Endokarditis umjetnih zalistaka – učestaliji od očekivanja

Prosthetic valve endocarditis – more frequent than expected

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Uvod: Endokarditis umjetnih zalistaka (PVE) je teška komplikacija i bioloških i mehaničkih umjetnih zalistaka. Pojavljuje se u 1-6% bolesnika s umjetnim zalistcima te čini 10-30% svih slučajeva infektivnog endokarditisa (IE). Rani PVE nastaje u prvih godinu dana nakon operacije. PVE ima visoki bolnički mortalitet od 20-40%.[1] Cilj nam je bio analizirati kliničke, mikrobiološke i ehokardiografske osobitosti i ishode endokarditisa umjetnih zalistaka u Kliničkom bolničkom centru Zagreb u dvogodišnjem razdoblju (2016. do 2018.).

Bolesnici i metode: Proveli smo retrospektivno istraživanje. U istraživanje su uključeni bolesnici koji su prema modificiranim Dukeovim kriterijima bili klasificirani kao „sigurni" ili „mogući" IE te smo analizirali podatke iz bolesničkih kartona i digitalne ehokardiografske baze. Ishodi su bili bolnički mortalitet i reoperacija (hitna i elektivna).

Rezultati: Ukupno je zabilježeno 27 slučajeva IE: 19 (70,3%) muškaraca, medijan dobi 64 godine (raspon 28-84). PVE je dijagnosticiran u 14 (51,9%) bolesnika od kojih je 5 (35,7%) imalo aortalni mehanički zalistak, 6 (42,9%) aortalni biološki zalistak, po jedan bolesnik je imao mitralni biološki i mitralni mehanički zalistak, a dvoje (14,3%) su imali popravak mitralnog zalistka. Šest (42,9%) slučajeva se dogodilo u ranom postoperacijskom razdoblju (unutar 60 dana). Ehokardiografijom su prikazane velike vegetacije (11,3 ± 6,4 mm) u 12 (85,7%) PVE bolesnika. Polovica bolesnika (n = 7) je reoperirano, a mortalitet je bio 14,3% (n = 2). Uzročnici izolirani iz hemokulture su: koagulaza negativni *Staphylococcus* (n = 5; 35,7%), *Staphylococcus aureus* (n = 4; 28,6%), *Enterococcus* spp (n = 2; 14,3%), *Propionibacterium acnes* (n = 1) i *Stenotrophomonas maltophilia* (n = 1). U jednog bolesnika nije izolirani uzročnik. Zahvaćenost zalistaka IE-om je prikazano na **slici 1**.

Zaključak: Zabilježili smo neočekivano visoki udio PVE u populaciji IE bolesnika, dok je stopa reoperacije i smrtnosti usporediva s podacima iz literature[1,2]. Većina PVE slučajeva zabilježena je u ranom postoperacijskom razdoblju (60 dana) i *Staphylococcus* spp je najčešće izolirani uzročnik kao što je i očekivano. Neovisno o tipu umjetnog zalistka aortalna pozicija je sklonija nastajanju PVE-a.

Introduction: Prosthetic valve endocarditis (PVE) is a severe complication in patients with both mechanical and bioprosthetic valves, occurring in 1-6% of patients with valve prosthesis and 10-30% of all infective endocarditis (IE) cases. Early PVE occurs during the first year after cardiac surgery. PVE has a very high in-hospital mortality rate of 20–40%.[1] We aimed to analyze PVE clinical, microbiological and echocardiographic features and outcomes in University Hospital Centre Zagreb during a two-year period (2016-2018).

Patients and Methods: A retrospective study was conducted. Patients diagnosed as „definite" or „possible" IE according to modified Duke criteria were included and data from in-hospital charts and digital echocardiography database were analyzed. Outcomes were in-hospital mortality and reoperation (both urgent and elective).

Results: There were altogether 27 cases of IE: 19 (70.3%) men, median age 64 (range 28-84). PVE was found in 14 (51.9%) patients, among them there were 5 (35.7%) with aortic mechanical prosthesis, 6 (42.9%) with aortic bioprosthesis, one patient had a mitral mechanical valve and one bioprosthesis, while 2 (14,3%) had mitral valve repair. 6 (42.9%) occurred very early after valve surgery (within 60 days). Large vegetations (11.3±6.4 mm) were revealed by echocardiography in 12 (85.7%) PVE patients. Half of PVE patients (n=7) were referred to reoperation during initial hospitalization, with mortality rate of 14.3% (n=2). Isolated pathogens in blood culture were: coagulase negative *Staphylococcus* (n=5, 35.7%), *Staphylococcus aureus* (n=4, 28.6%), *Enterococcus* spp (n=2, 14.3%), *Propionibacterium acnes* (n=1) and *Stenotrophomonas maltophilia* (n=1). Culture-negative PVE was registered in one patient. IE valve involvement is shown in **Figure 1**.

Conclusion: We found an unexpectedly high incidence of PVE among IE patients[1,2]. Contrary, surgery-rate and in-hospital mortality were similar to published data[2]. Most of the PVE in our patients occurred early after valve surgery and *Staphylococcus* spp is predominant isolated pathogen, as it was expected. Interestingly, regardless of prosthesis type, aortic position was predisposed to PVE.

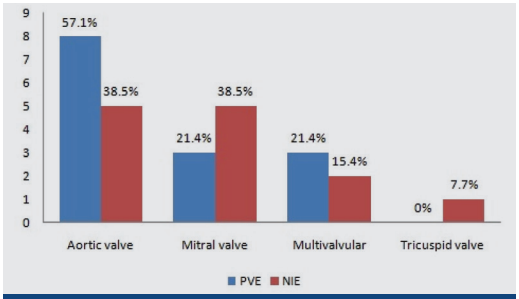

FIGURE 1. Vegetation distribution according to native valve or prosthetic valve position, among infective endocarditis on native valves (NIE) and prosthetic valve endocarditis (PVE) patients.

PVE = prosthetic valve endocarditis, NIE = native valve endocarditis

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