EHRA
European Heart
Rhythm Association

Management of ventricular arrhythmia in asymptomatic patients
Joint EHRA webinar with Latin American Heart Rhythm Society (LAHRS)

Saturday 18 July 2020 from 16:00 to 17:00 CET

QUESTIONS AND ANSWERS

Answers written by Prof. Marcio Figueiredo and Prof. Elijah Behr

Questions	Answers
What device (PM or / and ICD) each family member has received?	They received a mixture of transvenous single and dual chamber devices - the children to minimise pauses and permit medication and the adult to prevent SCD.
What is the role of the nutritional council specifically in LQts?	No specifics other than the prevention of hypokalaemia. (5)
I have observed 37 y.o patient who had no PVS during running 20 km 3 times per week, but had 15.000 asymptomatic PVC daily during all other time. What should be the therapeutic tactic?	According to published Consensus (1,2,4), if there is no sign of cardiac disease, asymptomatic patients should be followed-up closely.
Role of ICD in affected family members as a primary prevention?	Dependent on features of Brugada (syncope and spontaneous type 1 pattern in the sister's case).

Isn't it over medicalization, going so far to make a diagnosis that probably hasn't any clearcut treatment? Isn't it going to create more worries than help?	All diagnoses made have clearcut treatments available. According to our data 16% of relatives with a diagnosis of Brugada when followed for c. 5 years end up requiring more evaluation +/- therapy due to syncope, spontaneous type 1 pattern or NSVT. LQTS and CPVT patients all received betablocker therapy plus other agents as required. Families who are phenotype negative (and genotype negative if relevant) are reassured and discharged. So we believe there is benefit to the strategy. (5,6,7)
Can you say that the of pacemakers and ICD was really useful in those subjects of that family?	The sister with the ICD was followed up elsewhere. The children were asymptomatic on therapy. I cannot say more for than that in the one family. Therapy for LQTS can be challenging and even more so in the overlap syndromes. This mutation does carry serious risk for some carriers. (5,8)
Would you start AADs in asymptomatic child with normal heart and frequent isolated monomorphic PVCs (8-10 000)?	I don´t think so. I use AADs (and should say that I do not consider beta-blockers as AAD) very carefully in children, and, in this case, mainly because you state that the patient is asymptomatic. This is based in an Expert Consensus published in 2014 (3)
if ICD is present, why not BB?? we should start from easy way...	All those with LQTS phenotype got BB.s. Bradycardia due to SN disease +/- therapy forced device implantation. (5)
What about idiopathic VF?	As idiopathic VF is a diagnosis of exclusion in a cardiac arrest survivor it is not possible to make a diagnosis in a deceased person.
What is yours approach for asymptomatic patients with BrS?	Evaluate the high lead ECG (and 12 lead high lead holter) for high risk features - spontaneous type 1 plus high risk feature - counsel and offer ICD; - spontaneous type 1 alone - counsel about EPS and limited role in prediction - otherwise monitor; concealed Brugada - lifestyle advice and monitor. (5,6,7)
Brugada in black population?	Uncertain prevalence but still definitely present.

Quinidine in BrSs	Role is mainly in preventing ICD therapy and treating AF, Ongoing research registries in the asymptomatic spontaneous type 1 pattern patient are yet to report.
What was the diagnosis and management in the first case presented in the webinar?	The young woman with asymptomatic VPBs in the early phases of treadmill test is now being followed without medications, with regular ambulatory visits. The arrhythmia was diagnosed as idiopathic outflow tract VPB.
Yung pts-eg 17 y -SCD-role of channelopathies	Risk of LQTS especially females, CPVT mainly males and also Brugada syndrome. Yield is relatively high in the childhood and adolescent groups.
What about 50-60yo with a symptomatic Exercise induced PMVTT and negative MRI and Cath	The webinar was about asymptomatic patients. Symptomatic patients should be treated to relief their symptoms. The recently published global Consensus on risk assessment in cardiac arrhythmias (1) suggests that a MRI and Cath indicates that the patient has no “structural” heart disease. If the arrhythmia is mainly during exercise, beta-blockers may be considered, and ablation may be an option depending on some clinical aspects (2). We have to be aware that some patients with this description may have catecholaminergic ventricular tachycardia, and should be treated accordingly.
What would you do if patient has MMVT in early recovery of ETT with no symptom or hemodynamic effect?	In patients with VT, we should exclude the presence of structural heart disease, and treat accordingly (1,2,4).
Besides beta blocker, any other medical therapy we can offer to patient with PVC burden	This is a complex question. The answer depends on variables such as the presence of structural heart disease and symptoms. Therapeutic options may include the treatment of underlying cardiac disease, AAD or catheter ablation in selected cases. Please refer to published consensus (1,2,4).
should every patient with PVC be evaluate with holter and echocardiogram?	All patients should be evaluated (history and physical examination). The recently published Consensus states that 12-lead ECG is important, and

