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Clinical application to arrhythmic dynamic of entropy proportions

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Introduction: A new diagnostic methodology based on probability and entropy proportions was developed. This methodology has been successful on cardiac dynamic evaluation.

Objectives: To apply the diagnostic methodology to the arrhythmic dynamic, evaluating the evolution from normality to acute disease.

Method: 75 holter were studied; these records had clinical diagnosis of normality, stable and unstable cardiac arrhythmia. An attractor for each dynamics is generated from the values, obtained each hour, of maximum and minimum frequency and number of beats per minute. From the calculation of the proportions of entropy, the status of each dynamic was mathematically evaluated; showing how close or far is of normal dynamics. The sensibility, specificity and Kappa coefficient were calculated.

Results: The normal cases had values into the expected limits. In the same way the cases with stable and unstable cardiac arrhythmia had values for the proportions entropy into disease limits. Values of sensibility and specificity of the new method compared with the conventional diagnosis were 100% and the Kappa coefficient value was 1.

Conclusions: The results showed the clinical applicability of the diagnostic method. It allowed the quantitative evaluation of each dynamics, showing how far each arrhythmic dynamics of normality is.

Biography

Dr. Javier Rodríguez is a doctor at the Universidad Nacional de Colombia, founder and director of Insight Group, created in 2001. He has 76 domestic and international original publications, making characterizations, diagnoses and predictions in different areas of medicine, such as fetal and adult cardiology, infectious diseases, immunology, molecular biology, epidemic prediction, cell morphometry and psychology, as well as works in physics.

His research is based on the development of predictions from theories and laws of theoretical physics, applicable to each particular case, avoiding the empirical method of trial and error. It has been awarded as one of the 2000 most outstanding researchers century, one of the "Top 100 Health Professionals" and "Man of the Year 2011" by the International Biographical Centre of Cambridge. In 2010 he was awarded in the concourse of Academia Nacional De Medicina-Abbott in the area of Clinical Sciences by a mathematical-physicist diagnostic of cardiac dynamics, with which is possible to make predictions of clinical application.

His work has been presented at several international conferences, including the 7th International Meeting of Acute Cardiac Care, 2011, the Innovations in Cardiovascular Interventions - ICI meeting-2012 and the 61st Annual Conference of the Israel Heart Society in 2014, held at the Aviv Israel and the 3rd World Congress on Cancer Science & Therapy - 2013, held in San Francisco. Currently he is a doctor seconded to the Country Clinic and is conducting research with Universidad del Bosque, such as the present presentation.

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