

Images in Surgery

DOI: <http://dx.doi.org/10.18203/2349-2902.ijssurgery20161194>

A new surgical approach to ventricular septal defect with aortic regurgitation

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Received: 17 April 2016

Accepted: 26 April 2016

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A 9 years old male presented with dyspnea on exertion for 2 years, pan-systolic murmur with wide pulse pressure. 2D echocardiography revealed sub aortic ventricular septal defect (VSD) with sub aortic membrane and severe aortic regurgitation (AR). Aortic valve was tricuspid with prolapsed and bulky right coronary cusp (RCC) (Figure 1). There was enlarged right coronary sinus with downward displacement of hinge from annulus. Intra-operatively trans esophageal echocardiography (TEE) revealed severe AR (Figure 2).

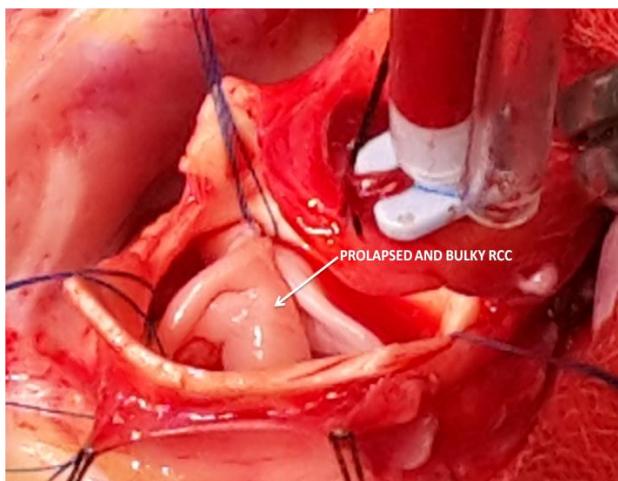


Figure 1: Intra-operative photograph of the patient showing a prolapsed and bulky right coronary cusp.

After aortotomy, VSD closure was done with Dacron patch using 5-0 interrupted pledgeted prolene sutures. (Figure 3) Sutures of VSD corresponding to right

coronary leaflet base started from aortic annulus, plicating the right coronary sinus and came out from the base/hinge of the right coronary leaflet (Left ventricle side). Frater's stitch was taken. Trussler's repair of aortic valve performed. Pledged 5-0 prolene suture was taken through RCC/NCC commissure with pericardial pledget inside and dacron pledget outside (Figure 4). Immediate Post-op TEE showed trace AR, good coaptation of aortic valve leaflets with normal LV function.

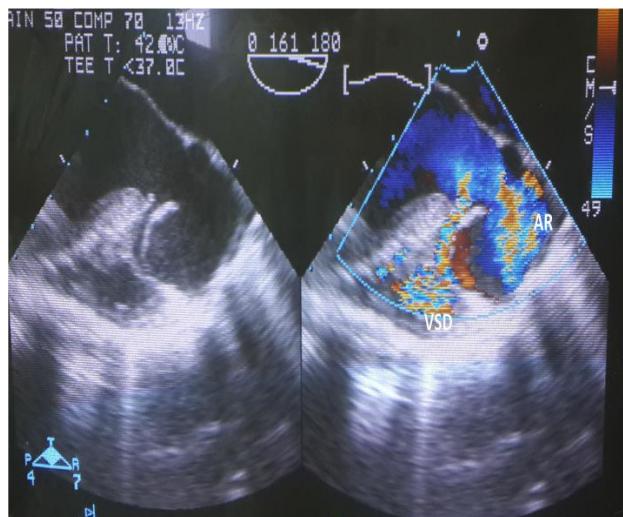


Figure 2: Intra-operative trans esophageal echocardiography (TEE) showing severe AR.

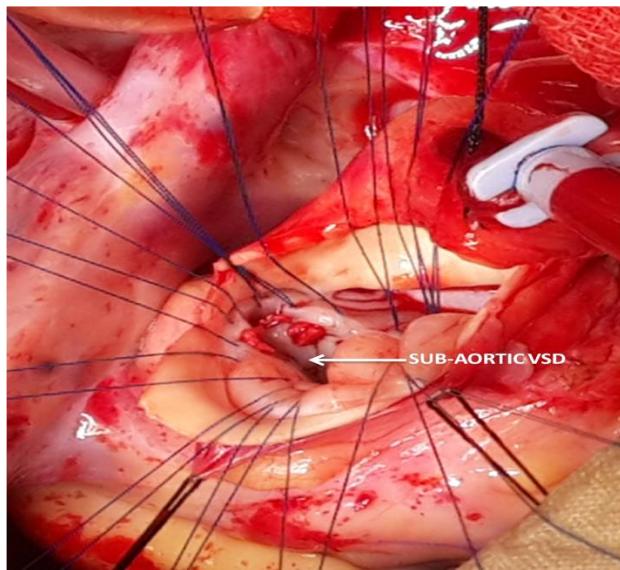


Figure 3: Intra-operative photograph of the patient showing sub aortic ventricular septal defect (VSD).

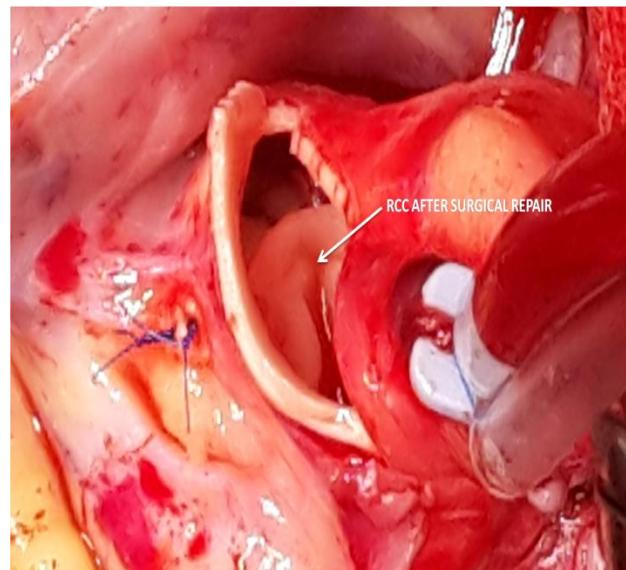


Figure 4: Intra-operative photograph of the patient showing right (coronary cusp) RCC after repair.

Cite this article as: Kumar A, Bhattacharya S, Jhajhria NS, Gupta VK. A new surgical approach to ventricular septal defect with aortic regurgitation. Int Surg J 2016;3:1023-4.