

Clinical Case Report

Coarctation of the aorta in low-dose pediatric imaging

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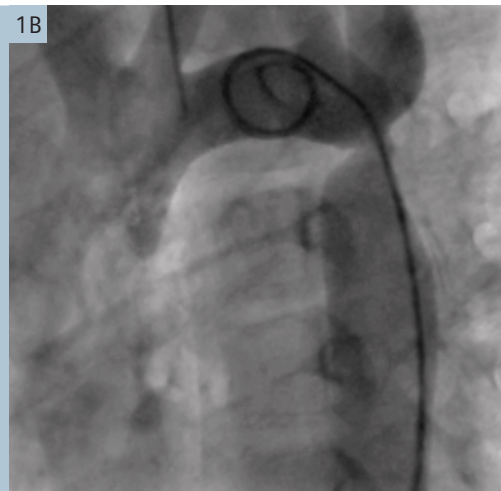
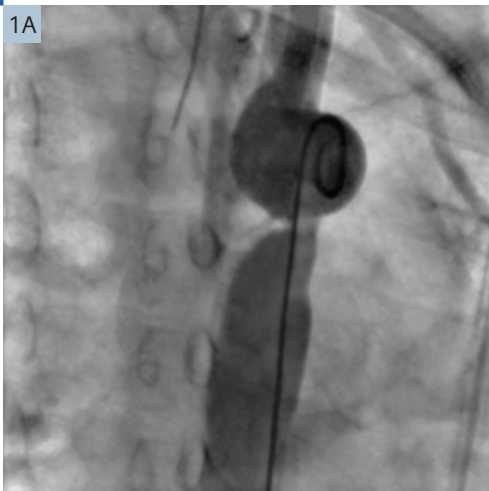
Roland Gitter, MD

Patient history

10-year-old male (27 kg) with re-coarctation of the aorta.

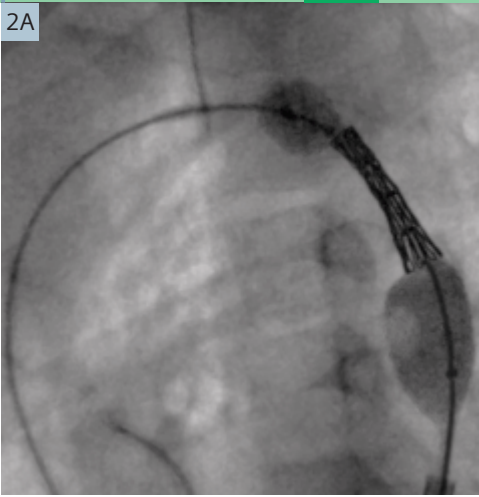
Diagnosis

The coarctation of the aorta had been surgically treated at the age of one in Zagreb. Additionally, the patient presented a small sub-aortic VSD (ventricular septal defect) and a stenosis of the left vena brachiocephalica.



[1A+1B] The biplane angiogram of the aortic arch shows the stenosis of the aorta during fluoro. The pigtail catheter and the stenosis showing a minimum of 5.2 mm is clearly visible in both planes.

2A



Filling of the 4 cm maxi LD balloon with a diameter of 14 mm [2A].

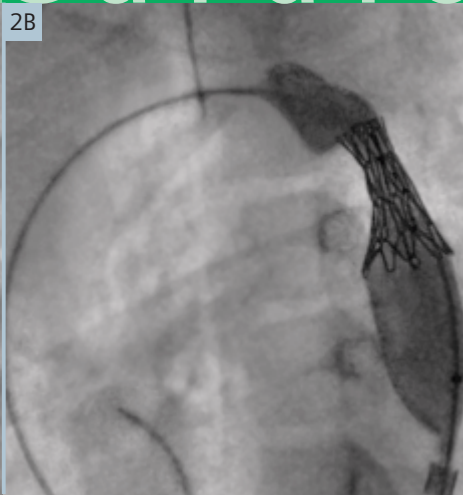
Treatment

After image acquisition and distance measurement of the stenosis, a 22 mm CP stent with 14 mm diameter was inserted within 24 minutes of fluoro.

