HYPERVENTILATION DURING TRANSPORT- IS IT SAFE?

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Goal and Objective

- what are the risk of hyperventilation
- is it safe for the brain
- is it necessary to have exact information about pCO2 during transport
- is it necessary to have exact information about cerebral perfusion during transport

Today's Situation

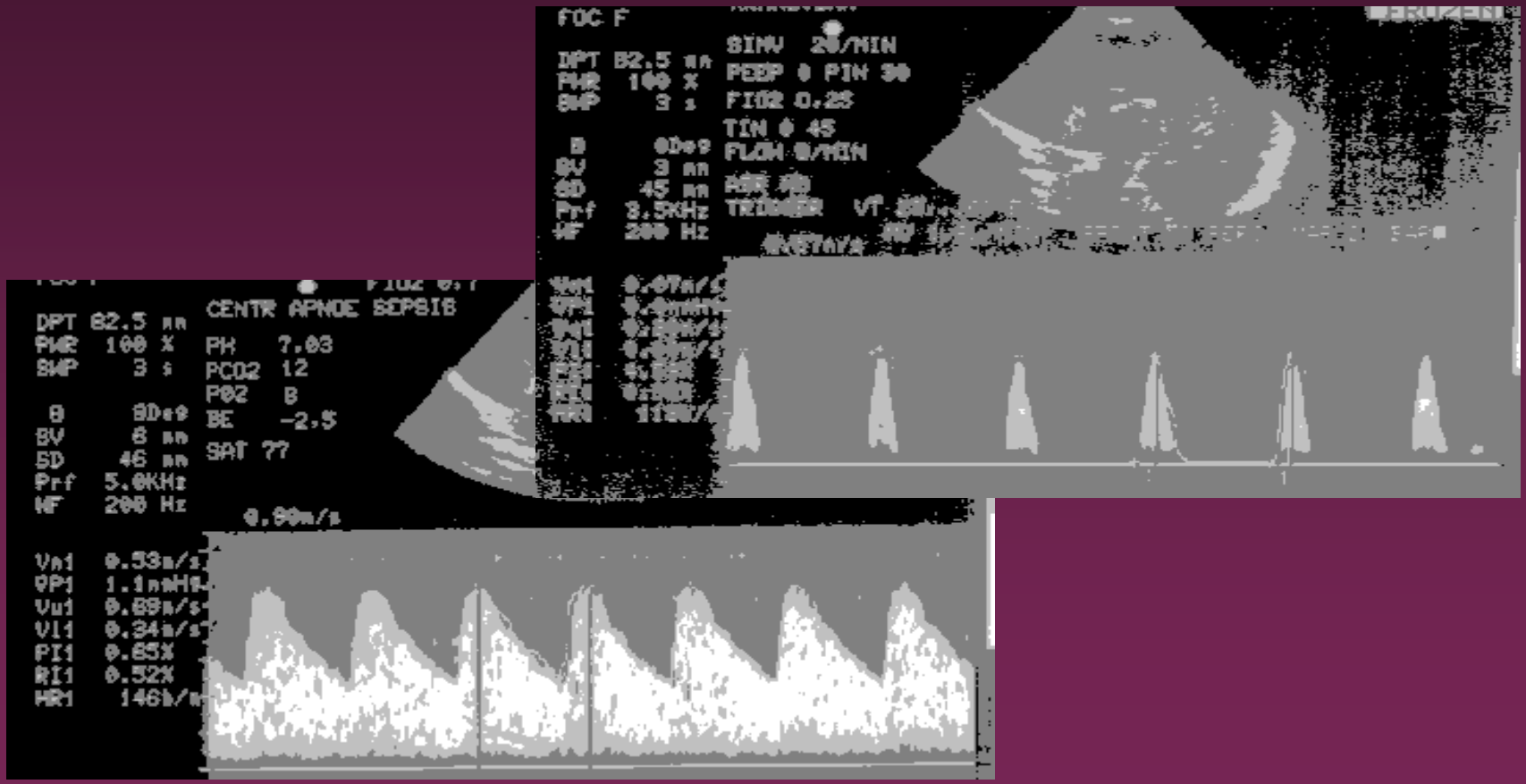
- very few teams for neonatal transport
- neonates before transport are in very bad condition
- the equipment for the monitoring is not adequate

