Conduction disorders after transcatheter aortic valve implantation – nursing managment

Sara Milanović Litre*, **Kristina Šolić**

University Hospital of Split, Split, Croatia

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***ADDRESS FOR CORRESPONDENCE:** Sara Milanović Litre, Klinički bolnički centar Split, Šoltanska 1 HR-21000 Split, Croatia. / Phone: +385-989-851-3605 / E-mail: sara.mlitre@gmail.com

ORCID: Sara Milanović Litre, https://orcid.org/0000-0003-3097-5047

Transcatheter aortic valve implantation (TAVI) is an accepted alternative method of treating severe aortic valve stenosis with a tendency to increase the number of procedures.[1] Unlike other procedural complications, the incidence of conduction disturbances has not decreased significantly despite technical improvements (about 10% with the latest generation of valves).[2] The connection between TAVI and conduction disturbances is determined by the anatomical proximity of the bundle of His and the annulus of the aortic valve. Transcatheter valve placement may cause edema, ischemia, or hematoma of the surrounding tissue near the conduction system.[3] The most common conduction disturbances are left bundle branch block and advanced atrioventricular block.[4] The most significant pre-procedural electrocardiographic risk factors for the occurrence of conduction disturbances are: right bundle branch block, present in 10-14% of patients, especially in combination with first degree AV block and bifascicular block.[5] Before the procedure, it is necessary to carefully review the previous electrocardiographic records, especially those of longer monitoring, because there is information that Holter monitoring the day before the procedure revealed AVB or significant bradycardia in a third of patients who received a pacemaker after the procedure.[6] Furthermore, the list of medications should be clearly recorded because there are indications that preoperative omission of beta blockers results in a lower incidence of ES implantation.[7] Procedural risk factors include the installation of a self-expanding valve (Evolut system), a deeper depth of valve installation and balloon postdilatation, which should be clearly indicated in the nursing documentation.[4] Conduction disturbances usually occur within 24 hours of the procedure, most often intraprocedurally, during valve expansion. The nursing handover should contain relevant information about the patient's condition before, during and after the procedure. Vital signs, medications administered during the procedure, state of consciousness, difficulty with valve placement, type of valve, occurrence of arrhythmias and conduction disturbances during the procedure. The first step in planning health care after the TAVI procedure should refer to the assessment of the patient's risk for the development of conduction disturbances. Nursing interventions should be focused on continuous monitoring of risk factors, evaluation of the patient's status, observation of the electrocardiogram.

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