



Case History No 8



Dolo Hospital, Italy, 22nd January 2004

Perioperative Fluid Monitoring with the CardioQ™
Oesophageal Doppler Monitoring

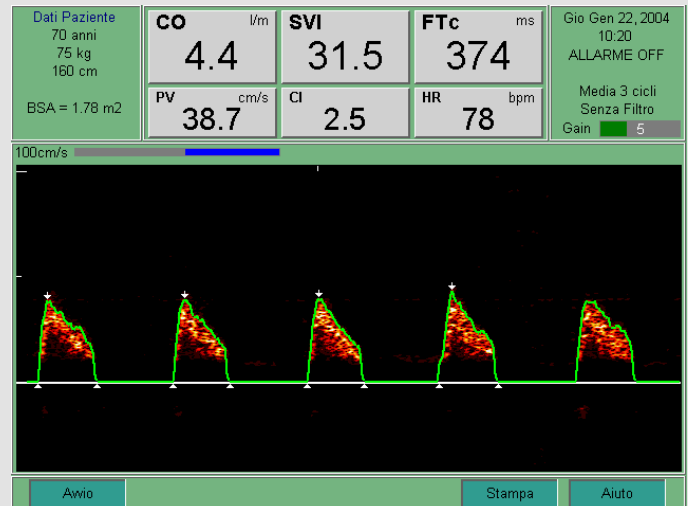
A 70-year-old patient undergoing a hemicolectomy, surgery commenced at 09:20 but the probe was only inserted towards the end of surgery.

Screenshot 1 shows that the patient is in a low cardiac output state, CO is 4.4 l/min giving a cardiac index of 2.5 l/min/m², SVI (stroke volume index) is 31.5 ml/m², which is well below the accepted minimum value of 35 ml/m². Consequently the anaesthetist gave a rapid fluid challenge.

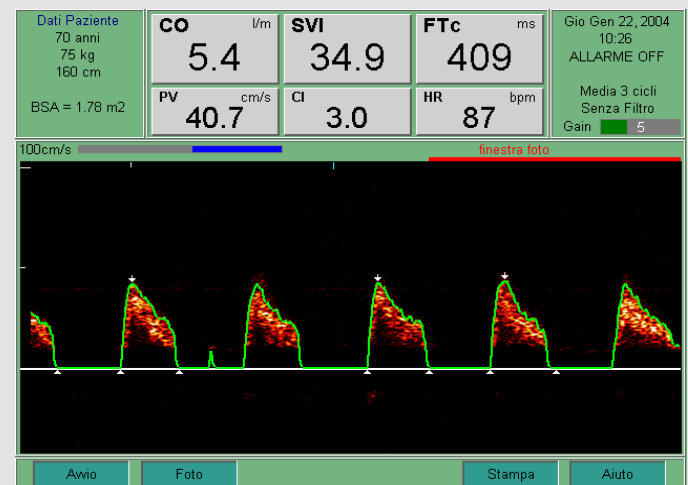
Screenshot 2, was taken just 6 minutes later and shows the result of a rapid fluid challenge. Both FTc and PV have increased to 409 ms and 40.7 cm/s respectively resulting in an increase in cardiac output to 5.4 l/min so increasing the cardiac index to 3.0 l/min/m². SVI is now close to the lower acceptable limit.

Screenshot 3 Because the rise in all the haemodynamic values was so significant more fluid was given. In Screenshot 3 it is seen that FTc and PV continue to increase resulting in an increase in SVI. However HR is reducing so CO and CI remain relatively unchanged.

Screenshot 1: Waveform showing a low cardiac output



Screenshot 2: Increase of PV, FTc, CO & CI as a result of a rapid fluid challenge





Comment

This is a typical example of how a low cardiac output state can be identified and corrected by fluid administration combined with oesophageal Doppler monitoring.

Screenshot 3: An increase in SVI does not increase CO/CI due to a reduction in heart rate