Methods

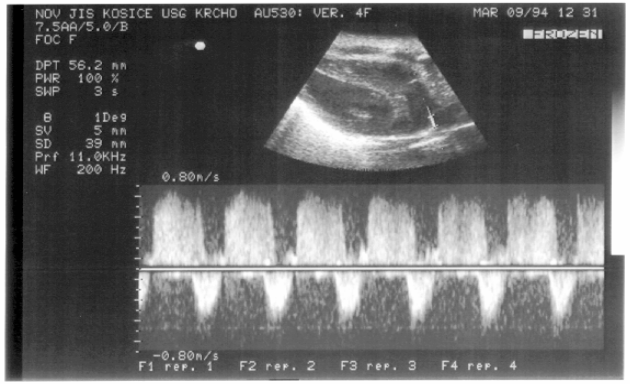
We measured the CBFV (n=18)

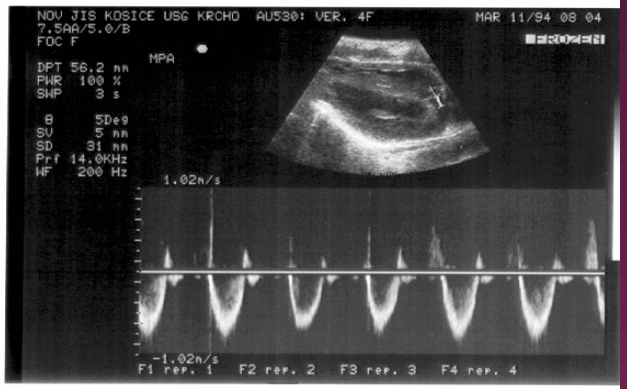
- **after arrival to our unit in intubated neonates**
- **before and after intubation and ventilation**
- **all cases we compare with clinical findings**

