



Case History No 7



Charite Hospital, Berlin, 23rd May 2006

Stroke Volume Optimisation during Liver Surgery Oesophageal Doppler Monitoring

This 68 year-old patient underwent surgery for a partial liver resection.

Screenshot 1 taken shortly after the surgical incision shows that the peak velocity at 43.7cm/s is low for a patient of this age, flow time corrected at 348 ms is normal, stroke volume and cardiac index were slightly low but were falling. However the blood pressure and central venous pressure remained stable.

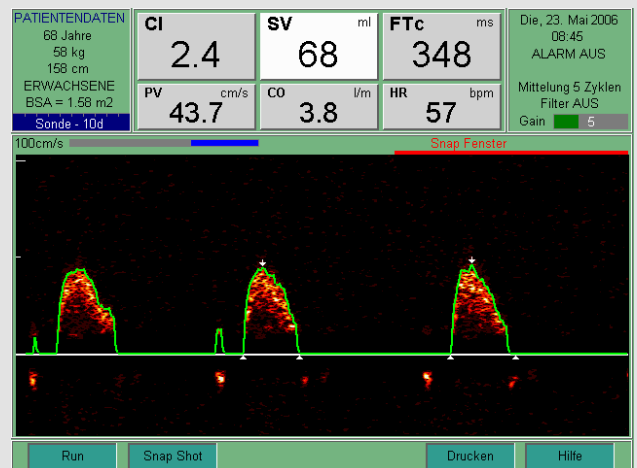
In **Screenshot 2**, shows the result of the perioperative stroke volume optimisation. The stroke volume has been increase from 68 to 95 ml, cardiac index has increased from 2.4 to 3.6 l/min/m², and FTc has risen to 393 from 348 ms indicating systemic vascular resistance has reduced. PV has also increased from 43.7 to 57.8 cm/s, which is expected under the Starling principle. Interestingly the heart rate did not change significantly during this time and the CVP and blood pressure also remained static.

The real-time monitoring with the CardioQ enabled the anaesthetists to identify and treat changes in stroke volume and cardiac index quickly and easily when other pressure based haemodynamic values give little or no indication of the changing volume status.

Comment

This case is a good example of how, by following a simple algorithm and monitoring with the CardioQ fluid can be easily and safely administered over a short period of time to stroke volume optimise patients during major surgery.

Screenshot 1: After surgical incision indicating a slightly low cardiac output state



Screenshot 2: Showing the result of perioperative stroke volume optimisation