	additional workup must be done in case of suspected heart disease (1).
What is the timing for genetic panel? it's appropriate to start with the genetic panel?	Only in the deceased person. All other gene testing should be appropriate to the phenotype in the most clearly affected person in the family (on clinical tests). (9)

Notes:

1 Nielsen JC, Lin Y-J, de Oliveira Figueiredo MJ, Sepehri Shamloo A, Alfie A, Boveda S, et al. European Heart Rhythm Association (EHRA)/Heart Rhythm Society (HRS)/Asia Pacific Heart Rhythm Society (APHRS)/Latin American Heart Rhythm Society (LAHRS) expert consensus on risk assessment in cardiac arrhythmias: use the right tool for the right outcome,. Europace [Internet]. 2020 Jun 15; Available from: http://www.ncbi.nlm.nih.gov/pubmed/32538434

2 Pedersen CT, Kay GN, Kalman J, Borggrefe M, Della-Bella P, Dickfeld T, et al. EHRA/HRS/APHRS expert consensus on ventricular arrhythmias. Europace [Internet]. 2014;16(9):1257–83. Available from: http://www.ncbi.nlm.nih.gov/pubmed/25172618

3 Crosson JE, Callans DJ, Bradley DJ, Dubin A, Epstein M, Etheridge S, et al. PACES/HRS expert consensus statement on the evaluation and management of ventricular arrhythmias in the child with a structurally normal heart. Hear Rhythm [Internet]. 2014 Sep;11(9):e55-78. Available from: http://www.ncbi.nlm.nih.gov/pubmed/24814375

4 Arnar DO, Mairesse GH, Boriani G, Calkins H, Chin A, Coats A, et al. Management of asymptomatic arrhythmias: a European Heart Rhythm Association (EHRA) consensus document, endorsed by the Heart Failure Association (HFA), Heart Rhythm Society (HRS), Asia Pacific Heart Rhythm Society (APHRS), Cardiac Arrhythmia Society of So. EP Eur [Internet]. 2019 Mar 18; Available from: https://academic.oup.com/europace/advance-article/doi/10.1093/europace/euz046/5382236

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6 Antzelevitch C, Yan GX, Ackerman MJ, Borggrefe M, Corrado D, Guo J, Gussak I, Hasdemir C, Horie M, Huikuri H, Ma C, Morita H, Nam GB, Sacher F, Shimizu W, Viskin S, Wilde AAM. J-Wave syndromes expert consensus conference report: Emerging concepts and gaps in knowledge. Europace. 2017 Apr 1;19(4):665-694. doi: 10.1093/europace/euw235. PMID: 28431071; PMCID: PMC5834028.

7 Papadakis M, Papatheodorou E, Mellor G, Raju H, Bastiaenen R, Wijeyeratne Y, Wasim S, Ensam B, Finocchiaro G, Gray B, Malhotra A, D'Silva A, Edwards N, Cole D, Attard V, Batchvarov VN, Tome-Esteban M, Homfray T, Sheppard MN, Sharma S, Behr ER. The Diagnostic Yield of Brugada Syndrome After Sudden Death With Normal Autopsy. J Am Coll Cardiol. 2018 Mar 20;71(11):1204-1214. doi: 10.1016/j.jacc.2018.01.031. PMID: 29544603.

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9 Ackerman MJ, Priori SG, Willems S, Berul C, Brugada R, Calkins H, Camm AJ, Ellinor PT, Gollob M, Hamilton R, Hershberger RE, Judge DP, Le Marec H, McKenna WJ, Schulze-Bahr E, Semsarian C, Towbin JA, Watkins H, Wilde A, Wolpert C, Zipes DP; Heart Rhythm Society (HRS); European Heart Rhythm Association (EHRA). HRS/EHRA expert consensus statement on the state of genetic testing for the channelopathies and cardiomyopathies: this document was developed as a partnership between the Heart Rhythm Society (HRS) and the European Heart Rhythm Association (EHRA). Europace. 2011 Aug;13(8):1077-109. doi: 10.1093/europace/eur245