

Antibiotic prophylaxis for infective endocarditis during high-risk gastrointestinal procedures

 Drazen Zekanovic^{1,2},
 Karla Savic¹,
 Mira Stipcevic^{1,2,3*},
 Zoran Bakotic^{1,3},
 Marin Bistirlic¹,
 Jogen Patrk^{1,2},
 Zorislav Susak¹,
 Karla Grgic¹,
 Stipe Kosor¹,
 Dino Mikulic¹,
 Nikola Verunica¹,
 Branimir Buksa¹

¹Zadar General Hospital,
Zadar, Croatia

²University of Zadar,
Department of Health
Studies, Zadar, Croatia

³Faculty of Dental Medicine
and Health, University of
Osijek, Osijek, Croatia

KEYWORDS: infective endocarditis, gastrointestinal malignancy, antibiotic prophylaxis.

CITATION: *Cardiol Croat.* 2023;18(9-10):263. | <https://doi.org/10.15836/ccar2023.263>

***ADDRESS FOR CORRESPONDENCE:** Mira Stipčević, Opća bolnica Zadar, Ul. Bože Peričića 5, HR-23000, Zadar, Croatia. /Phone: +385-98-593-416 / E-mail: mira.stipcevic@gmail.com

ORCID: Drazen Zekanovic, <https://orcid.org/0000-0002-8147-6574> • Karla Savic, <https://orcid.org/0000-0002-1339-8922>
Mira Stipcevic, <https://orcid.org/0000-0003-4351-1102> • Zoran Bakotic, <https://orcid.org/0000-0002-7095-0111>
Marin Bistirlic, <https://orcid.org/0000-0002-9213-4174> • Jogen Patrk, <https://orcid.org/0000-0002-8165-692X>
Zorislav Susak, <https://orcid.org/0000-0002-2417-2494> • Karla Grgic, <https://orcid.org/0000-0003-3512-9472>
Stipe Kosor, <https://orcid.org/0000-0002-2813-9026> • Dino Mikulic, <https://orcid.org/0000-0002-3785-1584>
Nikola Verunica, <https://orcid.org/0000-0003-2480-9106> • Branimir Buksa, <https://orcid.org/0000-0001-5206-512X>

Introduction: Infective endocarditis has an in-hospital mortality rate of 16%. The cardiac conditions predisposing to infective endocarditis have shifted from rheumatic heart disease and congenital heart disease to a preponderance of degenerative valve disease, prosthetic valves and intracardiac devices. Streptococcus species link to bowel lesions is well established including *S. sanguinis*. It is frequent causative agents of IE, comprising 18 to 30% of cases. *S. sanguinis* enters the blood via ulcerated bowel lesions and bacteremia can represent a marker of the occult malignancy. ESC Guidelines recommend against routine prophylaxis for infective endocarditis during routine gastrointestinal procedures unless performed at an infected or colonized site. An ulcerating colonic malignancy allows the bacteria to penetrate the bloodstream with subsequent endocarditis.¹⁻³ We present a case of *S. sanguinis* bacteremia and subsequent endocarditis of a bio-prosthetic aortic valve in an elderly man who had adenocarcinoma of the sigmoid colon.

Case report: 74-year-old patient who underwent aortic valve replacement surgery due to severe stenosis six months ago, presented with fever, fatigue and breathlessness. These symptoms occurred a few days ago. He was hospitalized two weeks prior for new-onset microcytic anemia, colonoscopy was performed and PHD results verified adenocarcinoma of the sigmoid colon. Blood cultures were taken upon admission and *S. sanguinis* was detected. Transesophageal echocardiography (TEE) revealed vegetation on the left coronary cusp of the bioprosthetic aortic valve. The patient was treated for endocarditis with intravenous penicillin G for 6 weeks and gentamycin during the first 2 weeks. The patient was determined as a surgical candidate after receiving sterile blood cultures, decline in inflammatory markers levels, and TEE revealing a regression of the vegetations.

Conclusion: Viridans group streptococci are considered to be of low virulence but can lead to significant infections including endocarditis in the setting of underlying malignancy. Although guidelines have not been in complete agreement, providing prophylaxis to individuals at high risk of adverse outcomes undergoing high-risk procedures, seems efficient and cost-effective.

RECEIVED:
July 31, 2023

ACCEPTED:
August 13, 2023



LITERATURE

1. Nijjer S, Dubrey SW. Streptococcus sanguis endocarditis associated with colonic carcinoma. *BMJ Case Rep.* 2010;2010:bcr09.2009.2311. <https://doi.org/10.1136/bcr.09.2009.2311>
2. Habib G, Lancellotti P, Antunes MJ, Bongiorni MG, Casalta JP, Del Zotti F, et al; ESC Scientific Document Group. 2015 ESC Guidelines for the management of infective endocarditis: The Task Force for the Management of Infective Endocarditis of the European Society of Cardiology (ESC). Endorsed by: European Association for Cardio-Thoracic Surgery (EACTS), the European Association of Nuclear Medicine (EANM). *Eur Heart J.* 2015 Nov 21;36(44):3075-3128. <https://doi.org/10.1093/eurheartj/ehv319>
3. National Institute for Health and Clinical Excellence. Prophylaxis against infective endocarditis: antimicrobial prophylaxis against infective endocarditis in adults and children undergoing interventional procedures. (<https://www.nice.org.uk/guidance/cg64/chapter/Update-information>)