Journal of the Saudi Heart Association

Volume 33 | Issue 2 Article 8

2021

Rota burr-induced aortic cusp laceration necessitating valve replacement

Rota Burr-induced Aortic Cusp Laceration Necessitating Valve Replacement

Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa*

Mohammed Bin Khalifa Cardiac Centre (MKCC), Riffa, Kingdom of Bahrain

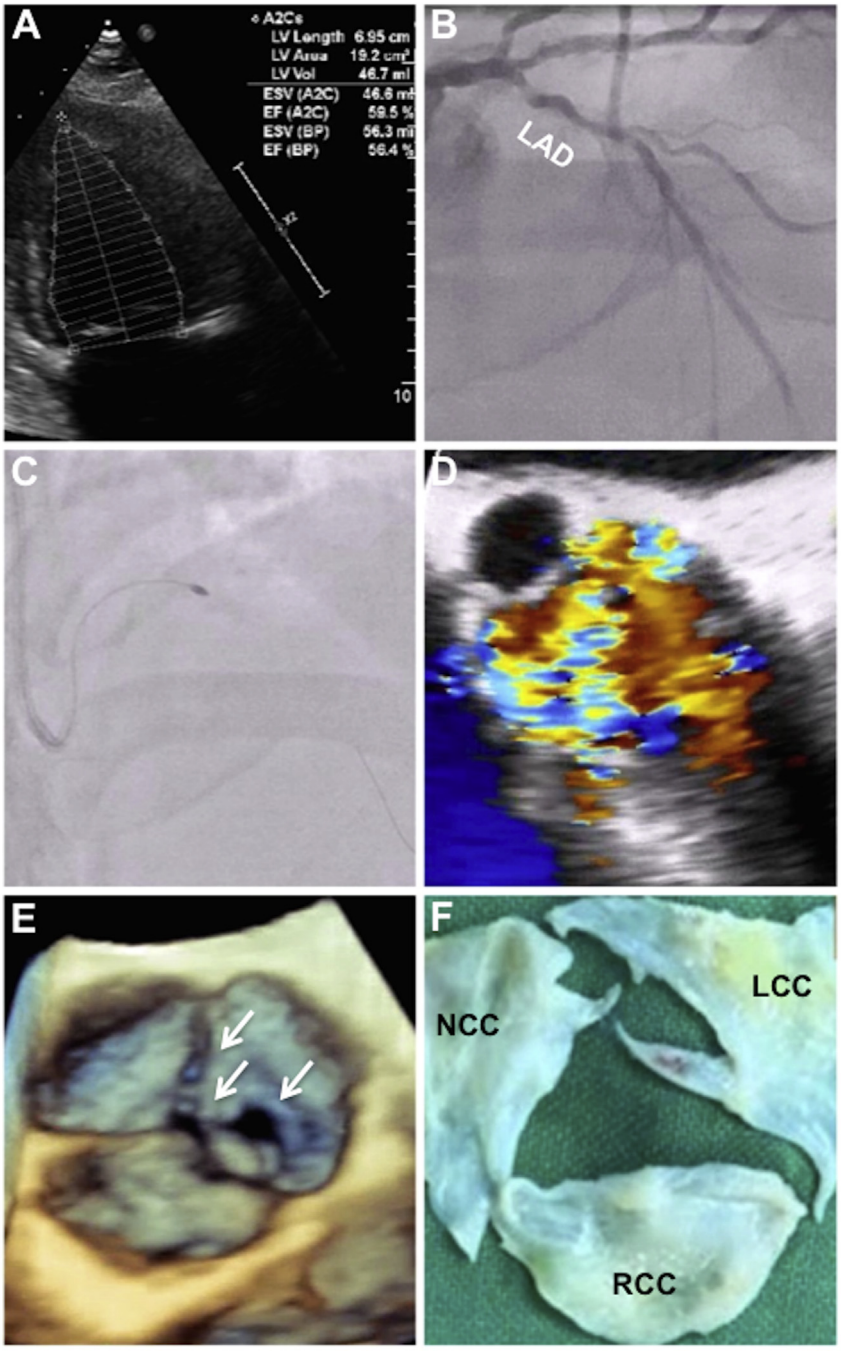
A 59-year-old man presented to our institute with long-standing diabetes and dyslipidemia. Echocardiogram showed preserved systolic function with no valvulopathies (**Panel A**). Coronary angiogram showed three-vessel disease with severely calcified and angulated lesion in the proximal left anterior descending (LAD) artery (**Panel B**). The case was discussed in the multidisciplinary meeting, and coronary artery bypass graft (CABG) was deemed as a favorable mode of revascularization. The patient refused CABG and opted for complex percutaneous revascularization using rotational atherectomy (RA) to debulk the heavy calcifications in the LAD artery (**Panel C**). Intraoperatively, he developed acute heart failure, and emergency transthoracic echocardiogram showed new severe aortic regurgitation (AR) with complex fragmented jet of holodiastolic severe AR (**Panel D**). Three-dimensional transesophageal echocardiogram (3DTEE) was evident of ovoid-shaped lacerations in the left coronary cusp involving the free margin with additional tears in the non-coronary cusp (**Panel E**). He underwent emergency aortic valve replacement (Inspiris Resilia size 25, Edwards Lifesciences LLC, Irvine, USA) and triple CABG (left internal mammary artery to LAD, right internal mammary artery to ramus intermedius and saphenous vein graft to right coronary artery). The procedure was performed two years ago and he remained asymptomatic with good functional status thereafter. Furthermore, there were no aortic prosthesis related complications with acceptable Doppler hemodynamics profile on the serial follow up echocardiograms.

The use of RA is growing with increasing complexity of the patient population presenting for PCI and improved recognition of calcified lesions with the use of intravascular imaging. To the best of our knowledge, this is the first case of iatrogenic extensive aortic cusp tears secondary to the use of RA with reasonably accurate 3DTEE characterization with operative findings of the disrupted valve (**Panel F**). It was proposed that much stalling of rota burr in a heavily calcified and angulated, long LAD lesion has resulted in traction and eventually disengagement of the judkins left guide catheter causing the rota burr to freely hang in the ascending aorta and momentarily come in contact with the aortic cusps.

Received 4 March 2021; revised 23 March 2021; accepted 24 March 2021.
Available online 19 May 2021.

* Corresponding author.
E-mail address: sadajhansi@gmail.com (S. Shivappa).

https://doi.org/10.37616/2212-5043.1250



Conflict of interest

There is no conflict of interest in this study.

Author's contribution

Conception and design of Study: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor. Literature review: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa. Acquisition of data: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa. Analysis and interpretation of data: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa. Research investigation and analysis: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa. Data collection: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa. Drafting of

manuscript: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa. Revising and editing the manuscript critically for important intellectual contents: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa. Data preparation and presentation: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa. Supervision of the research: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa. Research coordination and management: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa. Funding for the research: Vinayak Vadgaonkar, Nooraldaem Yousif, Husam A. Noor, Sadananda Shivappa.