LETTER TO THE EDITOR

A case of aortic arch coarctation, bicuspid aortic valve and aortic sinus aneurysm in an adult with moderate hypertension

KEYWORDS
Aortic coarctation; MRI angiography; Bicuspid aortic valve

This is a case of a 36 year old man with controlled hypertension under treatment with olmesartan and nebivolol who was referred to our Outpatient Department for echocardiographic evaluation. Auscultation revealed a systolic murmur heard at the back and the echocardiographic examination revealed bicuspid aortic valve with mild aortic regurgitation and at least moderate aortic coarctation. The patient’s complaints beyond hypertension were episodes of dizziness and light-headedness, which interfered with his every day activities.

Following specialist imaging as seen on Figs. 1–3, the patient was taken to the cath lab, where the coarctation was dealt with by implantation of a covered stent (Figs. 4–5). The patient’s hypertension and episodes of light-headedness subsided entirely within the next few days. He remains asymptomatic 1 year post interventional treatment.

Coarctation of the aorta is a relatively common entity of congenital heart disease, with an estimated incidence of

Figure 1  4D image illustrating the bicuspid aortic valve with an aneurysm of non-coronary sinus of valsava.

Figure 2  CW Doppler at descending aorta with elevated velocities (3.3 m/sec).
approximately 3 cases per 10000 births. Coarctation is a heterogeneous lesion which may present across all age ranges, with varying clinical symptoms, in isolation, or in association with other cardiac defects. In this case isthmal coarctation was associated with bicuspid aortic valve and aortic root aneurysm due to an enlarged non-coronary sinus of valsava, which reflects the impairment of elastic aortic properties. Cardiac magnetic resonance imaging is an essential tool for providing excellent anatomic details regarding the location and anatomy of the coarctation, myocardial mass -in case of left ventricular hypertrophy- and collateral artery anatomy.1–3

Aortic coarctation encountered during adult life most frequently represents cases of re-coarctation, following previous transcatheter or surgical therapy, or more rarely missed cases of native coarctation. With the emergence and successful employment of transcatheter techniques for relief of aortic coarctation in the past two decades, there is broad interest in defining the optimum management method—surgery or endovascular treatment—particularly in the adult population.1,5 Surgery remains the mainstay of treatment for paediatric patients, particularly those younger than 1 year of age, and in cases of complex arch abnormalities.6,7 Our patient had native coarctation and underwent successful percutaneous stent implantation, which is the definitive treatment in such cases.

References

Letter to the Editor

Christina Chrysohoou*
1st Cardiology Clinic University of Athens,
Hippocratio Hospital, Greece

Vasiliki Katsi
Cardiology Department,
Hippocratio Hospital, Greece

Nikos Trikalinos
1st Cardiology Clinic University of Athens,
Hippocratio Hospital, Greece

Aphrodite Tzifa
Congenital Heart Disease Department,
Mitera Hospital, Hygeia Group, Greece

Nikos Alexopoulos
Euroclinic, Athens, Greece

Stella Brili
Petros Nihoyiannopoulos
Dimitris Tousoulis
1st Cardiology Clinic University of Athens,
Hippocratio Hospital, Greece

*Corresponding author. Christina Chrysohoou, MD, FESC, 46
Paleon Polemiston St., Glyfada, 166-74, Greece. Tel.: +30
210 9603116; fax +30 210 9600719.
E-mail address: chrysohoou@usa.net (C. Chrysohoou)

7 April 2016
Available online 7 March 2017