



Contents lists available at [ScienceDirect](#)

Journal of Cardiology Cases

journal homepage: www.elsevier.com/locate/jccase



Case Report

A single-stage hybrid approach for the management of severely stenotic bicuspid aortic valve, ascending aortic aneurysm, and coarctation of the aorta with a literature review

Terri-Ann Russell (MD), Cesare Quarto (MD), Christoph A. Nienaber (MD PhD)*

The Royal Brompton and Harefield NHS Foundation Trust, Cardiology and Aortic Centre, London, UK

ARTICLE INFO

Article history:

Received 5 September 2017
Received in revised form 6 December 2017
Accepted 22 January 2018

Keywords:

Bicuspid aortopathy
Stenting
Coarctation
Single-stage
Hybrid

ABSTRACT

The combination of aortic stenosis in the context of bicuspid aortic valve, aneurysmal dilatation of the ascending aorta, and coarctation is not uncommon. This condition has conventionally been addressed either by a complex open surgical approach or by staged hybrid approach combining open surgery of the ascending aorta with subsequent endovascular stenting of the coarctation. So far, the risk of a complex open approach for the aortic valve and ascending aorta and the cumulative risk of a staged second procedure for management of the coarctation are unknown; and similarly, the risk of a complex single-staged surgical procedure as an option instead of a single-staged hybrid approach is unknown. For the first time, we present a case of a patient with bicuspid aortopathy and concomitant coarctation who was simultaneously managed with both stenting of the coarctation and subsequent surgical replacement of the aortic valve and ascending aorta in one session. This new strategy has potential to become a future standard of care with various advantages.

<Learning objective: Endovascular techniques are more frequently being used in the management of coarctation of the aorta, especially when associated with other cardiac pathologies. The definitive role of these techniques is still to be defined. A review of the risks and benefits of different management strategies may be beneficial with regard to making the right choice for each patient and a hybrid technique may be superior to purely surgical management, especially in a high-risk patient.>

Crown Copyright © 2018 Published by Elsevier Ltd on behalf of Japanese College of Cardiology. All rights reserved.

Introduction

The management of patients with multiple pathologies of the aorta requiring surgical treatment may be difficult as the standard of care may not be identified. An all-over open surgical management can lead to unnecessary risk accumulation such as that associated with a complex single-staged surgery or two surgeries and two sessions of general anesthesia. Coarctation of the aorta associated with other aortic abnormalities which need surgical management has traditionally been subjected to two-staged surgery [1,2]; however, within the past decade endovascular techniques have emerged as preferred management of adult coarctation with a fraction of the risk of open surgery.

While endovascular procedures have the potential to reduce the risk of open surgery their role as an adjunct to, or a combination with open surgery, have not been fully explored, but may in theory offer several advantages and reduce the overall risk to the patient. In this case, the potential alternative of a total arch replacement and surgical removal of the coarctation was dismissed since the arch was considered normal and the entire pathology was an incidental finding not justifying any complex high-risk surgery.

Case report

A 54-year-old female patient was identified with a systolic cardiac murmur. She had no symptoms at rest but reported increasing fatigue with daily activities. On transthoracic echocardiography, a severely stenosed bicuspid aortic valve with a peak gradient of 150 mmHg was found in association with ascending aorta dilatation. Computed tomographic angiography (CTA)

* Corresponding author at: Cardiology and Aortic Centre, Royal Brompton Hospital, Sydney Street, London SW3 6NP, UK.
E-mail address: C.Nienaber@rbht.nhs.uk (C.A. Nienaber).



Fig. 1. 3D-computed tomographic angiography reconstruction showing a dilated ascending aorta and severe adult coarctation.

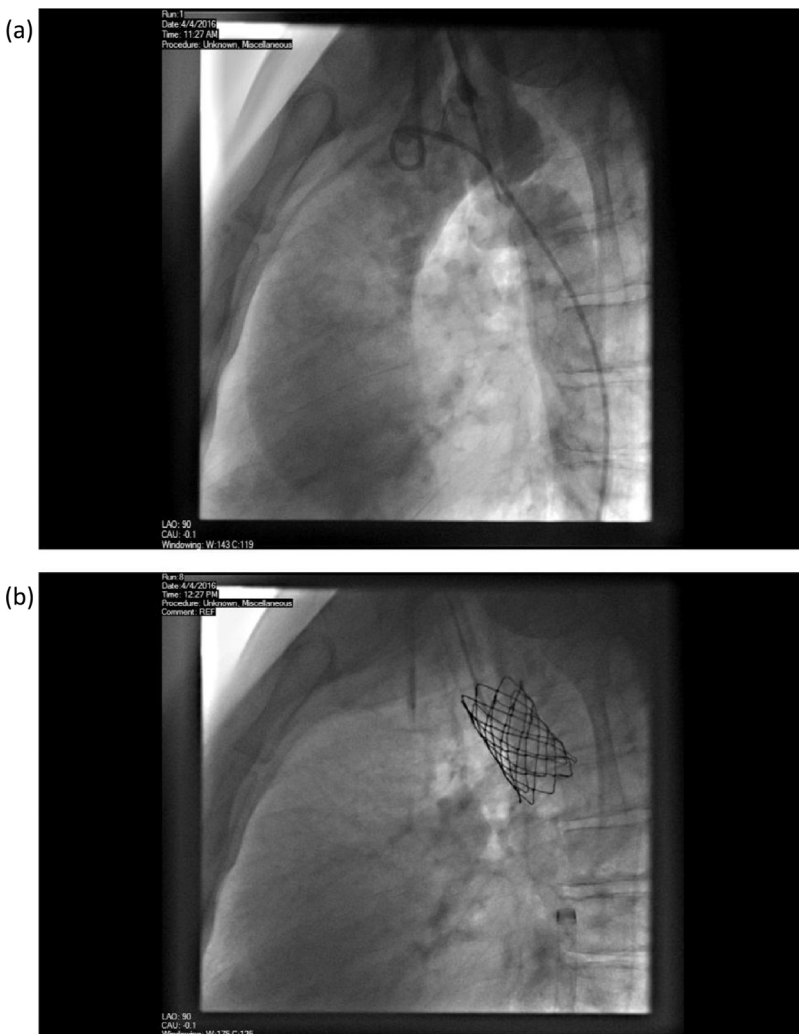


Fig. 2. Catheter angiogram (a) showing ascending aorta dilatation and coarctation prior to stent placement. Fluoroscopy after treatment of coarctation (b) showing a fully expanded stent within the previous coarctation.

Download English Version:

<https://daneshyari.com/en/article/8668043>

Download Persian Version:

<https://daneshyari.com/article/8668043>

[Daneshyari.com](https://daneshyari.com)