

Rijedak slučaj opstrukcije mehaničke aortne valvule panusom

A rare case of obstruction of the artificial aortic valve with pannus formation

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Uvod: Aortna stenozna (AS) je najčešća valvularna greška srca čija učestalost raste s dobi, a incidencija u dobi do 60. godine života iznosi oko 0,2%, a poslije 80. godine oko 10%. Simptomatski bolesnici s AS imaju nisku stopu preživljenja, do 20% unutar 5 godina od pojave simptoma. Godišnje se u Sjedinjenim Američkim Državama implantira 67 000 umjetnih aortnih valvula. Incidencija zamjene aortne valvule godišnje iznosi 112/100 000 osoba. Opstrukcija prostetičke valvule se javlja u 0,4-6,0% bolesnika, od čega je u 10% razlog uraštanje panusa, a u 75% tromboza zaliska. U većini slučajeva panus se formira s ventrikulske strane valvule.^{1,2}

Prikaz slučaja: 71-godišnja bolesnica, kojoj je 2005. godine implantirana umjetna mehanička aortna valvula, zaprimljena je na Zavod radi podataka o progresivnoj dispneji te ehokardiografski verificirane teške AS ranije implantirane valvule i kombinirane srednje teške mitralne greške. Transtorakalnom ehokardiografijom se prikaže dilatiran lijevi atrij (5,4 cm), koncentrična hipertrofija lijeve klijetke, održane kontraktilnosti (EF 65%), teška stenozna umjetne mehaničke aortne valvule (maksimalna brzina 4,3 m/s, maksimalni gradijent 73 mmHg, srednji gradijent 46 mmHg, AVA 0,5 cm²). Mitralna valvula, kalcificiranih kuspisa, slabije mobilan stražnji kuspis, MVA 1,7 cm², PHT 117 ms, maksimalni gradijent 15,1 mmHg, srednji gradijent 7 mmHg, uski mlaz mitralne regurgitacije (MR) 3+, VC 5 mm, uz maksimalnu brzinu 6,2 m/s. Transezofagijskim ultrazvukom srca (TEE) potvrdi se teška AS, MR 3+ (VC 6 mm) i umjerena mitralna stenozna (maksimalne brzine 2,5 m/s, maksimalnog gradijenta 25 mmHg, srednji gradijent 10 mmHg) uslijed nepokretnih P1, P2 i P3 segmenata posteriornog kuspisa. Radiološki je vidljivo otvaranje samo jednog zaliska umjetne aortne valvule. Kateterizacijom srca dobije se sistolički tlak u plućnoj arteriji 49 mmHg, PCWP 18 mmHg, srednji tlak u desnom atriju 10 mmHg, CI 2,7 L/min/m², PVR 2,3 WU. Indicanom reoperacijom nađe se panus mehaničke aortne valvule te se uradi debridman uz ugradnju mehaničke mitralne valvule. Postoperacijski TEE nađe se uredna funkcija mehaničke mitralne valvule uz minimalnu MR, a na mjestu aortalne valvule vidljiva mehanička proteza uz kompletno otvaranje listića.

Zaključak: Opstrukcija mehaničke aortne valvule panusom je rijetka komplikacija, javlja se u razdoblju od 3 mjeseca do 23 godine od implantacije umjetne valvule. Da bi se izbjegle tako velike komplikacije potrebna je suradnja bolesnika i redovito ehokardiografsko i kliničko praćenje.

Introduction: Aortic stenosis is the most common valvular heart disease. Its prevalence increases with age and while it occurs rather rarely in people in their fifties (0.2%), it is quite an often comorbidity in octogenarians (9.8%). Symptomatic patients with aortic stenosis exhibit as low survival rates, as 20% within 5 years of symptom onset. Over 67000 aortic valve replacement procedures are performed yearly in the USA, i.e. 112 in 100 thousand people. Prosthetic valve obstruction occurs in 0.4-6.0% of patients after AVR, mostly due to valve thrombosis (75%). However, in 10% of patients with prosthetic valve obstruction, it is a result of pannus formation (mostly on the ventricular side of the valve).^{1,2}

Case report: A 71-year-old female patient who underwent artificial aortic valve replacement in 2005, was admitted to Clinical Hospital due to signs of congestive heart failure and progressive dyspnea. Transthoracic echocardiography showed severe stenosis of the artificial valve (mean PG 46 mmHg, max PG 73 mmHg, AVA 0.5 cm², Vmax 4.3 m/s), left ventricular hypertrophy, preserved left ventricular systolic function (EF 65%), and an enlarged left atrium (5.4 cm). Mitral valve was sclerotic and calcified, with reduced mobility of the posterior cusp and signs of moderate mitral stenosis (MVA 1.7 cm², PHT 117 ms, max PG 15 mmHg, mean PG 7 mmHg) and moderate mitral regurgitation jet (VC 5mm, Vmax 6.2 m/s). Transesophageal echocardiography (TEE) confirmed severe aortic stenosis, moderate mitral regurgitation (VC 6 mm) and moderate mitral stenosis (Vmax 2.5 m/s, max PG 25 mmHg, mean PG 10 mmHg) due to immobile P1, P2 and P3 segments of the posterior cusp. Coronary angiography showed a normal angiogram. Fluoroscopy revealed only one functional artificial aortic valve cusp. Invasive hemodynamic measurements showed a significant pulmonary artery hypertension (49 mmHg), with only slightly elevated both ventricle filling pressures (RAP 10 mmHg, PCWP 18 mmHg). Cardiac index was normal (2.7 L/min/m²), as was the pulmonary vascular resistance (2.3 WU). Patient underwent surgical repair of aortic valve prosthesis – pannus debridement and artificial mitral valve replacement. Postoperative TEE showed normal functioning aortic and mitral valves.

Conclusion: Pannus induced artificial valve obstruction is a rare postoperative complication, that we have to bear in mind when treating patients after aortic valve replacement.

LITERATURE

- Soumoulou JB, Cianciulli TF, Zappi A, Cozzarin A, Saccheri MC, Lax JA, et al. Limitations of multimodality imaging in the diagnosis of pannus formation in prosthetic aortic valve and review of the literature. *World J Cardiol.* 2015;7(4):224-9. **DOI:** <http://dx.doi.org/10.4330/wjc.v7.i4.224>
- Salamon J, Munoz-Mendoza J, Liebelt JJ, Taub CC. Mechanical valve obstruction: Review of diagnostic and treatment strategies. *World J Cardiol.* 2015;7(12):875-81. **DOI:** <http://dx.doi.org/10.4330/wjc.v7.i12.875>

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