Webinar Q&A Report:

Cardiovascular Autonomic Testing Revisited

Q: Is there an involvement of g-coupled aabs (Alpha Beta muscarinic ORL1) in variants of OI besides POTS?

[A. Fedorowski] Yes, there are reports on the presence of antiadrenergic receptor- autoantibodies in orthostatic hypotension and inappropriate sinus tachycardia. Please see the resource below:

https://pubmed.ncbi.nlm.nih.gov/22215709/

Q: Is this device validated for pediatric assessments too?

[Finapres] The Finapres® NOVA is validated and intended to be used for subjects above 18 years of age. The Finapres® NOVA is not yet validated for pediatric assessments, but we are open for future collaborations to develop a pediatric solution. If you are interested to discuss this, feel free to contact us via info@finapres.com

Q: Different classification of syncope (naming) in different countries: reflex vasovagal neurocadiogenic etc. Differences in treatment by NCS/Orthostatic Hypotension (OH) alone and NCS or OH+POTS.

[A. Fedorowski] Please, see the below resource, the current classification is presented in the guideline document:

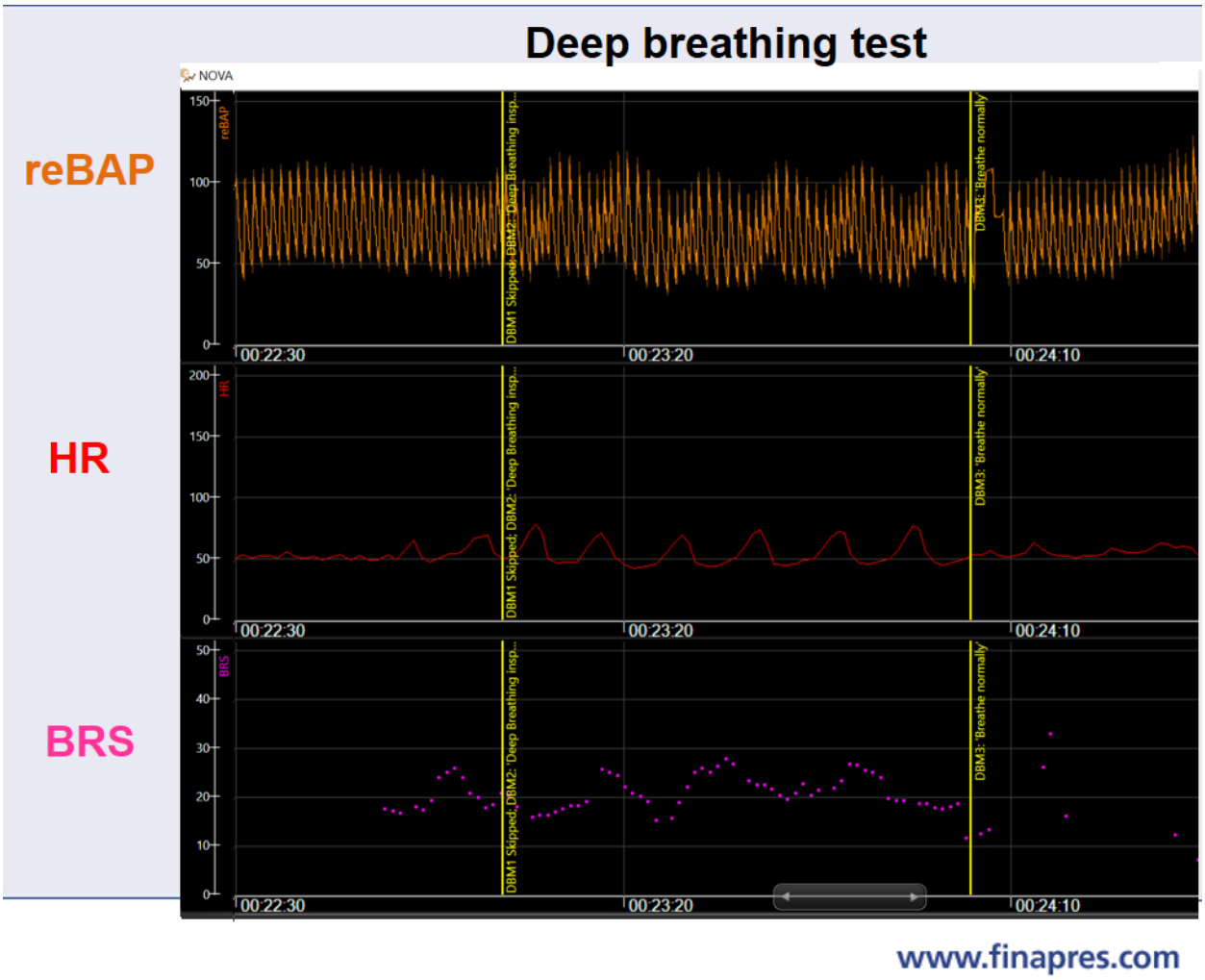
Brignole M, Moya A, de Lange FJ, Deharo JC, Elliott PM, Fanciulli A, Fedorowski A, Furlan R, Kenny RA, Martin A, Probst V, Reed MJ, Rice CP, Sutton R, Ungar A, van Dijk JG, Group ESCSD. 2018 ESC Guidelines for the diagnosis and management of syncope. Eur Heart Journal 2018; 39: 1883 - 948.

