The Importance of National Registries in Cardiac Surgery

Importancia de los registros nacionales en cirugía cardíaca

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Coronary artery bypass grafting (CABG) remains a widely used surgery to treat coronary artery disease, thanks to its long-term benefits, especially in patients with multi-vessel disease, proximal left anterior descending artery involvement, left main coronary artery disease, and also in patients with diabetes and moderate to severe left ventricular dysfunction, with left ventricular ejection fraction <35%. While its effects on reducing all-cause mortality versus optimal medical therapy are still unknown, current cardiology guidelines continue to position CABG as the first-choice option for these patients. In addition, they emphasize the need to perform an individual assessment of perioperative risks in all cases and to consider the patient's decision together with the Heart Team. (1)

Awareness of local outcomes is essential for decision-making in this population, since heterogeneous socioeconomic backgrounds may override the extrapolation of data from international registries. In this context, the study titled *Cirugía de revascularización miocárdica en Argentina. Subanálisis del Registro ARGEN-CCV (Coronary Artery Bypass Grafting in Argentina. Subanalysis of the ARGEN-CCV Registry) by Alustiza et al*., (2) provides valuable information on the current situation of CABG in this country. This is the first national registry conducted a decade after the previous registry, CONAREC XVI. This ARGEN-CCV subanalysis, which included 700 patients, revealed a higher in-hospital mortality than international registries (6.9% vs. 2.5% of STS 2022) and an increase compared to the previous national registry (4.3%). In addition, a significantly higher mortality was observed in patients with left ventricular dysfunction versus those without a history of this condition (13.1% vs. 5.1%).

This increase in mortality could be partly due to the fact that the registry was conducted during the COVID-19 pandemic, when, as the authors and several studies point out, cardiovascular mortality increased, scheduled cardiovascular surgeries were dramatically reduced, and the observed/expected postoperative mortality ratio increased notably. (3)

However, it is important to consider the existing discrepancy in terms of postoperative results across different sites in Argentina, some of which have reported individual results comparable to international registries. (4) These differences could be partly explained by the socioeconomic inequality in Argentina (Gini coefficient = 0.46 in the first quarter of 2024), which has been associated with a significant increase in postoperative in-hospital mortality after cardiovascular surgery, according to a recent study. (5) Patients with lower household income had a lower rate of health insurance coverage, a higher rate of emergency surgery, a higher rate of comorbidities and less access to health care in specialized institutions.

Continued efforts are essential to develop national registries, such as the one above, reflecting the cardiovascular surgery scenario in Argentina. This is vital to support informed decisions when managing these patients.

Ethical considerations

Not applicable.

Conflicts of interest

None declared.

(See authors' conflict of interests forms on the web).

REFERENCES

1. Lawton JS, Tamis-Holland JE, Bangalore S, Bates ER, Beckie TM, Bischoff JM, et al. 2021 ACC/AHA/SCAI Guideline for Coronary Artery Revascularization: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Circulation. 2022;145:e18-e114. http://dx.doi.org/10.1161/CIR.0000000000001038.

2. Alustiza W, Carli N, Romeo E, Ferrari J, Lescano A, Cáceres L, et al. Coronary Artery Bypass Grafting in Argentina. Subanalysis of the ARGEN-CCV Registry. Argent J Cardiol 2024;92:353-8. http://dx.doi.org/10.7775/rac.es.v92.i5.20825.

3. Nguyen TC, Thourani VH, Nissen AP, Habib RH, Dearani JA, Ropski A, et al. The Effect of COVID-19 on Adult Cardiac Surgery in the United States in 717 103 Patients. Ann Thorac Surg. 2022;113:738-46. http://dx.doi.org/10.1016/j.athoracsur.2021.07.015.

4. Vaccarino GN, Melchiori R, Gutiérrez G, Clusa M, Fernández H, Hita A, y cols. Long-term Outcomes of Coronary Artery Bypass Surgery According to the Presence or Absence of Left Main Coronary Artery Disease. Argent J Cardiol 2022;90:179-84. http://dx.doi.org/10.7775/rac.v90.i3.20518.

