



Online Case Report

Calcific stenotic jump graft

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A young lady with post-subclavian coarctation and cranial hypertension is discussed. She had a jump graft from left subclavian artery to descending aorta, and presented 18 years later with hypertension, calcification of the graft with a gradient of 40 mmHg across it. In the meantime, she also developed moderate aortic regurgitation on a bicuspid aortic valve. Management strategies including trans-catheter options are discussed. We present our reservations on trans-catheter options in an occluded dacron graft.

Key words: Calcification – Coarctation of aorta – Jump graft

A patient with jump graft for coarctation of aorta (CoA) had calcification and stenosis of the jump graft with moderate aortic regurgitation. The treatment options are debated.

Case report

A 16-old-girl had surgery for post-subclavian CoA with cranial hypertension. Intra-operative finding of dense adhesions and abundant collaterals around CoA segment led the surgeon to choose a left subclavian artery to descending aorta 9.5 mm dacron jump graft. There was no residual gradient after the surgery. At 34 years of age, after 2 uneventful deliveries, she presented with cranial hypertension, clinical recoarctation and Doppler gradient of 60 mmHg across the graft. She also had bicuspid aortic valve with moderate regurgitation. The left ventricle was normal in size and function. There was calcification throughout the length of the graft (**Fig. 1**). Catheterisation revealed a pull-back gradient of 40 mmHg at a discrete point in the mid-point of the jump graft (**Fig. 2**). Aortic injection showed a calcified graft and a discrete eccentric plaque in the middle portion of graft



Figure 1 Cinefluoroscopy (anteroposterior view) showing calcification (arrow) in the entire length of jump graft (JG). Catheter is in the lumen of graft.

Discussion

Surgery is the main-stay in the management of coarctation of aorta despite the advent of stents. Surgical

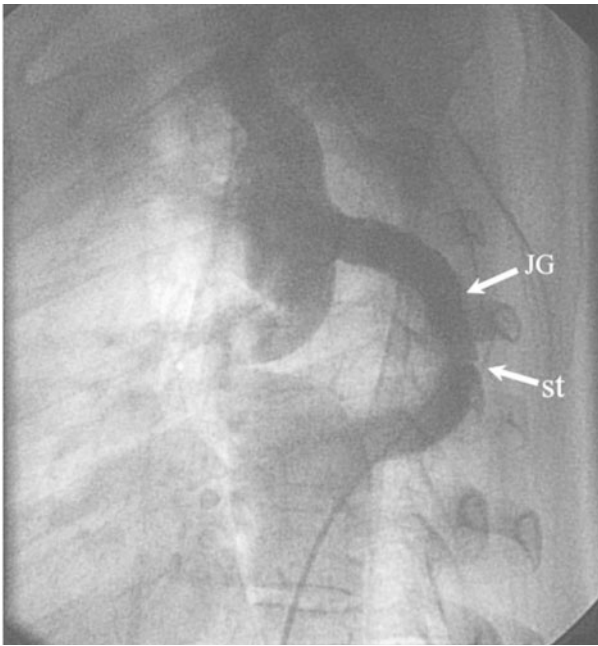


Figure 2 Cineangiogram (lateral view) showing stenosis (st) in the middle of jump graft (JG).

option varies with the site of CoA and expertise of the surgeon. The choices are resection with end-to-end anastomosis, subclavian flap repair, interposition graft,¹ or posterior pericardial bypass graft.² During initial surgery, dense adhesions and abundant collaterals around CoA segment led the surgeon to choose a left subclavian artery to descending aorta dacron jump graft (9.5 mm).³ Dilatation and stenting of graft obstruction was

considered to reduce gradient and severity of aortic regurgitation, but was not pursued due to lack of sufficient data on jump graft stenting.

The case is reported to: (i) highlight the natural history of dacron jump graft calcification and restenosis; and (ii) initiate a debate on the possible management of such calcific stenosis. Is a calcific spur in a dacron graft amenable to dilatation and stenting? What will be the tissue response to stenting a dacron graft? Will it get endothelialised? If it is stented, should it be done within the graft at the site of narrowing or across the graft into the native aorta?

In this case, dilatation was not done on the basis of 'oculo stenotic reflex', as the long-term technical success of stenting of calcific stenosis of jump graft are not known. Also, reduction of cranial hypertension and arrest of procession of aortic regurgitation were not assured as hypertension would have been 'fixed' by now. She is scheduled for aortic valve replacement with revision of CoA repair.

References

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