

What Cannot Be Missed: Important Publications on Electrophysiology in 2020

Sanjiv M Narayan,¹ Hugh Calkins,² Andrew Grace,³ Ken Ellenbogen,⁴
Gregory YH Lip,^{5,6,7} Pier D Lambiase^{8,9} and Demosthenes G Katritsis¹⁰

1. Stanford University Medical Center, Palo Alto, CA, US; 2. Johns Hopkins Medical Institution, Baltimore, MD, US. 3. Royal Papworth and Addenbrooke's Hospitals, Cambridge, UK; 4. VCU School of Medicine, Richmond, VA, US; 5. Liverpool Centre for Cardiovascular Science, University of Liverpool, Liverpool, UK; 6. Liverpool Heart and Chest Hospital, Liverpool, UK; 7. Department of Clinical Medicine, Aalborg University, Aalborg, Denmark; 8. UCL Institute of Cardiovascular Science, University College London, UK; 9. Barts Heart Centre, London, UK; 10. Hygeia Hospital, Athens, Greece

Citation: *Arrhythmia & Electrophysiology Review* 2021;10(1):5–6. DOI: <https://doi.org/10.15420/aer.2021.02>

Correspondence: Demosthenes Katritsis, Hygeia Hospital, 4 Erythrou Stavrou St, Athens 15123, Greece. E: dkatrits@dgkatritsis.gr

Open Access: This work is open access under the CC-BY-NC 4.0 License which allows users to copy, redistribute and make derivative works for non-commercial purposes, provided the original work is cited correctly.

Guidelines and Consensus Documents

Hindricks G, Potpara T, Dagres N, et al. 2020 ESC guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with the European Association of Cardio-Thoracic Surgery (EACTS). *Eur Heart J* 2021;42:373–498. <https://doi.org/10.1093/eurheartj/ehaa612>; PMID: 32860505.

Basic Science

Cabrera JÁ, Anderson RH, Macías Y, et al. Variable arrangement of the atrioventricular conduction axis within the triangle of Koch: implications for permanent His bundle pacing. *JACC Clin Electrophysiol* 2020;6:362–77. <https://doi.org/10.1016/j.jacep.2019.12.004>; PMID: 32327069.

Anderson RH, Sanchez-Quintana D, Mori S, et al. Re-evaluation of the structure of the atrioventricular node and its connections with the atrium. *Europace* 2020;22:821–30. <https://doi.org/10.1093/europace/euaa031>; PMID: 32304217.

Clinical Trials

Graham AJ, Orini M, Zacur E, et al. Evaluation of ECG imaging to map hemodynamically stable and unstable ventricular arrhythmias. *Circ Arrhythm Electrophysiol* 2020;13:e007377. <https://doi.org/10.1161/CIRCEP.119.007377>; PMID: 31934784.

Guo Y, Lane DA, Wang L, et al. Mobile health technology to improve care for patients with atrial fibrillation. *J Am Coll Cardiol* 2020;75:1523–34. <https://doi.org/10.1016/j.jacc.2020.01.052>; PMID: 32241367.

Kirchhof P, Camm AJ, Goette A, et al. Early rhythm-control therapy in patients with atrial fibrillation. *N Engl J Med* 2020;383:1305–16. <https://doi.org/10.1056/NEJMoa2019422>; PMID: 32865375.

Poole JE, Bahnson TD, Monahan KH, et al. Recurrence of atrial fibrillation after catheter ablation or antiarrhythmic drug therapy in the CABANA trial. *J Am Coll Cardiol* 2020;75:3105–18. <https://doi.org/10.1016/j.jacc.2020.04.065>; PMID: 32586583.

Andrade JG, Wells GA, Deyell MW, et al. Cryoablation or drug therapy for initial treatment of atrial fibrillation. *N Engl J Med* 2021;384:305–15. <https://doi.org/10.1056/NEJMoa2029980>; PMID: 33197159.

Wazni OM, Dandamudi G, Sood N, et al. Cryoballoon ablation as initial therapy for atrial fibrillation. *N Engl J Med* 2021;384:316–24. <https://doi.org/10.1056/NEJMoa2029554>; PMID: 33197158.

Voskoboinik A, Gerstenfeld EP, Moss JD, et al. Complex re-entrant arrhythmias involving the His-Purkinje system: a structured approach to diagnosis and management. *JACC Clin Electrophysiol* 2020;6:1488–98. <https://doi.org/10.1016/j.jacep.2020.06.009>; PMID: 33213808.

Stiell IG, Sivilotti MLA, Taljaard M, et al. Electrical versus pharmacological cardioversion for emergency department patients with acute atrial fibrillation (RAFF2): a partial factorial randomised trial. *Lancet* 2020;395:339–49. [https://doi.org/10.1016/S0140-6736\(19\)32994-0](https://doi.org/10.1016/S0140-6736(19)32994-0); PMID: 32007169.

Knops RE, Olde Nordkamp LRA, Delnoy PHM, et al. Subcutaneous or transvenous defibrillator therapy. *N Engl J Med* 2020;383:526–36. <https://doi.org/10.1056/NEJMoa1915932>; PMID: 32757521.

