Jonjev and Kalinić. Scr Med 2023 Jun;54(2):217-8. DOI:10.5937/scriptamed54-44041

IMAGES IN MEDICINE

A Quadricuspid Aortic Valve Combined with Coronary Artery Disease

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ARTICLE INFO

Received: 17 April 2023
Revision received: 16 May 2023
Accepted: 16 May 2023

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Case history

Quadricuspid aortic valve (QAV) is a rare and purely understood congenital malformation with an estimated incidence of 0.013 % - 0.043 %. Here are presented images of an incompetent QAV found during coronary artery bypass grafting (CABG).

A 68 year old male was transferred from outside hospital with a sign of left heart failure. After admission, urgent coronarography was performed and significant stenosis (≥ 75 %) was found on the proximal left anterior descending artery (LAD), ramus intermedius (RIM) and circumflex artery (RCx). Transoesophageal echocardiography revealed severe aortic regurgitation due to incompetent QAV, with hypokinetic anterior wall of the left ventricle.

After heart exposure, using cardiopulmonary bypass, cardiac arrest was induced as well as standard myocardial protection. A transversal aortothomy revealed enlarged annulus and four equal-sized aortic cusps (Type A)[1] with central gap and consequent severe malcoaptation of the QAV (Figure 1 and 2). The aortic valve was replaced with a #21 pericardial tissue prosthesis and myocardial revascularisation was successfully achieved with triple bypass using skeletonised left internal mammary artery to LAD and saphenous venous grafts to RIM and RCx. Patient had an uneventful postop course and was asymptomatic a year after surgery.

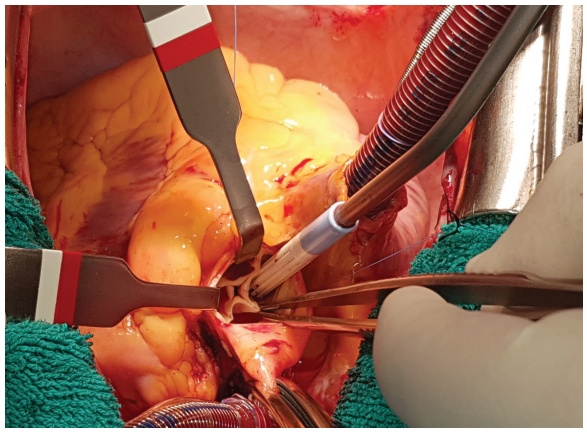

Figure 1: Intraoperative gross view of the quadricuspid aortic valve

Figure 2: Gross view of the specimen of the quadricuspid aortic valve

This article should be cited as follows: Jonjev Ž, Kalinić N. A quadricuspid aortic valve combined with coronary artery disease. Scr Med 2023 Jun;54(2):217-8.

Acknowledgements

None.

References

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Conflict of interest

None.