Spectros

T-Stat

Spectros T-Stat® Clinical Data

T-Stat® During Induced Hemorrhagic Shock in Neonatal Piglets

Background:
This case data shows somatic (esophageal) and cranial (internal carotid distribution) saturation monitored during in a neonatal piglet model during acute hemorrhage.

Methods:
A neonatal piglet model of hemorrhagic shock was monitored using non-invasive Visible Light Spectroscopy (VLS) , sensitive to ischemia. A bleed over 1 hour was performed, followed by resuscitation, on an intubated 8 kg piglet. Oxygen delivery was monitored in the somatic organs via an esophageal T-Stat® probe (T-Stat® Ischemia Detection System, Spectros); oxygen delivery was monitored in the cranium using an np (nasopharyngeal) T-Stat® probe placed within the internal carotid distribution.

Results:
At the start of one hemorrhage (shown in pink, below), T-Stat® saturation fell at both the somatic and cranial sites. However, the cranial site showed rapid recovery, while the somatic saturation continued to fall throughout the hemorrhage. This supports a view that somatic sites are more robust early warning sites for reduced systemic perfusion.

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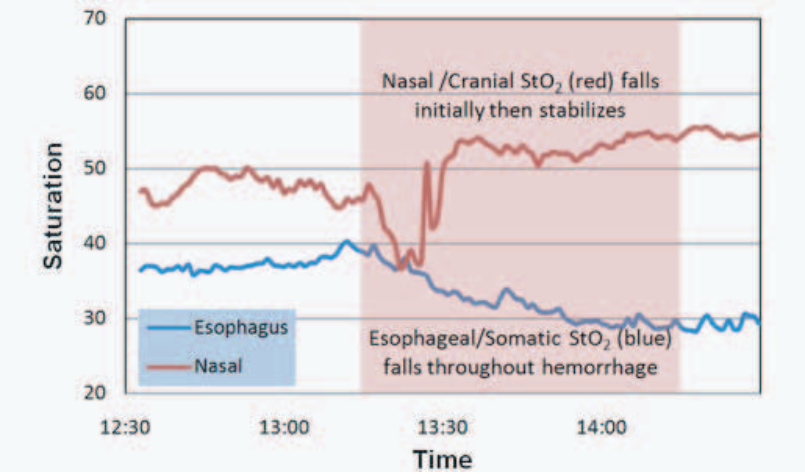

Conclusions:
T-Stat® VLS oximetry probes allowed hemorrhagic shock to be monitored in real time, with somatic sites more sensitive to reduced systemic perfusion than cranial sites. T-Stat® has been previously reported to allow monitoring of rapid-onset ischemic events within seconds, as previously published,[1] enabling early intervention to impending tissue ischemia.

1 . Continuous, noninvasive, and localized microvascular tissue oximetry using visible light spectroscopy. Anesthesiology. 2004 Jun;100(6):1469-75.

2 T-Stat® is indicated in infants(including neonates), children, or adults at risk for reduced-flow and no-flow ischemic states.