5. Newell P, Asokan S, Zogg C, Prasanna A, Hirji S, Harloff M, et al. Contemporary socioeconomic-based disparities in cardiac surgery: are we closing the disparities gap? J Thorac Cardiovasc Surg. 2024;167:967-78.e21. http://dx.doi.org/10.1016/j.jtcvs.2022.02.061

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AUTHORS' REPLY

We are very grateful to Dr. Avellaneda for her comments on our article. We are aware that it allows us to know about the situation of our quality of care indicators, impacted by socioeconomic level, education, medical training, lack of control of top-quality results and urgent political actions, showing that results can be heterogeneous across the country.

Analysis of mortality results, well above the accepted 5% indicators, evidences the inequity of a vulnerable society, with just 8.9% having access to this procedure (62 out of 700 patients) in the public sector, and a large proportion of them in a complex condition (urgency/emergency), with absence of actions by the second-level of primary care (early diagnosis and timely treatment) and by outcome controlling entities in different surgery institutions. Patients undergoing revascularization surgery are considered the most severe population, with a higher proportion of them experiencing left main coronary artery disease (38% versus only 19% in previous registries), diabetes in 38%, acute myocardial infarction (AMI) in less than 30 days in 19%, and heart failure and variables omitted in previous registries, such as frailty. This is because endovascular procedures are now used to treat increasingly complex patients, leaving surgery only for extremely severe cases. This also makes it very difficult to classify them based on predicted mortality estimations, since some variables are not included in the scores (STS, EuroSCORE, ArgenSCORE), for example, the proportion of myocardial fibrosis, fragility, etc., all independent mortality predictors.

Although there are surgery institutions that maintain optimal quality of care indicators, this is not the case in the entire country. *The Coronary Artery Bypass Grafting in Argentina. Subanalysis of the ARGEN-CCV Registry Study* shows true data on a harsh and heterogeneous reality in our beloved Argentine Republic, where we all work. As Dr. Avellaneda says so well, it is essential to continue working on our own data registry to introduce any necessary improvements required by the health system.

As Dr. René Favaloro used to say, "You should always do your best for yourself, your family, and society. Memories are all we have".

Walter Alustiza[MTSAC,]

Is It Possible to Predict the Development of Heart Disease in Patients with Chagas Disease?

¿Es posible predecir el desarrollo de cardiopatía en pacientes con enfermedad de Chagas?

CAROLINA B. PUTARO[1, 2]

In Argentina, 1.5 million people live with chronic Chagas infection. Despite advances in diagnostic and therapeutic methods, cardiovascular complications continue to be a concern for cardiologists.

Thirty percent of infected patients in the indeterminate phase will develop structural heart disease, which can result in arrhythmia, sudden death, and/or dilated cardiomyopathy of different grades of severity. In addition, many patients have a reduction in parasympathetic nerves, leading to various types of dysautonomia, which, sometimes, precede heart disease. (1)

This heterogeneous occurrence and progress of the disease could be due to several factors, such as the parasite strain, individual genetic propensity, and subsequent immune response. (2) In turn, the pathophysiology of chronic infection, characterized by a latent period from 10 to 20 years, is both an opportunity for early diagnosis and a challenge to establish appropriate strategies during follow-up.

In this context, it is essential to collect heart disease predictors. This is the basis of the study titled Presence of Dysautonomia as a Predictor of Development of Structural Heart Disease in Patients with Chagas Disease, by Chirino Navarta et al. (3) The authors prospectively enrolled 200 patients with a positive serology test for Chagas disease and without

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structural heart disease (asymptomatic with normal electrocardiogram, 24-hour Holter monitoring, and echocardiogram). These patients had continuous electrocardiographic recording while doing the Valsalva maneuver. An abnormal Valsalva ratio (VR) was defined as the ratio of the longest R-R to the shortest R-R being less than 1.1. This procedure allowed them to identify the VR as an independent predictor of heart disease in the study population during a 3-year follow-up period.