Q: When do you take action if you provoke asystole?

[A. Fedorowski] Usually, after 45 seconds. Some colleagues react when 30 seconds have passed.

Q: I want to see how heart rate variability and blood pressure variability are tested and evaluated when performing deep breathing tests

[Finapres] Here is an example of a deep breathing test acquired with the Guided Autonomic Testing (GAT) application on the Finapres® NOVA. The three graphs show the blood pressure variability (reBAP), the heart rate (HR) variability and the baroreceptor sensitivity (BRS), from the xBRS method.



Q: What is the single criteria for diagnosis for POTS?

[A. Fedorowski] There is no single criteria for POTS. The three major criteria are heart rate increase on standing >30 bpm, symptoms of orthostatic intolerance, chronic symptoms of at least 3 months.

Please, consult: Fedorowski A. Postural orthostatic tachycardia syndrome: clinical presentation, aetiology and management. Journal of internal medicine. 2019;285(4):352-66.

Q: When doing a HUT the readings from MAP way below 60 plateau for several minutes with very minor symptoms. Followed by TLOC?

[A. Fedorowski] It depends on the system. In our lab, we use ForeSight. Levels below 60% produce symptoms (dizziness), while levels below 50% usually result in syncope.

Q: How can I be informed about new applications and modules from Finapres?

[Finapres] We share the latest news on the Finapres Medical Systems LinkedIn and Twitter pages, as well as on our website: www.finapres.com. You can also contact your local Finapres representative here: http://www.finapres.com/Support/Where-to-buy.

Q: Is there a place for pacemaker in treatment with recurrent hypotension and bradycardia after investigation?

[A. Fedorowski] Yes, there is a place for pacemaker treatment in older patients (>40 years) with recurrent syncope and cardioinhibitory mechanism of syncope (cardioinhibitory vasovagal reflex or carotid sinus reflex). Ideally, the patient would faint just as the asystole starts. This can be reproduced during tilt testing. Implantable loop recorder is another method capable of identifying asystole during syncope. These patients should receive pacemaker, ideally of CLS type (closed loop stimulation) i.e. sensing the falling cardiac filling in the right ventricle.

Q: What would you consider the essential equipment needed to build an Autonomic laboratory? Are there other non-tilt tests that might be important to conduct?

[A. Fedorowski] Good training and skills are basic. As far as equipment is concerned, please, see the guideline document above. Tilt table, beat-to-beat monitor are essential. Maybe a mouthpiece and manometer for Valsalva (optimally, built-in), cerebral oximetry monitor coupled with hemodynamic monitor. A larger screen to follow the subtle changes during the tests. Offline software for post-test analysis. Some labs use EEG or transcranial doppler but we do not have sufficient skills to it. Autonomic laboratory should have access to ambulatory 24h ECG and blood pressure monitoring as well.

Q: Is there an important change in the new Finapres® NOVA device?

[Finapres] The Finapres® NOVA is an innovative hemodynamic monitoring system, which provides accurate non-invasive continuous blood pressure monitoring using just a finger cuff. Last month, Finapres has launched the new Guided Autonomic Testing (GAT) application for quantitative and standardized autonomic function tests. This module consists of a graphical user interface to guide the operator and the patient through a series of autonomic test maneuvers.

If you have additional questions for Finapres Medical Systems or Dr. Artur Fedorowski regarding content from their webinar or wish to receive additional information about guided autonomic testing please contact them by email.

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