

## 2014 Dr. Pedro Cossio Foundation Award

### Premio Fundación Dr. Pedro Cossio 2014

DR. JORGE LERMAN<sup>MTSAC, 1</sup>

During the 40th Argentine Congress of Cardiology 2014, five works which met the conditions to contend for the twenty-eighth edition of the Dr. Pedro Cossio Foundation Award were selected.

The winning work was:

- *“Long-term follow-up of coronary lesions in Kawasaki disease”* by Ana Myriam Schroh, Pablo Melonari, Lidia Beatriz Laghezza, Pablo Javier Domínguez, Eliana Retamales, Florencia Pierini, María Fernanda Rodríguez, Gabriela Eugenia González.

Kawasaki disease is the most common acquired heart disease in children in developed countries. It is a systemic vasculitis with a marked inflammatory component that occurs predominantly in males under 5 years of age and with greater incidence in Far Eastern countries. The clinical manifestations of the acute phase inducing diagnosis are fever lasting more than 5 days, polymorphous rash, conjunctivitis, oral cavity lesions, cervical lymphadenopathy and limb changes. The authors thoroughly studied and followed-up 245 patients between 1988 and 2013. In 15.9% of cases coronary abnormalities were detected by echocardiography (ectasia, solitary aneurysm, multiple aneurysms, giant aneurysms or stenosis). One patient with a giant aneurysm died and another suffered myocardial infarction and was submitted to coronary revascularization. Another patient with multiple aneurysms underwent amputation of an upper limb. All patients with ectasia and solitary aneurysm normalized their lesions, as did 33% of those with multiple aneurysms. Lesions persisted in the rest of this last group and in those with giant aneurysms, though they were asymptomatic and without ischemia in functional tests. A recent Mexican survey reports a total of 250 Kawasaki disease cases recruited during 35 years. The incidence of coronary lesions was 36% and 81% with no sequelae in the long-term follow-up. (1) The comparison with this study highlights the importance of the effort and quality of the work performed by Schroh et al. They emphasize, attending international guidelines, that the keys to manage this disease are high index of suspicion, early diagnosis and proper treatment during the acute phase. In the natural history of the disease, the incidence of coronary lesions is up to 25%, which can be substantially reduced by administration of intravenous immunoglobulin and aspirin at anti-inflam-

matory doses within the first 10 days after the onset of fever. A striking fact pointed out by the authors of this study is the incidence of 18% coronary lesions on their experience until 2004, and its subsequent reduction to 12.6%. This was achieved as a result of an awareness campaign to disseminate the early diagnostic elements of the disease. (2)

The remaining works were:

- *“Surgical repair of tetralogy of Fallot in adult patients and cardiopulmonary exercise test”* by Claudio Gabriel Morós, Inés Abella, María Luján Tonello, Alejandro Goldsman, Marisa Pacheco Otero, Haydeé Vázquez, Alejandro Tocci, María Grippo.

The development of techniques for the repair of tetralogy of Fallot during the sixties and seventies allowed the vast majority of patients with this anomaly to reach adulthood. However, the occurrence of complications in the second decade of life is not uncommon. The most common complication is pulmonary valve disease, which determines volume overload, right ventricular dysfunction and tricuspid regurgitation. These conditions, sometimes serious, are compensated by the right ventricle and perceived symptomatically later in life. The cardiopulmonary exercise test with expired gas analysis, a study for the evaluation of a wide range of heart diseases, detects several abnormalities during the asymptomatic phase which are associated with high perioperative risk during pulmonary valve replacement. (3) The authors analyzed 48 patients and concluded that the clinical indication for pulmonary valve replacement and moderate to severe tricuspid regurgitation is strongly associated with reduced oxygen consumption, oxygen pulse, exercise stress test duration and MET reached. The performance of this test is a valuable tool for detecting right ventricular function impairment in patients with surgical repair of tetralogy of Fallot, even during the asymptomatic phase.

- *“XIX CONAREC registry of antithrombotic strategies in atrial fibrillation:”* by Valentín Claudio Roel, Juan Alberto Moukarzel, Ezequiel José Zaidel, Matías Alejandro Galli, Walter De Rosa, Rodolfo Leiva, Carolina Cicero, Jorge Thierer.

In this new CONAREC network study, the purpose was to analyze the antithrombotic treatments implemented in 927 patients from 59 centers, with at least one episode of atrial fibrillation within 12 months

Rev Argent Cardiol 2015;83:1-2. <http://dx.doi.org/10.7775/rac.v83.i1.5750>

SEE RELATED ARTICLE: Rev Argent Cardiol 2015;83:7-11. - <http://dx.doi.org/10.7775/rac.v83.i1.5351>.

<sup>MTSAC</sup> Full member of the Argentine Society of Cardiology

<sup>1</sup> President of the Jury of the Dr. Pedro Cossio Foundation Award

prior to hospitalization for cardiovascular causes. On admission, only 54% of patients with anticoagulation indication and no contraindications received treatment (often out of range), a figure that rose to 70% at discharge, apparently due to the intervention of cardiologists. In almost half of the patients who were discharged without anticoagulation, this was not due to a medical reason. This deficit is similar in other regions of the world. (4) Only 6% received any of the new non-dicoumarinic oral anticoagulants, mainly those with high education level and covered by prepaid health systems. These data add an interesting contribution, but there are several aspects to consider in the analysis: these patients required hospitalization in centers with residency in cardiology and due to an acute cardiovascular event; therefore, it cannot be assumed that they represent the general population with atrial fibrillation. Furthermore, only known cases with atrial fibrillation and within a period limited to the previous 12 months were included.

