Imaging the neonatal aorta – when is it a coarctation?

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No disclosures
Morphogenesis

Fetus

Newborn

Arterial ductal tissue

Normal

Coarctation

Anderson et al *Paediatric Cardiology* Churchill Livingstone 2010
2D echocardiography
THAA versus discrete coarctation

Anderson et al Paediatric Cardiology Churchill Livingstone 2010
Colour Doppler
Doppler - isthmus
Doppler – isthmus with patent ductus arteriosus
Monitoring ductal closure
Doppler - abdominal aortic
Doppler - abdominal aortic
Opening the duct

Lai et al. Echocardiography in Pediatric and Congenital Heart Disease Wiley Blackwell 2009
“Pseudocoarctation”
Bidirectional ductus flow with high PAP
## Key findings in neonatal COA +/- PHTN

<table>
<thead>
<tr>
<th>Neonatal COA</th>
<th>PFO shunt</th>
<th>LV Volume</th>
<th>LV Wall</th>
<th>TR gradient</th>
<th>PDA Size</th>
<th>PDA Shunt</th>
<th>COA gradient</th>
</tr>
</thead>
<tbody>
<tr>
<td>With pulmonary hypertension</td>
<td>Right-to-left</td>
<td>Subnormal</td>
<td>Hypertrophy</td>
<td>&gt;30 mmHg</td>
<td>Patent</td>
<td>Bidirectional</td>
<td>0-20 mmHg</td>
</tr>
<tr>
<td>Without pulmonary hypertension</td>
<td>Left-to-right</td>
<td>Normal or enlarged</td>
<td>Hypertrophy and dilation</td>
<td>&lt;30 mmHg</td>
<td>No (restrictive)</td>
<td>None or left-to-right</td>
<td>30-70 mmHg (&lt;30mmHg with LV dysfunction)</td>
</tr>
</tbody>
</table>

Lai et al *Echocardiography in Pediatric and Congenital Heart Disease* Wiley Blackwell 2009