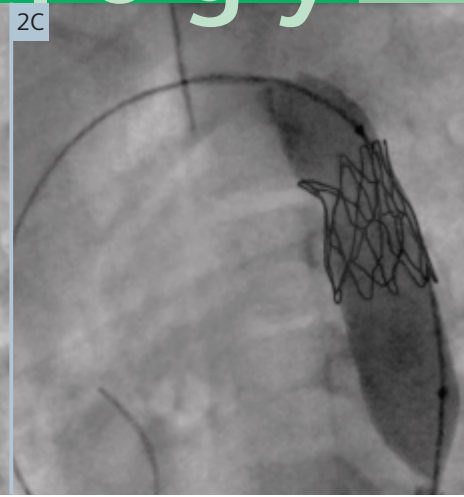
Comments

The severe re-coarctation of the aorta could be clearly diagnosed with the AXIOM Artis dBC. The Siemens AXIOM Sensis recording solution supports the peak-to-peak gradient measurement/calculation of 40 mmHG, which could be reduced to 8 mmHG after implanting the 22 mm CP stent.

2B



2C

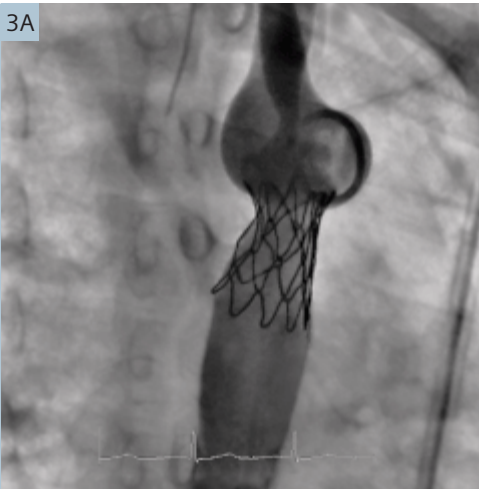


After the complete expansion of the balloon a 10 mm diameter notch at the lower cranial end persists [2C].

Regarding the increased risk of dissection, it was decided not to expand the stent to its full 14 mm. Over a period of 6 to 12 months the full length of the stent will be dilated to 14 mm. The sub-aortic VSD is extremely small and shows no clinical relevance for further treatment. On the stenosis in the vena brachiocephalica no clinical indication was found and an intervention was not performed.

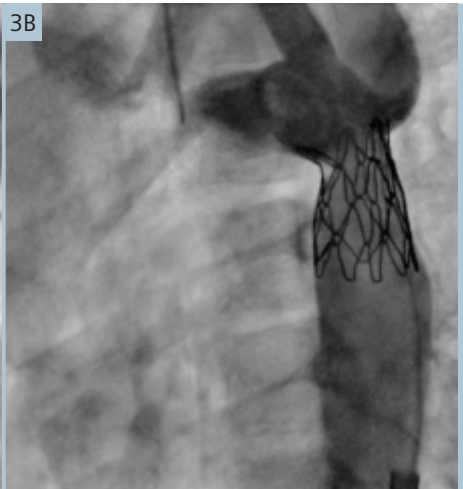
For more detailed information, send your questions to:
nadine.meru@siemens.com

3A

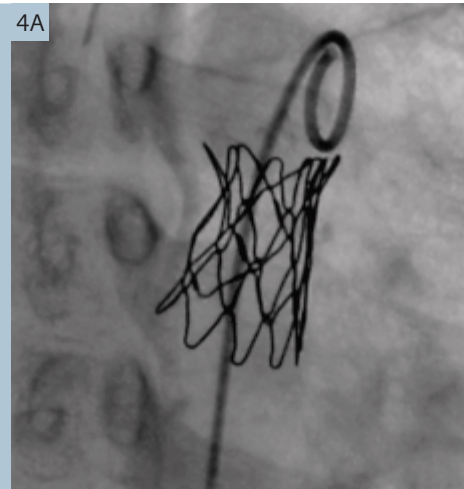


[3] Biplane control angiography after stent implantation [3A+3B] in same projection using a multi-purpose catheter. The stent has been placed ideally in the stenosis and blood flow into the left vena subclavia is unimpaired.

3B



4A



[4] Overview image in AP position. The stent shows a light funnel with a medial notch of 10 mm and a distal expansion of 14 mm.