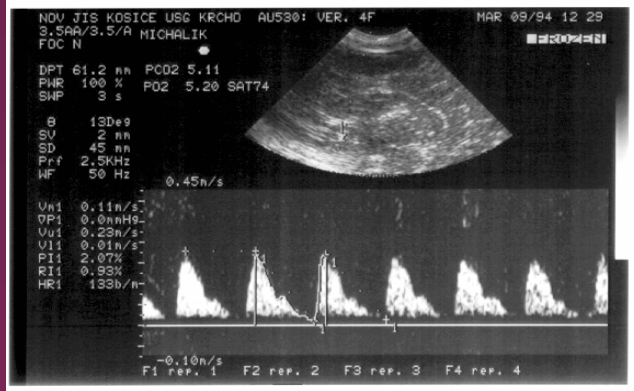
CBFV before and early after intubation

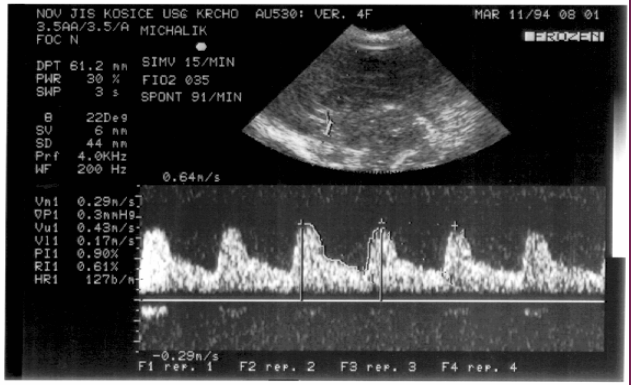


In all cases we compare the CBFV with B- scan and Doppler findings of PDA

