The two faces of Atrial Flutter. Beware!!

Sakethram S.V., Orhan Uzun
Paediatric Cardiology, UHW, Cardiff
• 3 weeks old baby boy
• Treated one week prior for suspected sepsis.
• Complaints of 24 hours of being unwell with poor feeding.
• Lethargic, Mottled, CRT 4 seconds.
• IVF bolus, antibiotics, shift to ward.
Paediatric Ward

- Baby appears pale and cyanosed.
- Heart rate of 300/min.

? SVT

Vagal manoeuvres
Adenosine 150 micrograms/kg (IV)
Adenosine 300 micrograms/kg (IV) x 2

Call Cardiology
Patient rapidly deteriorating

- Increased work of breathing.
- Severely mottled.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>7.14</td>
</tr>
<tr>
<td>pCO2</td>
<td>6.94 kPa</td>
</tr>
<tr>
<td>pO2</td>
<td>7.48 kPa</td>
</tr>
<tr>
<td>Bicarbonate</td>
<td>15</td>
</tr>
</tbody>
</table>

- Crash call put out.
- PICU transport team alerted.
Cardiology advice

• Diagnosis: Neonatal Atrial flutter
• Treatment: Immediate DC cardio version
• Start dobutamine.
• PICU transport team advised to retrieve as soon as possible.

DC Cardioversion 1 J/kg
Transport team

• Increased work of breathing persisting.
• Echo: Impaired function (FS 21%), moderate MR and TR.

1. Induced for intubation
2. AVNRT
3. DC Cardio version1 J/kg
4. Sinus rhythm
Cardiff PICU

• Quick recovery and rapid weaning off ionotropy.
• Sotalol started.
• Being prepared for extubation.
• When!
Adenosine 150 micrograms/kilogram IV
• Extubated uneventfully.
• Heart function slowly recovering.
• Holter: 24 hours sinus rhythm.
Diagnosis

- Double tachycardia
- Atrial flutter
- Atrio-ventricular nodal re-entry tachycardia
- Wolf Parkinson-White syndrome
- Anatomically normal heart
- In sinus rhythm with sotalol.
Discussion

• An association with WPWS and atrial flutter has been noted in foetuses and neonates.
• This bears similarities with WPWS and atrial fibrillation noted in older children and adults.
• Caution must be exercised as neonatal atrial flutter can recur in different types of arrhythmias when related to WPWS.
• Careful follow up is needed in all children with Atrial flutter.
Thank you