Transkateterska ugradnja aortne valvule (TAVI) – iskustva KBC Zagreb

Transcatheter aortic valve implantation (TAVI) experience at UHC Zagreb

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Transkateterska ugradnja aortne valvule (TAVI) je dokazano optimalan modalitet liječenja bolesnika s teškom simptomatskom aortnom stenozom (AS) čiji je rizik operacije previsok ili su neoperabilni.^{1,2} U ovom sažetku su prikazani podaci o TAVI zahvatu u Kliničkom bolničkom centru Zagreb.

Učinjena su ukupno 44 TAVI zahvata. Sve odluke o liječenju TAVI umjesto SAVR donio je „srčani tim“. Najčešća indikacija za TAVI bio je visok kirurški rizik (71 %), potom porculanska aorta (16 %), ekstenzivno zračenje toraksa (9 %) i prijašnji SAVR - ugradnja „valvule u valvuli“ (4 %). Od svih bolesnika 31 (70,5 %) su bile žene, a ukupna prosječna dob je iznosila 80,3 godine. Prosječan NYHA status je iznosio 3, a STS-ov indeks mortaliteta 5,34. Prosječan maksimalni gradijent preko valvule prije zahvata bio je 88 mmHg, a AVA 0,66 cm². 39 % bolesnika imalo je poznatu koronarnu bolest srca te su svi bili liječeni pomoću PCI ili CABG prije TAVI. Korišteni su gotovo svi mogući pristupi (trans-apikalni, -karotidni, direktni aortni) ali je većina zahvata rađena transfemoralnim pristupom (86,4 %), od čega se u 71 % radilo o kirurškom pristupu, dok je u ostalim slučajevim korišten Proscar sustav. Valvula je uspješno implantirana u 41 slučaju (94 %). Kod njih maksimalni gradijent nakon TAVI je iznosio 19 mmHg, što je prateće značajnim poboljšanjem funkcionalnog statusa. Od tri bolesnika kojima nije uspjela implantacija, jedan je konvertiran u hitni SAVR, jedan je kandidat za reimplantaciju zbog embolizacije valvule u aortu, a posljednji je razvio tešku aortnu regurgitaciju. Pet bolesnika je imalo neki oblik vaskularnih komplikacija, tri su bile povezane s vaskularnim pristupom a dvoje je imalo tamponadu. Nakon procedure 6 bolesnika (13,6 %) je razvilo određeni stupanj atrioventrikularnog bloka, od kojih je troje zahtijevalo ugradnju trajnog elektrostimulatora. Niti jedan bolesnik nije razvio moždani udar ili infarkt miokarda. Ukupan bolnički mortalitet je iznosio 4,6 %, a jedno-godišnji 5,5 %. Uspoređujući se s registrima, naši rezultati su gotovo jednaki, a u nekim kategorijama čak i bolji.

Zaključno, TAVI je optimalan način liječenja dijela bolesnika s teškom AS a nedostatak DTS je glavna zapreka izvođenju optimalnih broja zahvata u Hrvatskoj (minimum 30/milijun stanovnika).

LITERATURE

- Holmes DR Jr, Brennan JM, Rumsfeld JS, Dai D, O'Brien SM, Vemulapalli S, et al; STS/ACC TVT Registry. Clinical outcomes at 1 year following transcatheter aortic valve replacement. *JAMA*. 2015;313(10):1019-28. DOI: <http://dx.doi.org/10.1001/jama.2015.1474>.
- Joint Task Force on the Management of Valvular Heart Disease of the European Society of Cardiology (ESC); European Association for Cardio-Thoracic Surgery (EACTS); Vahanian A, Alfieri O, Andreotti F, Antunes MJ, Barón-Esquivias G, Baumgartner H, et al. Guidelines on the management of valvular heart disease (version 2012). *Eur Heart J*. 2012;33(19):2451-96. DOI: <http://dx.doi.org/10.1093/eurheartj/ehs109>

Transcatheter aortic valve implantation (TAVI) has been shown as adequate modality for treatment of high risk or inoperable patients with severe symptomatic aortic stenosis (AS).^{1,2} In this abstract data concerning TAVI from University Hospital Centers Zagreb are presented.

In total 44 TAVI were performed in our institutions. All decisions regarding performing TAVI instead SAVR were made by „heart team“. Most common indication for TAVI was high surgical risk (71%), followed with porcelain aorta (16%), extensive thorax radiation (9%) and previous SAVR - „valve in valve“ procedure (4%). Of all patients, 31 (70.5%) were female and overall average age was 80.3 years. Average NYHA score was 3 and mean STS-mortality score 5.34. Average maximal gradient across valve before TAVI was 88mmHg with average AVA of 0.66cm². 39% of patient had coronary artery disease and all of those were treated either with CABG or PCI prior to TAVI. Almost all possible approaches were used (trans-apical, -carotid, direct aortic) but majority of procedures were performed using transfemoral approach (86.4%), from which 71% were done using surgical closure of femoral artery, while in rest of the cases Proscar was used. Valve was successfully implanted in 41 (94%) cases. In those, maximal gradient over aortic valve after TAVI was 19 mmHg followed with significant improvement in functional status. From three patients in whom implantation failed, one had to be converted in rescue SAVR, one is candidate for re-implantation, due to embolization of valve in aorta and last one had persisted severe aortic regurgitation. Five patients had some form of vascular complication; three were connected with vascular access and two had cardiac tamponade. After the procedure 6 patient (13.6%) developed some degree of atrioventricular block, from which 3 required permanent pacemaker implantation. None of the patients developed CVI or myocardial infarction. Overall in hospital mortality was 4.6%, and one-year mortality was 5.5%. When compared to data in larger registries our results are almost the same and in some categories even better.

In conclusion, TAVI is adequate treatment option for selected patient with severe AS, but reimbursement issues are main barrier for performing optimal number procedures in Croatia (at least 30/million inhabitants).