Pascale P, Hunziker S, Denis A, et al. The ‘double transition’: a novel electrocardiogram sign to discriminate posteroseptal accessory pathways ablated from the right endocardium from those requiring a left-sided or epicardial coronary venous approach. *Europace* 2020;22:1703–11. <https://doi.org/10.1093/europace/euaa200>; PMID: 32984869.

Briceño DF, Santangeli P, Frankel DS, et al. QRS morphology in lead V1 for the rapid localization of Idiopathic ventricular arrhythmias originating from the left ventricular papillary muscles: a novel electrocardiographic criterion. *Heart Rhythm* 2020;17:1711–8. <https://doi.org/10.1016/j.hrthm.2020.05.021>; PMID: 32454219.

Valderrábano M, Peterson LE, Swarup V, et al. Effect of catheter ablation with vein of Marshall ethanol infusion vs catheter ablation alone on persistent atrial fibrillation: the Venus randomized clinical trial. *JAMA* 2020;324:1620–8. <https://doi.org/10.1001/jama.2020.16195>; PMID: 33107945.

Voskoboinik A, Kalman JM, De Silva A, et al. Alcohol abstinence in drinkers with atrial fibrillation. *N Engl J Med* 2020;382:20–8. <https://doi.org/10.1056/NEJMoa1817591>; PMID: 31893513.

Essayagh B, Sabbag A, Antoine C, et al. Presentation and outcome of arrhythmic mitral valve prolapse. *J Am Coll Cardiol* 2020;76:637–49. <https://doi.org/10.1016/j.jacc.2020.06.029>; PMID: 32762897.

Bhatla A, Mayer MM, Adusumalli S, et al. COVID-19 and cardiac arrhythmias. *Heart Rhythm* 2020;17:1439–44. <https://doi.org/10.1016/j.hrthm.2020.06.016>; PMID: 32585191.

Willems S, Tilz RR, Steven D, et al. Preventive or deferred ablation of ventricular tachycardia in patients with ischemic cardiomyopathy and implantable defibrillator (Berlin VT): a multicenter randomized trial. *Circulation* 2020;141:1057–67. <https://doi.org/10.1161/CIRCULATIONAHA.119.043400>; PMID: 32000514.

Haanschoten DM, Elvan A, Ramdat Misier AR, et al. Long-term outcome of the randomized DAPA trial. *Circ Arrhythm Electrophysiol* 2020;13:e008484. <https://doi.org/10.1161/CIRCEP.120.008484>; PMID: 33003972.

Kotecha D, Bunting KV, Gill SK, et al. Effect of digoxin vs bisoprolol for heart rate control in atrial fibrillation on patient-reported quality of life: the RATE-AF randomized clinical trial. *JAMA* 2020;324:2497–508. <https://doi.org/10.1001/jama.2020.23138>; PMID: 33351042.

Okumura K, Akao M, Yoshida T, et al. Low-dose edoxaban in very elderly patients with atrial fibrillation. *N Engl J Med* 2020 29;383:1735–45. <https://doi.org/10.1056/NEJMoa2012883>; PMID: 32865374.

DeLurgio DB, Crossen KJ, Gill J, et al. Hybrid convergent procedure for the treatment of persistent and long-standing persistent atrial fibrillation: results of CONVERGE clinical trial. *Circ Arrhythm Electrophysiol*.2020;13:e009288. <https://doi.org/10.1161/CIRCEP.120.009288>; PMID: 33185144.

The Future?

Tavares L, Lador A, Fuentes S, et al. Intramural venous ethanol infusion for refractory ventricular arrhythmias: outcomes of a multicenter experience. *JACC Clin Electrophysiol* 2020;6:1420–31. <https://doi.org/10.1016/j.jacep.2020.07.023>; PMID: 33121671.

Reddy VY, Anic A, Koruth J, et al. Pulsed field ablation in patients with persistent atrial fibrillation. *J Am Coll Cardiol* 2020;76:1068–80. <https://doi.org/10.1016/j.jacc.2020.07.007>; PMID: 32854842.

Choudry S, Mansour M, Sundaram S, et al. RADAR: a multicenter Food and Drug Administration investigational device exemption clinical trial of persistent atrial fibrillation. *Circ Arrhythm Electrophysiol* 2020;13:e007825. <https://doi.org/10.1161/CIRCEP.119.007825>; PMID: 31944826.

Tung R, Raiman M, Liao H, et al. Simultaneous endocardial and epicardial delineation of 3D reentrant ventricular tachycardia. *J Am Coll Cardiol* 2020;75:884–97. <https://doi.org/10.1016/j.jacc.2019.12.044>; PMID: 32130924.

Rogers AJ, Selvalingam A, Alhusseini MI, et al. Machine learned cellular phenotypes predict outcome in ischemic cardiomyopathy. *Circ Res*. 2021;128:172–84. <https://doi.org/10.1161/circresaha.120.317345>; PMID: 33167779. 