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## Ventricular depolarization and repolarization for stratifying the risk of malignant ventricular arrhythmias and sudden death. Reply

### *Despolarización y repolarización ventriculares para estratificar riesgo de arritmias ventriculares malignas y muerte súbita. Respuesta*

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**Palabras clave:** Complejo QRS, Intervalo QT, Duración del QRS, Arritmia ventricular maligna, Muerte súbita cardíaca, Signos eléctricos premonitorios

#### To the Editor:

First of all, I would like to thank the respected teacher Margarita Dorantes<sup>1</sup> for her invitation, since, more than a confrontation, these are points of view and explanations to the readers of our journal. The Editorial title "Depolarization (QRS complex) or ventricular repolarization (QT interval): Which one adds further value to diagnosis and prognosis in different clinical scenarios?"<sup>2</sup> does not mention what I have been doing as a researcher. Though being responsible for the title, it just mentions what researchers worldwide have done while searching for different

electrical signs in different clinical scenarios. A number of them have divided repolarization and depolarization, or at least they have considered them separately; for example, in the Brugada syndrome and ischemic heart disease<sup>3-9</sup>.

In the latter, we have found both depolarization and repolarization to be predictors of malignant ventricular arrhythmias (MVA). These results, published in *Medicina Intensiva* from Spain<sup>10</sup>, presented greater sensitivity and specificity for the QRS dispersion (QRSd) over that of the QT interval. Nevertheless, we study both processes (depolarization and repolarization), with no intention of giving more

value to one or the other. In fact, the article reads: "Thus, we have found the existence of a highly and more evident significant association between QRSD and ventricular arrhythmias (with cut-off values of 23.5 ms for VT and 24.5 ms for VF) compared to the dQTc. This in no way negates the risk predicting capabilities of the dQTc (where we found a cut-off point of 65 ms for both types of ventricular arrhythmias), since the QRS is part of this interval and the longer the QRS, the greater the QT..."

We did not find in the literature, at the time of the study, an investigation similar to ours. But as Professor Dorantes<sup>1</sup> mentions, many of these electrical signs can be elusive in a single patient. Those were results from our sample; perhaps a behavior of that particular population. Such is science, evidence-based medicine.

On the other hand, in 2013 our group described in CorSalud some results that showed the appearance of a new acute coronary syndrome in patients who had previous acute myocardial infarction with prolonged QT interval dispersion (prolonged QT interval dispersion, predictor of a new ischemic event)<sup>11</sup>. In another of our studies published in *Medic Review*<sup>12</sup>, we attach importance to the QT interval in acute coronary ischemia in patients with atypical clinical signs and symptoms and ambiguous electrocardiogram. These works show that we have not sought to divide the problem, but to examine in depth its many aspects.

Where we only studied the QRSD was in cardiac resynchronization. A work of our team published in CorSalud<sup>13</sup>. In this clinical scenario (dilated cardiomyopathy plus left bundle branch block) we tried to relate the QRSD variable with dyssynchrony or mechanical synchrony when considering some fresh results from a number of scholars on the subject; as «repairing» the duration and the QRSD demonstrated, with clinical evidence in the responders, that the problem lies in depolarization.

Perhaps, as a researcher I have turned to depolarization in recent times, which has little-described evidence that leads to disagreement<sup>14</sup>. I do not mean to separate the edges of the problem, but have researchers dedicate the same amount of time to depolarization as to repolarization. In a simple search in PubMed we will realize this. Repolarization has been widely studied. A description of the usefulness of QRSD in different clinical scenarios, published in the *Journal of Mind and Medical Sciences*<sup>15</sup> proves that there are very few studies in this regard. But the published results are also evidence-based medicine.

Let us then call researchers to study both aspects of the problem and we will have better answers to the subject.

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## Considerations about the 2017 Cuban Guideline for High Blood Pressure

### *Consideraciones sobre la Guía Cubana de Hipertensión Arterial de 2017*

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#### To the Editor:

The high blood pressure (HBP) is the most important risk factor for death and disability worldwide, especially those related to ictus and heart diseases, affecting more than one billion people and causing an estimate of 9.4 million deaths per year<sup>1</sup>. In Cuba, the prevalence of this syndrome is 225.1 per 1000 inhabitants, and it is more prevalent in females<sup>2</sup>.

Several foreign organizations such as the American Heart Association (AHA) and the European Society of Hypertension (ESH), have been imposed the mission of creating clinical practice guidelines for the treatment of such disease. Cuba has not been left behind since 1998, with the creation of the National Program of High Blood Pressure and then with the Cuban Guidelines on HBP<sup>3</sup>, which have represented an important tool for physicians at all levels of care,