

# Coronary injury post valve surgery: Don't miss intraoperative diagnosis

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## Abstract

We read with interest the case report by Ackah and colleagues<sup>1</sup>. We previously reported, in a cohort study<sup>2</sup>, our experience in the management of coronary injury post valve procedures

Coronary injury post valve surgery: Don't miss intraoperative diagnosis

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*To the editor*

We read with interest the case report by Ackah and colleagues<sup>1</sup>. We previously reported, in a cohort study<sup>2</sup>, our experience in the management of coronary injury post valve procedures. Mechanism and different etiologies of coronary injury, which we called iatrogenic, post valve procedure were outlined in the article. Prompt diagnosis is essential to save patient life in such complication. High index of suspicion of coronary injury is the best tool for early diagnosis. Such dreadful complication should come to mind once there is difficulty of weaning, arrhythmias, ECG changes, especially ST elevation, depression, or block. Intraoperative confirmation of coronary injury is assisted by intraesophageal echocardiography demonstration of new wall motion abnormality. We encourage intraoperative diagnosis to avoid myocardial injury. 80% of our patients were diagnosed and managed intraoperatively. Two patients post-surgical aortic valve replacement (SAVR) showed inferior wall ischemia by ECG and hypokinesia by TEE resulted in severe LV dysfunction post weaning and requiring high inotropes and received saphenous vein graft to the right coronary artery on a beating heart. One patient also, post SAVR, was difficult to wean with recurrent ventricular fibrillation, stabilized after IMA to LAD. Another old female, 80 years old, post conventional mitral repair weaned on large doses of inotropes and TEE showed new lateral wall hypokinesia, immediately improved after saphenous vein graft to lateral obtuse marginal branch. Probably the ring sutures were impinging on the circumflex coronary artery. Only one middle aged lady, post minimal access mitral repair, experienced ischemia in ICU, two hours post op, and was taken for coronary catheterization which showed main circumflex narrowing and was successfully stented. In Ackah and colleagues case report, the circumflex lesion was evident preoperatively, more than moderate and complicated by a thrombus. Prompt intraoperative diagnosis and management was feasible without catheterization. Stenting would have been safe without a revisit to the operating room<sup>3,4</sup>.

References

ckah JK, Dastidar AG, Angelini GD,  
Bruno VD. Acute coronary occlusion after surgical  
replacement of the aortic valve treated with emergency off?  
pump coronary artery bypass grafting. *J Card Surg.* 2021;3  
ckah JK, Dastidar AG, Angelini GD,

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pump coronary artery bypass grafting. *J Card Surg.* 2021;3

9. Sanchez?Recalde A, Gonzalez?Obeso E, Oliver JM. Bilateral cor-  
onary artery occlusion after aortic valve replacement in a patient  
with porcelain ascending aorta. *Eur Heart J.* 2007;28(13):1553.  
<https://doi.org/10.1093/eurheartj/ehl493>

10. Ono N, Sawai T, Ishii H. Coronary ostial stenosis detected by  
transesophageal echocardiography after aortic valve replace-  
ment: a case report. *JA Clin Rep orts .* 2017;3(1):14. [ht tps://doi.  
org/10.1186/s40981-017-0083-8](https://doi.org/10.1186/s40981-017-0083-8)

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3877?3880.

9. Sanchez?Recalde A, Gonzalez?Obeso E, Oliver JM. Bilateral cor-  
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with porcelain ascending aorta. *Eur Heart J.* 2007;28(13):1553.  
<https://doi.org/10.1093/eurheartj/ehl493>

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org/10.1186/s40981-017-0083-8](https://doi.org/10.1186/s40981-017-0083-8)

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Bruno VD. Acute coronary occlusion after surgical replacement of the aortic valve treated with emergency off-pump coronary artery bypass grafting. *J Card Surg.* 2021;

Ackah JK, Dastidar AG, Angelini GD,

Bruno VD. Acute coronary occlusion after surgical replacement of the aortic valve treated with emergency off-pump coronary artery bypass grafting. *J Card Surg.* 2021;

Ackah JK, Dastidar AG, Angelini GD,

Bruno VD. Acute coronary occlusion after surgical replacement of the aortic valve treated with emergency off-pump coronary artery bypass grafting. *J Card Surg.* 2021;

Ackah JK, Dastidar AG, Angelini GD,

Bruno VD. Acute coronary occlusion after surgical replacement of the aortic valve treated with emergency off-pump coronary artery bypass grafting. *J Card Surg.* 2021;

Ackah JK, Dastidar AG, Angelini GD,

Bruno VD. Acute coronary occlusion after surgical replacement of the aortic valve treated with emergency off-pump coronary artery bypass grafting. *J Card Surg.* 2021;

Ackah JK, Dastidar AG, Angelini GD,

Bruno VD. Acute coronary occlusion after surgical replacement of the aortic valve treated with emergency off-pump coronary artery bypass grafting. *J Card Surg.* 2021;

1. Ackah Jk, Dastidar AG, Angelini GD Bruno VD. Acute coronary occlusion after surgical replacement of the aortic valve treated with off-pump coronary artery bypass grafting. *J Card Surg.* 2021;36:3877-3880.
2. Al-Ebrahim K, Al-Radi OO, Zaher ZF, Ibrahim MH, Dohain AM, Ellassal AA. Iatrogenic Coronary Artery Compromise Post Non-Coronary Cardiac Surgery in Patients with Normal Coronaries. *Heart Surg Forum.* 2020 Apr 16;23(2):E221-E224. doi: 10.1532/hsf.2921. PMID: 32364918.
3. Dello SA, Leus SJ, Tan MES, Otterspoor LC, Botman CJ. Percutaneous coronary intervention of an iatrogenic occlusion of the circumflex coronary artery after mitral valve replacement. *Eur Heart J*

Acute Cardiovasc Care. 2020 Aug;9(5):NP1-NP2. doi: 10.1177/2048872615623066. Epub 2015 Dec 18. PMID: 26684791.

4. Ziakas AG, Economou FI, Charokopos NA, Pitsis AA, Parharidou DG, Papadopoulos TI, Parharidis GE. Coronary ostial stenosis after aortic valve replacement: successful treatment of 2 patients with drug-eluting stents. *Tex Heart Inst J.* 2010;37(4):465-8. PMID: 20844624; PMCID: PMC2929858.