This study is innovative because, while previous analyses have shown impaired autonomic function in patients with Chagas disease, comparisons were limited to healthy individuals only. (4) In addition, it is essential to highlight that this technique is easy to reproduce and does not require many resources.

In the future, it would be interesting to perform a specific evaluation of the different types of structural heart disease to determine whether the VR can be used in some or all cases. Similarly, extending the study to analyze long-term outcomes could provide more detailed and valuable information.

Therefore, it is important to develop validated tools to identify patients at higher risk of Chagas heart disease, especially in Argentina, where patients are distributed over a vast territory and, in many cases, have poor regular access to healthcare systems. In this respect, results could be the starting point of future research, helping to improve the follow-up of Chagas disease patients.

Ethical considerations

Not applicable.

Conflicts of interest

None declared.

(See authors' conflict of interests forms on the web).

REFERENCES

1. Benassi MD, Avayú DH, Tomasella MP, Valera ED, Pesce R, Lynch S, et al. Consenso Enfermedad de Chagas 2019. Rev Argent Cardiol 2020;88:1.

2. Nunes MC, Beaton A, Acquatella H, Bern C, Bolger AF, Echeverría LE, et al. Chagas Cardiomyopathy: An Update of Current Clinical Knowledge and Management. Circulation 2018;138:e169-e209. http://dx.doi.org/10.1161/CIR.0000000000000599

3. Chirino Navarta DA, Mujica Gutiérrez M, Leonardi MS, Dizeo C, Escobar Calderón J. Presence of Dysautonomia as a Predictor of Structural Heart Disease in Patients with Chagas Disease. Argent J Cardiol 2024;92:333-8. http://dx.doi.org/10.7775/rac.v92.i5.20814.

4. Junqueira Junior LF. Ambulatory assessment of cardiac autonomic function in Chagas' heart disease patients based on indexes of R-R interval variation in the Valsalva maneuver. Braz J Med Biol Res 1990;23:1091-102

AUTHORS' REPLY

We would like to kindly thank Dr. Putaro for her valuable comments on our study. We fully agree with the concern regarding prognostic evaluation challenges still present in Chagas disease, as well as its relevance as an important public health issue in our country and the continent. Therefore, it is essential to identify early predictors of structural heart disease to address this issue.

Autonomic dysfunction has long been described as being present in Chagas disease. (1) The causes of dysautonomia are not fully understood, and multiple potential mechanisms have been suggested. As the doctor points out, most studies have compared dysautonomia in Chagas disease patients versus healthy controls. (2) This has led us to hypothesize whether the presence of dysautonomia might be a predictor of structural heart disease. We selected the Valsalva rate due to its simplicity, reproducibility, and low cost. This technique can be performed at the doctor's office in about 10 minutes, making daily administration practical.

The suggestion to perform a specific assessment of the different types of structural heart disease is highly relevant and interesting. We intend to continue with our cohort follow-up, although we admit that it would be essential to expand the sample and extend follow-up beyond three years, as in our initial study. This may help to better identify progression to arrhythmia, dilated cardiomyopathy, or sudden death, and to evaluate whether the Valsalva rate has a differential predictive value according to the type of complication. To move in this direction, it would be interesting to collaborate with other research groups interested in the subject.

Finally, we share your concern about geographic and health care access barriers affecting Chagas disease patients in our country. We also appreciate Dr. Putaro's observations and discussion on this vital subject. It is our hope that this will lead to further promotion of strategies for the improvement of health care for this vulnerable population.

Daniel Chirino[MTSAC,]

Current Situation of Cardiologists in our Country. Results of the Health Policy Area Survey

La situación actual de los cardiólogos en nuestro país. Resultados de la encuesta del Área de Políticas de Salud

CECILIA M. MARPEGAN[1]

It is well known that there is an increasing exodus of specialized physicians from our country, probably encouraged by, or perhaps as a consequence of, the current economic situation, poly-employment, low salaries, burnout syndrome, among other factors.