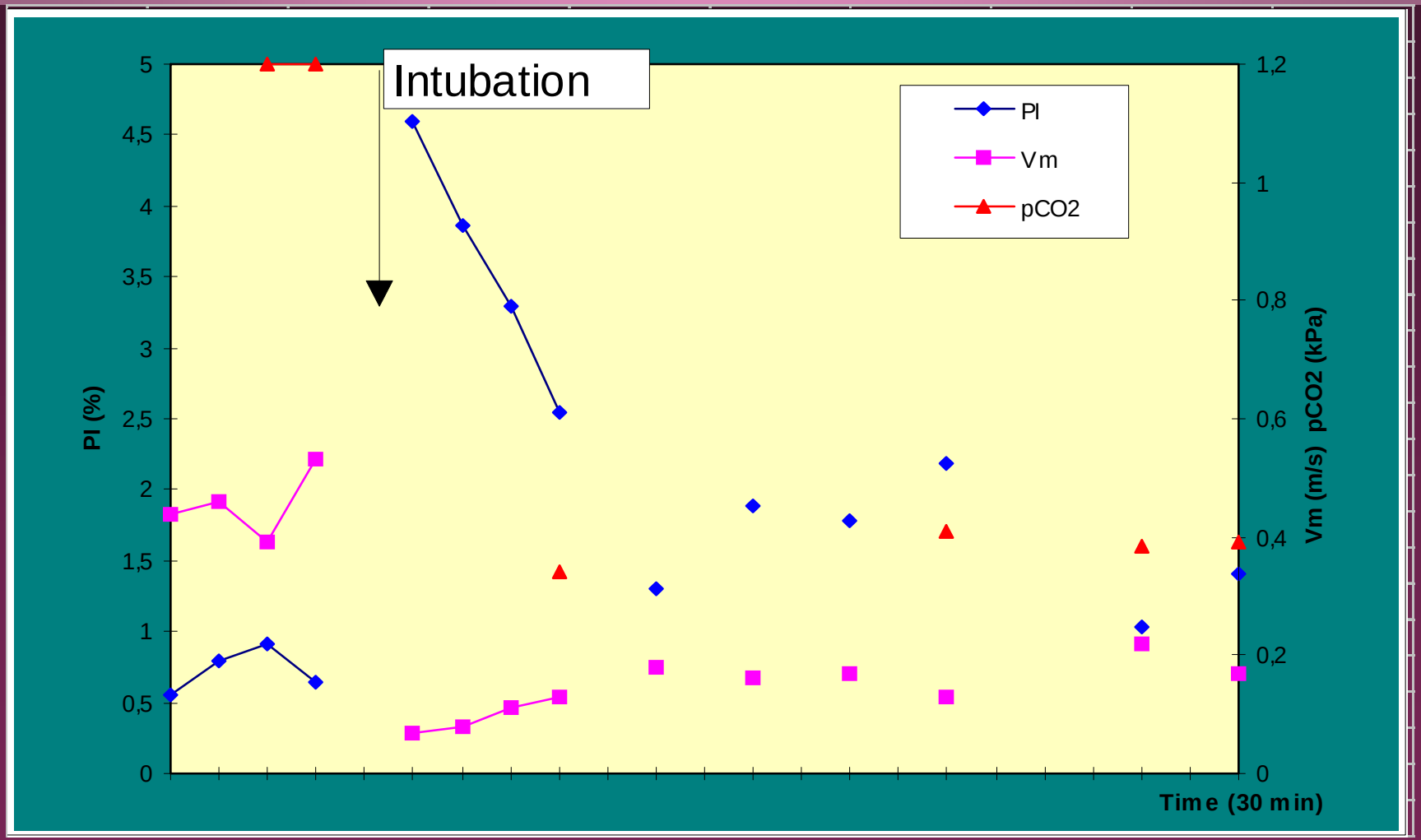




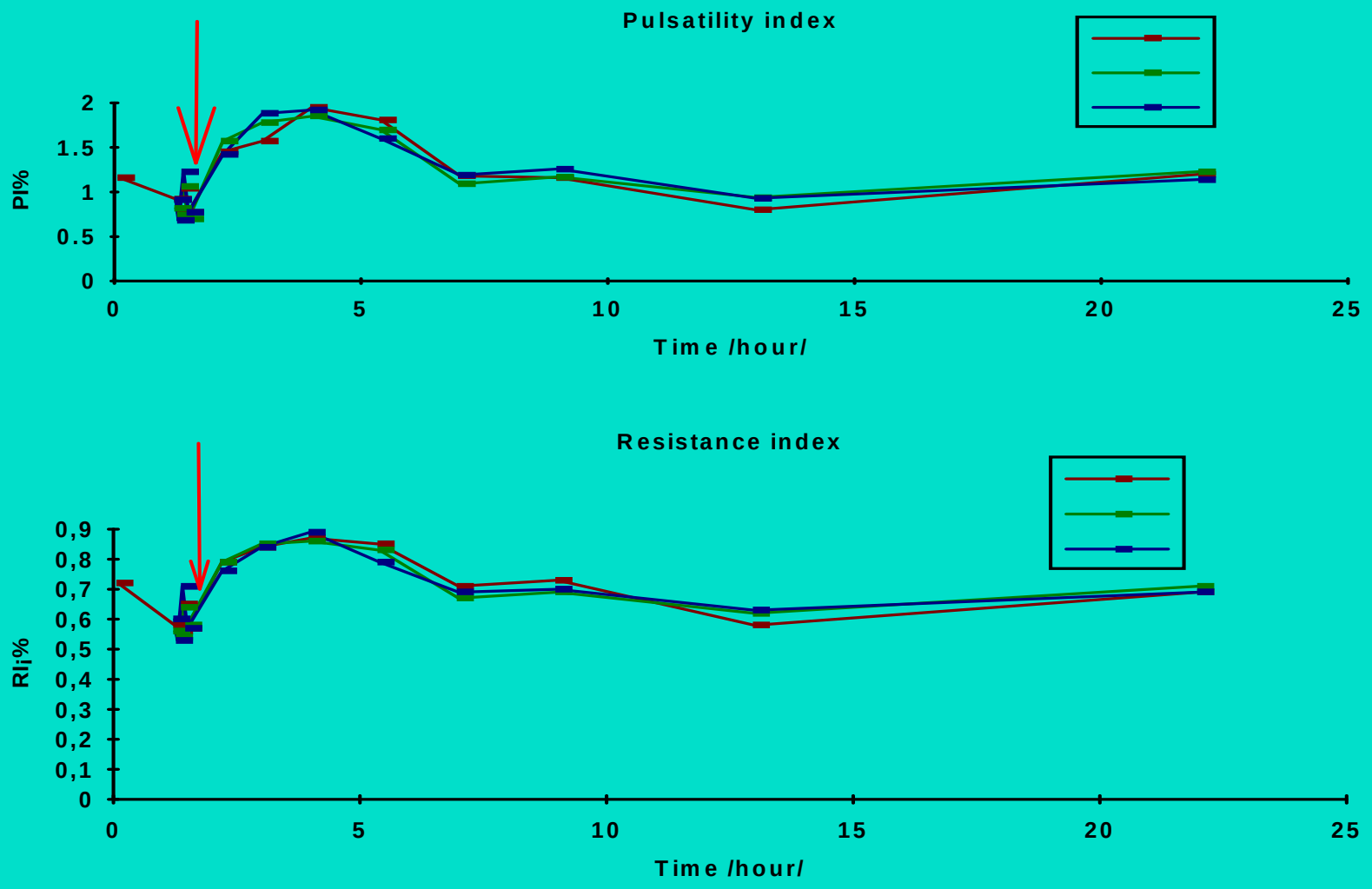




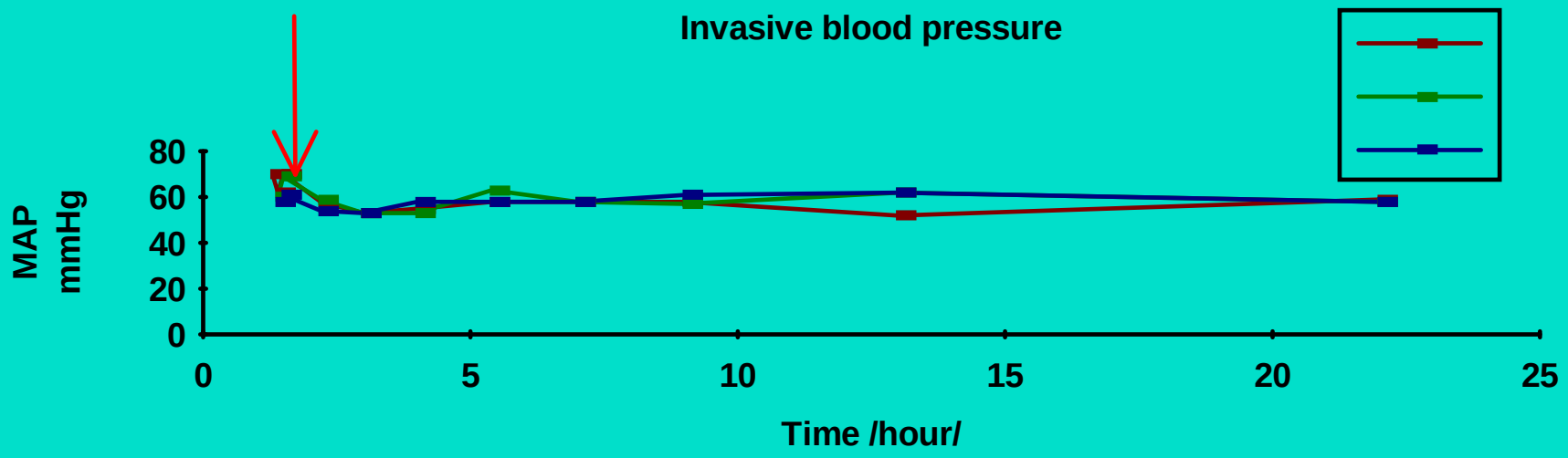
Changes of CBFV after intubation and ventilation

