

# Percutaneous management of aortic coarctation and coronary artery disease in a patient with bicuspid aortic valve: a case report

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**Introduction:** A bicuspid aortic valve (BAV) is a common congenital cardiac anomaly, often associated with coarctation of the aorta (CoA). Current guidelines emphasize that percutaneous treatment of CoA is the preferred approach when anatomically feasible, as it is less invasive and associated with lower morbidity compared to surgical intervention.<sup>1</sup>

**Case report:** 46-year-old male initially presented to a local hospital with a diagnosis of a non-ST-elevation myocardial infarction. Percutaneous coronary intervention was performed on the ramus intermedium with successful stent placement. During further evaluation, moderate aortic stenosis secondary to a BAV and CoA with a gradient of approximately 60 mmHg were identified. A multi-stage surgical approach was planned, including coronary artery bypass grafting for the left anterior descending artery lesion, surgical repair of the aortic coarctation, and aortic valve replacement. However, the patient was referred to our center for further management. We opted for a percutaneous approach, successfully implanting a drug-eluting stent in the LAD. In a second procedure, percutaneous intervention for the aortic coarctation was performed, with the placement of a 24x43 mm covered stent. Echocardiography confirmed moderate stenosis of the bicuspid aortic valve, and the patient was scheduled for annual clinical and echocardiographic follow-up.

**Conclusion:** Coarctation of the aorta is a relatively common anomaly in patients with a bicuspid aortic valve. Percutaneous treatment of CoA is indicated in all patients where anatomically feasible, offering a less invasive and effective alternative to surgery. When CoA is diagnosed later in life, patients often present with acquired cardiovascular conditions, such as coronary artery disease, necessitating a comprehensive and individualized treatment strategy. This case underscores the importance of timely diagnosis, multidisciplinary collaboration, and the advantages of percutaneous interventions in managing complex cardiovascular conditions.

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## LITERATURE

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