξιλετίνης, ρανολαζίνης. Επί αποτυχίας κατάλυση σε έμπειρο κέντρο.

Ευχαριστώ πολύ για την προσοχή σας….