

Infective Endocarditis: New Spectra, Same Severity

Tiago Bignoto¹ 

Instituto do Coração – InCor - Faculdade de Medicina da Universidade de São Paulo,¹ São Paulo, SP – Brazil

Short Editorial related to the article: *Infective Endocarditis Surgery. Insights from 328 Patients Operated in a University Tertiary Hospital*

Infective endocarditis is a rare disease with a high rate of serious complications and can often be seen as a syndrome.¹ A cold assessment of data published internationally² shows us that despite all the technological advances and an early trend towards surgical intervention, there was no great reduction in clinical outcomes, especially mortality, but a more detailed search for information may bring us other points of view.

The article by Jorge MS et al.³ corroborates the idea of early diagnoses and interventions in this broad spectrum of patients, and observing the epidemiological change of patients over the years is a fundamental key to a broad reading of the management of contemporary infective endocarditis.⁴

Although the pathology of endocarditis is the same, the disease appears as an old problem in a completely different guise. In the era of the first antimicrobials available, patients were young and had relatively few comorbidities, such as rheumatic or congenital heart disease. Recently, in a time of broad-spectrum antimicrobials and more robust bactericidal potential, the patient who presents has a different profile, is older, has multiple comorbidities, and is clinically more unstable.²

By observing the evolutionary behavior of the analyzed patients, Jorge MS et al.³ also highlight the change in the epidemiological, clinical profile, and microbiological strains involved. This situation is closely related to the profile of the patient, who is often institutionalized. What used to have *Streptococcus* as a major protagonist, the contemporary data point to a higher prevalence of *Staphylococcus* as the causative agent of infective endocarditis.⁵

Although it has so far been little discussed in a broad or unrestricted way, the changes in the management of antibiotic prophylaxis for the prevention of infective endocarditis may also have impacted this evolution over the last 30 years, in which we have an increasingly conservative approach in international guidelines, contrasting with the guidelines found in the last national guideline on valve diseases.^{6,7}

In this context, a quick and accurate diagnosis is the first step to offer the patient the chance of a more assertive and timely intervention. A late diagnosis and the procrastination of adequate antimicrobial therapy lead to complications and worse clinical outcomes.⁸

The clinical presentation is diverse, ranging from severe sepsis to fever syndromes of an undetermined origin or even purely cardiovascular manifestations such as heart failure.² The author³ even points to congestive heart failure as the main comorbidity associated with patients who were followed up, which can lead to clinical confusion and an even more complex diagnostic challenge since the presence of this manifestation can delay an accurate diagnosis that will require more than before, of other Duke criteria, as seen on imaging methods.⁹⁻¹¹

The contemporary challenges of Infective Endocarditis are diverse, and prevention is undoubtedly the best strategy to be employed.¹² Once faced with the possibility, rapid diagnosis, and individualized therapy seem to be the best strategy to reduce complications, with treatment surgery, a procedure that plays a growing and decisive role in groups of more severe patients. The search for information from these patients will allow cardiology to transform challenges into paved paths for the best therapeutic responses in infective endocarditis.

References

1. Cahill TJ, Prendergast BD. Infective endocarditis. *Lancet* 2016;387(10021):882–93. DOI: 10.1016/S0140-6736(15)00067-7
2. Cahill TJ, Baddour LM, Habib C, Hoen B, Salaun E, Pettersson GB, Schäfers HJ, Prendergast BD. Challenges in Infective Endocarditis. *J Am Coll Cardiol*. 2017 Jan 24;69(3):325–44. DOI: 10.1016/j.jacc.2016.10.066
3. Jorge MS, Rodrigues AJ, Vicente WVA, Evora PRB. Infective Endocarditis Surgery. Insights from 328 Patients Operated in a University Tertiary Hospital. *Arq Bras Cardiol*. 2023; 120(3):e20220608
4. Prendergast BD. The changing face of infective endocarditis. *Heart* 2006;92(7):879–85. DOI: 10.1136/hrt.2005.067256

Keywords

Infective Endocarditis; Cardiac Surgery; Heart Valve Disease

Mailing Address: Tiago Bignoto •

Avenida Dr. Enéas Carvalho de Aguiar, 44. Postal Code 05403-900, Cerqueira César, São Paulo, SP – Brazil
E-mail: tiagobignoto@yahoo.com.br

DOI: <https://doi.org/10.36660/abc.20230117>

5. Habib G, Badano L, Tribouilloy C, Hoen B, Tornos P, Thuny F, et al. Guidelines on the prevention, diagnosis, and treatment of infective endocarditis (new version 2009). Endorsed by the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) and by the International Society of Chemotherapy (ISC) for Infection and Cancer. *Eur Heart J* 2009;30(19):2369–413. DOI: 10.1093/eurheartj/ehp285
6. Otto CM, Nishimura RA, Bonow RO, Carabello BA, Erwin JP 3rd, Gentile F, et al. 2020 ACC/AHA Guideline for the Management of Patients With Valvular Heart Disease: Executive Summary: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. *Circulation*. 2021 Feb 2;143(5):e35–e71. DOI: 10.1161/CIR.0000000000000932
7. Tarasoutchi F, Montera MW, Ramos AIO, Sampaio RO, Rosa VEE, Accorsi TAD, et al. Update of the Brazilian Guidelines for Valvular Heart Disease - 2020. *Arq Bras Cardiol*. 2020 ; 115(4):720-75. DOI: 10.36660/abc.20201047
8. Dickerman SA, Abrutyn E, Barsic B, Bouza E, Cecchi E, Moreno A, et al. ICE Investigators. The relationship between the initiation of antimicrobial therapy and the incidence of stroke in infective endocarditis: an analysis from the ICE Prospective Cohort Study (ICE-PCS). *Am Heart J*. 2007;154(6):1086–94. DOI: 10.1016/j.ahj.2007.07.023
9. Habets J, Tanis W, Reitsma JB, den Brick R, Mali WP, Chamuleau AS, et al. Are novel non-invasive imaging techniques needed in patients with suspected prosthetic heart valve endocarditis? A systematic review and metaanalysis. *Eur Radiol*. 2015;25(7):2125–33. DOI: 10.1007/s00330-015-3605-7
10. Feuchtner GM, Stolzmann P, Dichtl W, Schertler T, Bonatti J, Scheffel H, et al. Multislice computed tomography in infective endocarditis: comparison with transesophageal echocardiography and intraoperative findings. *J Am Coll Cardiol*. 2009;53(5):436–44. DOI: 10.1016/j.jacc.2008.01.077
11. Saby L, Laas O, Habib G, Cammilleri S, Mancini J, Tessonnier L, et al. et al. Positron emission tomography/computed tomography for diagnosis of prosthetic valve endocarditis: increased valvular 18F-fluorodeoxyglucose uptake as a novel major criterion. *J Am Coll Cardiol*. 2013;61(23):2374–82. DOI: 10.1016/j.jacc.2013.01.092
12. Habib G, Lancellotti P, Antunes MJ, Cammilleri S, Mancini J, Tessonnier L, et al. 2015 ESC guidelines for the management of infective endocarditis. *Eur Heart J*. 2015;36(44):3075–128. DOI: 10.1093/eurheartj/ehv319

