Delayed diagnosis of coarctation of the aorta with marked collateral circulation

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DESCRIPTION

We report CT findings of coarctation of the aorta (CoA) in a 66-year-old man. He had a history of hypertension and unstable angina.

The patient visited our cardiology clinic with exertional leg fatigue. CT showed no stenosis in the lower extremity. However, it revealed a tight and localised CoA (figure 1A–C). It also showed the development of extreme collateral circulation (figure 1B). These collateral circulations had formed various anastomoses, resulting in small aneurysms (figure 1C,B). Transthoracic echocardiography showed mild diastolic failure but an otherwise normal heart, indicating simple CoA. The patient underwent surgery.

Patients with CoA are mostly diagnosed and treated early in life. Although there have been such reports, patients with untreated, severe CoA surviving over the age of 60 years are rare.^{1,2} Such patients who survive into adulthood usually have extreme collateral vessels which have an effective

Learning points

- ▶ We report on the delayed diagnosis and intervention of an elderly patient with coarctation of the aorta with CT images.
- ▶ Although patients with coarctation of the aorta surviving to more than 60 years is rare, we must keep it in mind as a differential diagnosis of secondary hypertension.

compensatory mechanism.¹ Brown *et al* reported decreased survival for patients who are older at the time of CoA repair, such as our patient.³ Formation of multiple aortic aneurysms in our patient indicated the need for close monitoring after surgery.

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Figure 1 CT images showing coarctation of the aorta (CoA). The sagittal section (A) reveals the CoA immediately below the left subclavian artery. Three-dimensional CT angiogram demonstrates CoA accompanied with extreme collateral vessels (B). A three-dimensional CT angiogram, focusing on the aorta (C) and coronal section (D), shows multiple small aneurysms. The yellow arrows indicate aneurysmal formations.

REFERENCES

- 1 Miró O, Jiménez S, González J, *et al*. Highly effective compensatory mechanisms in a 76-year-old man with a coarctation of the aorta. *Cardiology* 1999;92:284–6.
- 2 Cicek D, Haberal C, Ozkan S, *et al*. A severe coarctation of aorta in a 52-year-old male: a case report. *Int J Med Sci* 2010;7:340–1.
- 3 Brown ML, Burkhart HM, Connolly HM, *et al*. Coarctation of the aorta: lifelong surveillance is mandatory following surgical repair. *J Am Coll Cardiol* 2013;62:1020–5.

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