

Mythology and Cardiovascular Images

La mitología y las imágenes cardiovasculares

As usual, each year the last RAC issue is dedicated to images and this edition is no exception.

How many images in paintings, drawings, books and, more recently, in cinema have been devoted to spreading the ancient myths!

It is often said that myth is an established belief regarding certain improbable and surprising facts, which would have happened, but cannot be objectively verified.

However, it is a mistake to believe that a myth is only a fictional creation of the imagination without any factual basis. On the contrary, a myth is a box that contains the most precious jewels of many truths; they are pearls of sublime beauty that, many times, cannot be directly exposed to human intellect.

Different myths have been described, theogonic, cosmogonic, anthropogenic, etiological and moral. The richness and variety of myths have inspired great artists, including musicians, painters and writers, to produce works of great relevance. In medicine, psychologists and psychiatrists have used them as an example of various pathologies.

The knowledge of these myths has enabled us to better interpret the words, the classic paintings and all the art. Those of us who see cardiovascular images on a daily basis may be surprised by the use of points of contact among many of its most attractive features (it is suggested to read in *Rev. Argent. Cardiol*, 2017; 85: 527-533 "Sisyphus' dilemma: measurement of ventricular-arterial coupling by Doppler echocardiography predicts the incidence of right ventricular failure after heart transplantation better than right catheterization", by Dr. Ignacio Bluro et al., of Hospital Italiano de Buenos Aires).

One of the most specific needs of man is to create images, and these, based on innumerable narratives, are intended to solve hundreds of questions.

A myth is not a fact necessarily opposed to reason, nor an enemy of history. Among other functions, a myth educates, and, unconsciously or consciously we use daily mythological models in different scenarios of cardiological images.

When we speak of Achilles heel we refer, among the most frequent examples, to the weak points of some techniques such as the ultrasonic window in echocardiography, radiation in nuclear medicine, in computed tomography and PET, and claustrophobia in MRI.

We owe the word "echo" to a beautiful nymph who lived in the woods and hills, and who had a defect, she was very talkative. Hera, the wife of Zeus, conferred on this nymph a curse, she could only repeat the last words she heard, but she could not start any conversation. One day, Echo met the beautiful Narcissus, and fell in love with the young and beautiful hunter, but he rejected her for speaking nonsense. Her suffering was such that, as she moved away, her bones became rocks and all that remained from her was her voice. A voice that is still hidden between rocks and mountains, and that replies to the speaker by repeating his last word.

Ulysses' journey is a metaphor that we use to describe the complicated diagnostic pathway of a patient with suspected coronary heart disease. For example, Mr. Ulysses, 55, an entrepreneur, overweight smoker, performs a checkup. His ECG is normal, but the clinician suggests completing studies with an echocardiogram, an ergometry and Holter monitoring, because he complains of occasional palpitations. Since the graded ergometric test demonstrates an ST-segment depression of 0.5 mm, a SPECT is requested, showing an inferobasal defect with exertion. After completing the study with a normal pharmacological stress echo, a cold and hyperventilation test is requested, which is also innocent, but the cardiologist - reader of the latest works - asks for an adenosine test with PET, which shows a slight decrease of the coronary flow reserve. Finally, a CT scan reveals 60% obstruction of the right coronary artery, so stent implantation is considered.

The island of Ithaca is attended by minor coronary lesions, which end in an angioplasty, and by patients with low initial risk, who, at the end of the road, are worse than at the beginning of their studies.

How many times we incur in the Cassandra myth (the priestess of Apollo had the gift of predicting the future, but also a devastating curse: nobody, absolutely nobody would believe her) and we dismiss, or do not believe the story of the symptoms of our patient, who desperately tells us his truth, or a CT scan with a high calcium score.

According to mythology, Chronos, the father of Uranus, was the mythological being who first ruled the Universe, and is associated with the God of time. Phrases such as chronotropic deficit, dyssynchrony, resynchronization are lingua franca in cardiology.

To conclude, it can be said that Greek mythology, with the unique beauty of its stories, which are timeless and perpetual, brings to our specialty a series of legends that are the origin of our medical vocabulary.

In the present issue of the Journal, all these strong evidences are presented, such as when Dr. Araceli Boraita editorializes the work of cardiac fatigue in ultratrail runners observed with new echocardiographic technique parameters by Dr J.M. Picco, Dr S. Wolff et al., or when Dr. Eugenio Picano analyzes and comments on the original study by Dr. Rosina Arbucci et al. on the behavior of regional longitudinal strain, which is dependent on coronary flow reserve in a simultaneous analysis during stress echo with dipyrindamole.

We also present the work of Dr. A. M Aladio et al. on the usefulness of 2D strain Doppler ultrasound in the evaluation of ventricular function in patients with recent diagnosis of hereditary hemochromatosis without cardiac involvement from the clinical point of view, recent winner of the Orias prize at the Argentine Congress of Cardiology.

Other original outstanding works are "Prognostic value of longitudinal strain, measured by velocity vector imaging, in severe asymptomatic aortic stenosis with preserved ejection fraction", by Dr. C. Laurenzano et al.; "The long-term non-invasive hemodynamic evaluation of left endocardial cardiac resynchronization therapy", by Dr. Eliana Aversa et al. and the study by Dr M.C. Carrero et al. on the bicuspid aortic valve, where prolapse and aortic valve calcification are markers of significant valve dysfunction and major cardiovascular events at 5 years.

Two short communications are published, one from Dr. B.J. Michelle et al. on the usefulness of the echocardiographic calcium score as a predictive tool for obstructive coronary disease, and the other, a speckle tracking study on left atrial function in liver cirrhosis, by Dr. Zuilma Vasquez-Ortiz et al.

From the group of Dr. E. Picano, Dr. M. Paterni

et al. published a special article on a comprehensive software for the state-of-the art international ABCD 2020 protocol.

Dr. E. Hirschaut reviews a current topic about pulmonary ultrasound in cardiology as a window for pulmonary edema, and Dr. MA García Fernández illustrates us about the present of artificial intelligence and its promising future in the world of images.

In a double participation, Dr. Jorge Trainini comments on the work "Symphony of love" by the exceptional Argentine artist M.S. Bosio and describes, in an opinion article, the problematics of the doctor-patient relationship.

The images of the case presented by N. Gastaldello are very illustrative: "Constrictive pericarditis with apical aneurysmal dilatation of the right ventricle."

In a prologue that cannot be missed and with his own anatomical-functional research, Dr. M.A. Garcia comments on the book "Myocardial torsion," of the group led by Dr. J. Trainini.

There are several scientific letters: "Takotsubo syndrome in an infant with severe hyponatremia," from Drs. Sandra Sepúlveda et al.; "Bilateral partial anomalous venous drainage in an adult patient: a rare entity", from Drs. G. Gutiérrez et al., and "Simultaneous multi-vessel coronary thrombosis resolved with rescue angioplasty," by Dr. J Orozco-Contreras et al.

Finally, this issue is completed with letters: the academic lecture of Dr. Salvati, President of the SAC, RAC director's letter by H. C. Doval, in which he asks if preventing heart failure is a real option, the outstanding publications from the clinical cardiologist viewpoint by J. Thierer, and the basic science publications of Dr. Bruno Buchholz.

Our greatest wish is that the multiple and diverse content of the last issue of the year be of your maximum interest.

Jorge A. Lowenstein

Associate Director of the Argentine Journal of Cardiology