- *“Results of a program implemented for myocardial reperfusion in a referral hospital network”* by Mario Alejandro Silberstein, Maximiliano De Abreu, Javier Mariani, Gabriel Alejo González Villamonte, Diego Alfredo Kyle, Pablo Arabarco, Ricardo Aquiles Sarmiento, Carlos D. Tajer.

The authors presented a program to optimize the management of patients with ST-segment elevation myocardial infarction (STEMI), consisting in the organization of a patient referral system from six hospitals of low or medium complexity to a tertiary referral center with 24-hour available hemodynamics. The program was divided into three stages: the first was control and identification of existing barriers, the second was incorporation of procedures to achieve the necessary improvements. The most important measures were the organization of a telemedicine system to transmit electrocardiograms, a consensus algorithm concerning the management of each case and indication of the specific reperfusion method, and the use of an ambulance system for prompt transfer of those cases requiring primary angioplasty. The third stage was assessment of the complete operating program. The program included 432 patients; compared with the first stage, the third stage showed a significant increase in the rate of reperfusion from 60.7% to 78%, with similar increases in those either receiving thrombolysis or angioplasty and a significant decrease of mean reperfusion time from 120 to 90 minutes. In addition, a larger number of patients were treated within the recommended time span for both reperfusion strategies (< 30 minutes for thrombolysis and < 90 minutes for angioplasty). The telemedicine system allowed more patients to receive fibrinolysis in the place of origin but did not affect treatment with angioplasty. This work carried out in the Southern Greater Buenos Aires is the first experience of an integrated STEMI management system in Argentina. The results should be considered preliminary due to the limited number of patients, but it shows an encouraging prospect to be extended to other regions of the coun-

try. To achieve broad coverage with a similar system will not be easy; it will require resources, personnel training and a committed coordination task, in which the political decision of health authorities should be deeply involved.

- *“First-year follow-up of the CESCAS I study on cardiovascular events in population surveys”* by Vilma Edith Irazola, Gabriela Matta, Fernando Lanás, Matías Calandrelli, Nora Mores, Jaqueline Ponzo, Laura Gutierrez, Adolfo Rubinstein..

This study by the Southern Cone American Center of Excellence of Cardiovascular Health (CESCAS I) included 7,524 individuals of both sexes from 4 cities in the Southern Cone (Bariloche and Marcos Paz in Argentina, Temuco in Chile and Canelones in Uruguay). Initially data were randomly collected in blocks and homes. Demographic data, risk factors, medical history, anthropometry, blood pressure, ECG and basic laboratory analysis were registered. The incidence of death, myocardial infarction (AMI), stroke, angina pectoris (AP), intermittent claudication (IC), heart failure (HF) and myocardial revascularization (MR) was collected at one year. This was obtained by telephone and then thoroughly checked with supporting source records, case by case. A total of 288 events occurred after one year, with only 138 (47.9%) confirmed as such. The rate of false positive results was very high in “soft” events (IC: 79.3%, AP: 75.3% HF: 53.4%), but it was also significant for AMI: 45.7%, MR: 34.4% and stroke: 25%. The merit of this work is the meticulous work of checking one by one the source documents and the strong revealing message to researchers in epidemiology about the falsehood of conclusions drawn from events reported by patients or relatives.

The jury of the 2014 Foundation Dr. Pedro Cossio Award was formed by Dr. Cesar Belziti and Dr. Héctor Amaisul, whom I thank for their skilled and responsible participation. The Dr. Pedro Cossio Foundation is pleased to announce that it plans to bestow the twenty-ninth edition of the award during the next Argentine Congress of Cardiology.

#### Conflicts of interest

None declared

---

#### REFERENCES

1. Sotelo Cruz N. Revisión de la enfermedad de Kawasaki en México, desde la perspectiva de las publicaciones médicas (enero de 1977 a mayo de 2012). Arch Cardiol Mex 2013;83:214-22. <http://doi.org/f2jwm3>
2. Schroh AM, Domínguez P, Laghezza LB, Melonari PA, Olguin M, Miatello R. Enfermedad de Kawasaki: afección cardíaca durante la infancia. Rev Esp Cardiol 2006;59:387-90. <http://doi.org/d7kh55>
3. Babu-Narayan SV, Diller GP, Gheta RR, Bastin AJ, Karonis T, Li W, et al. Clinical outcomes of surgical pulmonary valve replacement after repair of tetralogy of Fallot and potential prognostic value of preoperative cardiopulmonary exercise testing. Circulation 2014;129:18-27. <http://doi.org/xqz>
4. Wilke T, Groth A, Mueller S, Pfannkuche M, Verheyen F, Linder R, et al. Oral anticoagulation use by patients with atrial fibrillation in Germany. Adherence to guidelines, causes of anticoagulation underuse and its clinical outcomes, based on claims-data of 183,448 patients. Thromb Haemost 2012;107:1053-65. <http://doi.org/xq2>