Sentinal Event Case Report

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Disclosures

• I have no disclosures…..
Sentinal Event

A sentinel event is an unexpected occurrence involving death or serious physical or psychological injury, or risk thereof.
Case Report – Patient Details

- 26 mo male scheduled for elective VSD closure
- 11 kg, 86 cm
- BSA – 0.50 m²
- Calculated flow 1.26 l/m (2.5 index)
Equipment

• Sorin S5 Heart Lung Console
• Sorin 3T Heater/Cooler
• CDI 500 (pH, PCO$_2$, PaO$_2$, HCO$_3$, BE, Hct)
• Spectrum Medical Viper CPB Mgmt/Charting System (CO, CI, HCT, A&V SO$_2$)
Equipment Cont’d

- Sechrist Blender
- Terumo FX5 Membrane Oxygenator
- Boehringer vacuum assist regulator
- Somanetics cerebral oximetry
- Sevoflurane inline vaporizer
Cannulas

- Arterial – 12 fr aortic
- Venous – 14 fr right angled metal x 2
- CPS – 18 ga
- Vent – 10 fr
Prime

- Asanguineous prime
- 225 mls Plasmalyte A
- 50 mls 25% Albumin
- 500u heparin
- 5 mEq NaHCO$_3$
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Pre-CPB Checklist

- Chart Review
- Safety Devices
- Monitoring
- Supplies
- Gas Supply
- Pump
Immediately Pre-CPB Checklist

• One-way valves in correct direction
• No kinks in tubing
• Heparin time and dose verified
• Anticoagulation tested and reported
• Patency of arterial line/cannula verified
CPB Initiation

- 1.1 l/m (2.2 index) flow initiated with one venous cannula
- 21% $O_2$ – initial setting on blender
- Sweep gas – ($O_2$ 1 l/m),($CO_2$ 200 cc/m)
- FIO$_2$ was increased slowly
- All saturations immediately dropped
Troubleshooting

• Within 20 seconds CPS was reduced to partial allowing heart to eject
• Anesthesia ventilated successfully to increase oxygenation
• Blender flow was confirmed
• Gas column was services weekend before the case
Troubleshooting Cont’d

• Blender supply lines moved to a different column – no response
• Portable O² tank connected directly to the oxygenator
• Oxygenation resumed
Resolution

- Blender removed from circuit and replaced
- Oxygenation was confirmed with inline monitoring devices
- Case resumed progressing without further incident
Summary

- Patient was without oxygenation for only 20 seconds due to rapid inline monitor response and corrective actions performed by anesthesia in conjunction with perfusionist.
- Patient recovered completely w/o complications.
Summary Cont’d

- Risk management notified upon case completion
- Internal blender failure after pre-bypass function check
- Equipment sent out for evaluation and repaired
Thank you....