“Headache with an interruption”

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Introduction:
We present an interesting case of a 14 year old girl with
history of intermittent headaches and “feeling tired all the
time”

Case history:
Patient was referred for a cardiology consultation in view of
pulsations noted at the base of the neck on the right side,
intermittent episodes of headaches from age of 8 years
(diagnosed as migraine) and always feeling tired with lack of
energy.
In the past during hospital visits doctors had commented that
it was difficult to feel her left brachial and radial pulses. This was also noticed during a biology class in
school on the circulatory system but no further investigations were done. There was no family history
of congenital heart disease.

On examination of her pulses the right brachial and radial pulses were well felt along with both her
carotids. It was not possible to feel her left brachial or radial pulse. The femoral pulses were bilaterally
palpable. Her heart rate and saturations were normal. Blood pressure measurement showed she was
hypertensive in her right arm (160 mm Hg systolic), left arm (100 mm Hg systolic). On cardiovascular
examination she had normal heart sounds and no murmurs. The rest of the examination was
unremarkable.

The following investigations were performed
- CXR – Rib notching on right side with prominent soft tissue shadow
- ECG – sinus rhythm, normal axis and rate with no abnormality
- Echocardiogram – difficult to visualise entire aortic arch with interruption after the left common
carotid.
- Cardiac MRI – Normal intra-cardiac anatomy. 4 cm interruption of aortic arch between left
common carotid and left subclavian artery
- MRI Brain with MRA - Multiple collaterals with descending aorta supplied by these and also by
retrograde flow through left vertebral artery through circle of Willis

The patient underwent single stage surgery and has done well on follow up.

Conclusions:
Interrupted aortic arch is a rare congenital malformation that occurs in 3 per million live births. The
presentation in teenage/adulthood is even rarer but is well recognised. Clinicians dealing with children
must consider this in their differential diagnosis in someone with headaches, hypertension and
weak/absent pulses