Cardiology is not exempt from this problem, as shown by the recently published article *La situación actual de los cardiólogos en nuestro país. Resultados de la encuesta del Área de Política Sanitaria.* (1)

The survey assessed the opinion of 393 cardiologists on working conditions, satisfaction with their salary, and their representation by the Argentine Society of Cardiology, as well as the forms of continuing medical education. As expected, more than 90% of the respondents disagreed with their income and salary, were personally dissatisfied and had a discouraging outlook for the future. These results are in line with the alarming prevalence of burnout syndrome among cardiologists in Argentina, affecting almost 70% of professionals. (2) It should be noted that the prevalence in the United States is less than 30%. (3) The data are consistent with the results of the CONAREC survey (4) presented at the last Congress, in which 83% of future cardiologists were considering leaving the country.

Regarding the system of specialty training, currently a subject of debate in all medical specialties, the respondents agreed that a medical residency was still the best method of training. They also considered that it should be complemented with postgraduate studies (a doctorate or a master). Despite specialists' agreement, for the past two years, recently graduated Argentine physicians have accounted for less than 70% of the applicants interested in this type of training.

Another interesting point is the growing desire to work in care networks. Only half of the professionals responding to the survey currently do so. Not only would this improve the times of care, but it would also focus specialists, ideally in multidisciplinary teams, on the treatment of more complex but less common pathologies, allowing better use of health resources, combining knowledge and experience, and improving the satisfaction of both patients and professionals, with a likely reduction in health costs.

We cardiologists agree on the current situation of our health system, our training, our day-to-day work, our remuneration and our problems, but few of us know that the Argentine Society of Cardiology has a Health Policy Area where these issues are discussed and where we can participate to achieve a better present and future.

Ethical considerations

Not applicable.

Conflicts of interest

None declared.

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REFERENCES

1. Novielli DS, Pomes Iparraguirre H, Sokn FJ, Kevorkian R, Rapallo C, Caccavo A, et al. The current situation of cardiologists in our country. Results of the Health Policy Area survey. Argent J Cardiol 2024;92:327-32. http://dx.doi.org/10.7775/rac.v92.i5.20813.
2. Ávalos Oddi A, Castillo Costa Y, D Imperio H, Prieto O, Gantesti J, López C, et al. Burnout Survey among SAC Cardiologists. Argent J Cardiol 2023;91:395-402. http://dx.doi.org/10.7775/rac.v91.i6.20709
3. Medscape [Internet]. Koval ML Medscape Cardiologist Lifestyle, Happiness & Burnout Report 2023. [updated 24 Feb. 2023; accessed 02 Dec 2024]. Disponible en: https://www.medscape.com/slideshow/2023-lifestyle-cardiologist-6016071?ecd=WNL_physrep_230708_life-style2023_rm2_etid5605371&uac=213339ET&impID=5605371#7
4. Infobae [Internet]. [updated 17 Jul. 2023; accessed 02 Dec 2024]. Available at: https://www.infobae.com/salud/2023/07/17/residencias-en-cardiologia-el-83-de-los-profesionales-penso-en-la-posibilidad-de-emigrar-para-ejercer-segun-una-encuesta

AUTHORS' REPLY

Dear Dr. Marpegan, thank you for the important contribution to our publication. There are several points that have been mentioned and that need to be devel-

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oped in depth in our survey, in which we seek to obtain answers to daily concerns. We would like to tell you and the cardiology population that at the Health Policy Area, the Board of Directors and other areas of our Society we are working hard to change these figures and future perspectives, which currently seem discouraging. This survey, as well as others that have taken place this year will help us to begin this change with renewed knowledge. With this objective in mind, we will continue on this path and we invite all doctors and non-doctors to participate actively in the SAC and in the Health Policy Area to bring about deep changes in society, in our training, in our daily professional development and in our medical actions, and so that the population can receive the best care with the highest standards in the world.

Diego Novielli[MTSAC,]

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