Instructor’s Guide

Scenario – High Post-Membrane Pressure

Initial Set-Up

Action: **Clamp on tubing under manikin to fake high pressures if no simulator cables and use paper display to show baseline high pressures.**

History: Day 3 for a 2 month old who presented with V-tach unresponsive to medical intervention. Found to have TAPVC. He is awake, but sedated, calm and quiet. The nurse has just completed his assessment with a diaper change.

ECMO Mode: VA or VV

Patient:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>37.2</td>
</tr>
<tr>
<td>HR</td>
<td>130</td>
</tr>
<tr>
<td>BP</td>
<td>70/42 (51)</td>
</tr>
<tr>
<td>CVP</td>
<td>5</td>
</tr>
<tr>
<td>Saturation</td>
<td>95%</td>
</tr>
</tbody>
</table>

| CDI         | 7.45 / 37 / 318 / 24 / BE 2 |
| H/H        | 35% / 12 |
| SvO2        | 43%       |

**Fake circuit pressures with simulator cables (see suggested pressures below – cause high post membrane chirp alarm**

Available data: (If participant asks this data is available)

Physical Exam:


<table>
<thead>
<tr>
<th>Pressures</th>
<th>Venous</th>
<th>- 2</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Pre-memb</td>
<td>338</td>
</tr>
<tr>
<td></td>
<td>Post-memb</td>
<td>359</td>
</tr>
</tbody>
</table>

Blood gases: Sample sent. Results still pending, but lab calls and says the results look bad so he is going to rerun he tests.

Color blood in circuit tubing – color differentiation seen

CXR: Taken. Radiologist calls back and says that shorter catheter appears bent.

Chem: Previous labs normal. Sample sent to lab. Results pending.

Heme: Previous labs normal. Sample sent to lab. Results pending.

ACT: 176 sec

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Student Assessment and Key Concepts: High Post membrane pressure

Time to accomplish: 60 seconds

Desired Responses

Technical

- Gives volume
- Adjusts arterial cannula
- Recognizes problem is downstream to the oxygenator
- Circuit check
- Checks oxygenator
- Checks catheters

Cognitive

- Calls surgeon
- Assess activity level
- Orders chest X-ray
- Checks catheters

Communication

- Calls for help

Discouraged interventions

- Comes off ECMO
- Attempts to hand crank

COMMENT