



## Infective endocardite: Prophylactic approach

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### ABSTRACT

Infective Endocarditis (IE) is a complication of high morbidity and mortality and potentially avoidable in patients with valvular heart disease. Almost any agent can cause IE, although the most frequent are gram-positive bacteria, mainly *Staphylococcus*, *Streptococcus*, and *Enterococcus*.

**Keywords:** Cardiovascular Infections, Cardiopathy, Antibiotic prophylaxis.

### 1 INTRODUCTION

Infective Endocarditis (IE) is a complication of high morbidity and mortality and potentially avoidable in patients with valvular heart disease. The lethality of this pathological entity reaches 30% in the first year, so prophylactic strategies (pharmacological and non-pharmacological) and appropriate treatment are relevant in the context of the management of patients with heart disease. However, given the worrisome context of antimicrobial resistance, it is necessary to establish selection criteria when it comes to empirical antibiotic prophylaxis, to avoid dysbiosis. In this sense, antimicrobial prophylaxis in IE for patients with valvular heart disease deserves to be discussed.

### 2 OBJECTIVE

To present the issue of prophylactic antibiotic therapy in the context of antimicrobial resistance.

### 3 METHODOLOGY

This is an exploratory literature review, which was carried out through bibliographic analysis of articles and technical documents indexed in the SCIELO, PUBMED and Google Scholar databases between the years 2020 and 2022, using the descriptors: Cardiovascular Infections; Cardiopathy; Antibiotic prophylaxis; valvular heart disease in Portuguese and English. Systematic review articles, theses, and other studies that were not consistent with the theme proposed in this research were excluded from the study.



## 4 RESULTS

Almost any agent can cause IE, although the most frequent are gram-positive bacteria, mainly *Staphylococcus*, *Streptococcus*, and *Enterococcus*. *Streptococci* are part of the normal flora of the oropharynx and gastrointestinal tract and cause at least 50% of community-acquired IE in our country. The antibiotic of choice for pharmacological prophylaxis, in the absence of allergy, is amoxicillin, given its adequate oral absorption and susceptibility to the infectious agent. However, resistance of several strains of this microorganism to this antibiotic has been described. In the last 15 years, the United States and Europe have reduced the indications for antibiotic prophylaxis, with important limitations regarding the use of antibiotics during dental procedures, and interruption of treatment during genitourinary and gastrointestinal procedures. On the other hand, some Latin American countries, including Brazil, remain conservative, with the main cardiology societies advocating the maintenance of antibiotic prophylaxis before dental, gastrointestinal and genitourinary procedures. Such conservatism is justified by the high morbidity and mortality of IE and by the limited number of large studies that comparatively evaluate this problem.

## 5 DISCUSSION

The management of valvular heart disease is a challenge for medical and non-medical professionals who care for patients with valvular heart disease, from the cardiologist with the prescription and adequate monitoring of cardiac function to the dentist in the maintenance of oral health and specific guidance in the prophylaxis of IE. In this territory, professionals find a lot of discordant information regarding the recommendations for the use of antibiotics for IE prophylaxis in a global scenario of emergence of antimicrobial resistance. Thus, it is observed that the lack of robust studies on the incidence of IE after invasive interventions provides room for different interpretations for this nosological entity and contributes to a management based on empiricism and individual conduct of the professional in charge of the case. Given the severity and lethality of IE, many choose to use antibiotics without being sure that there is really significance in that therapy, opening space for the indiscriminate use of antimicrobials.

## 6 CONCLUSION

It is urgent that the scientific society strive to develop robust studies on the relevance of IE antibiotic prophylaxis, given the disagreement between global guidelines on this subject.



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