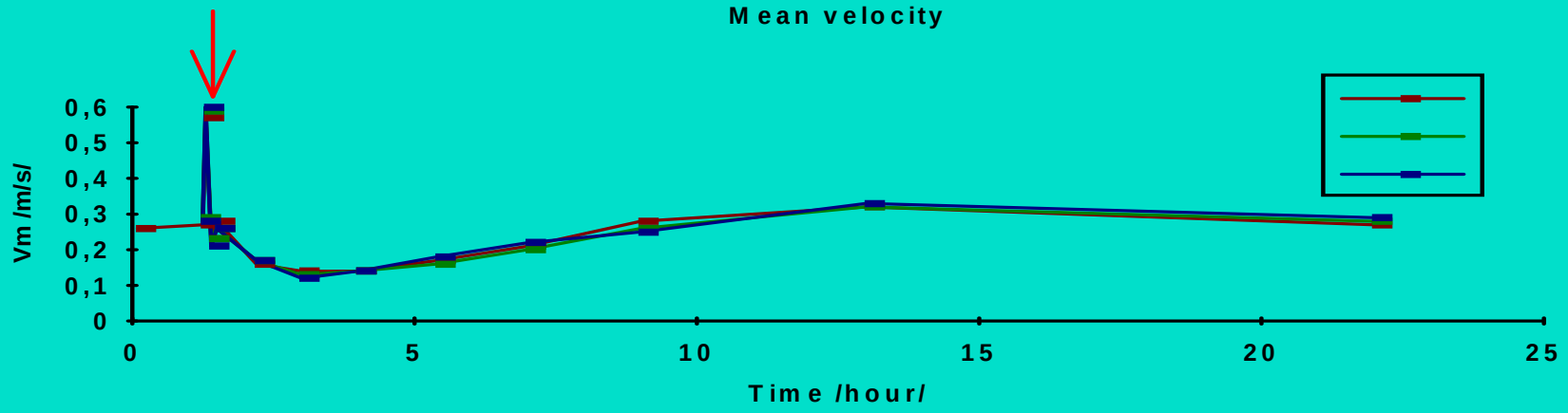


PI & RI after intubation

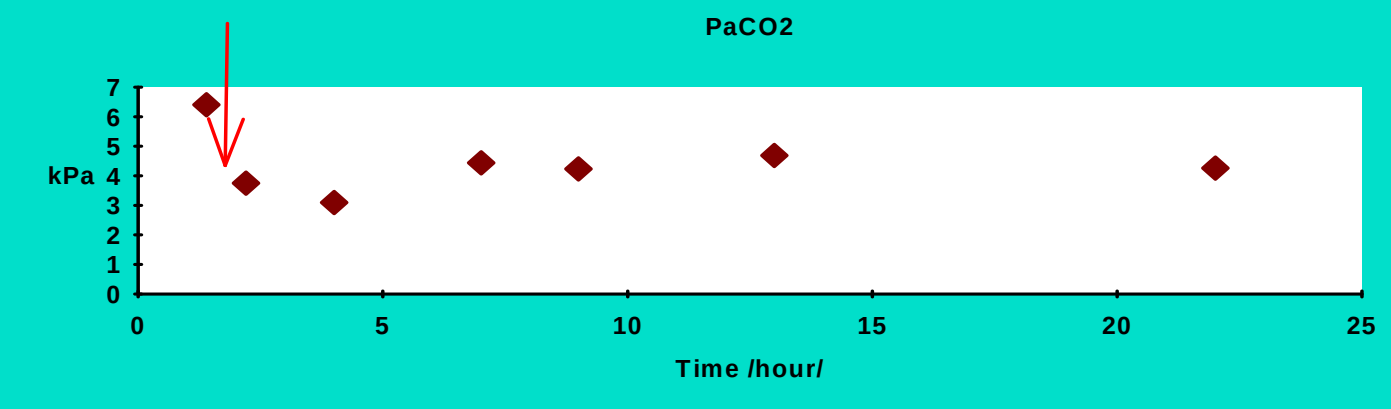


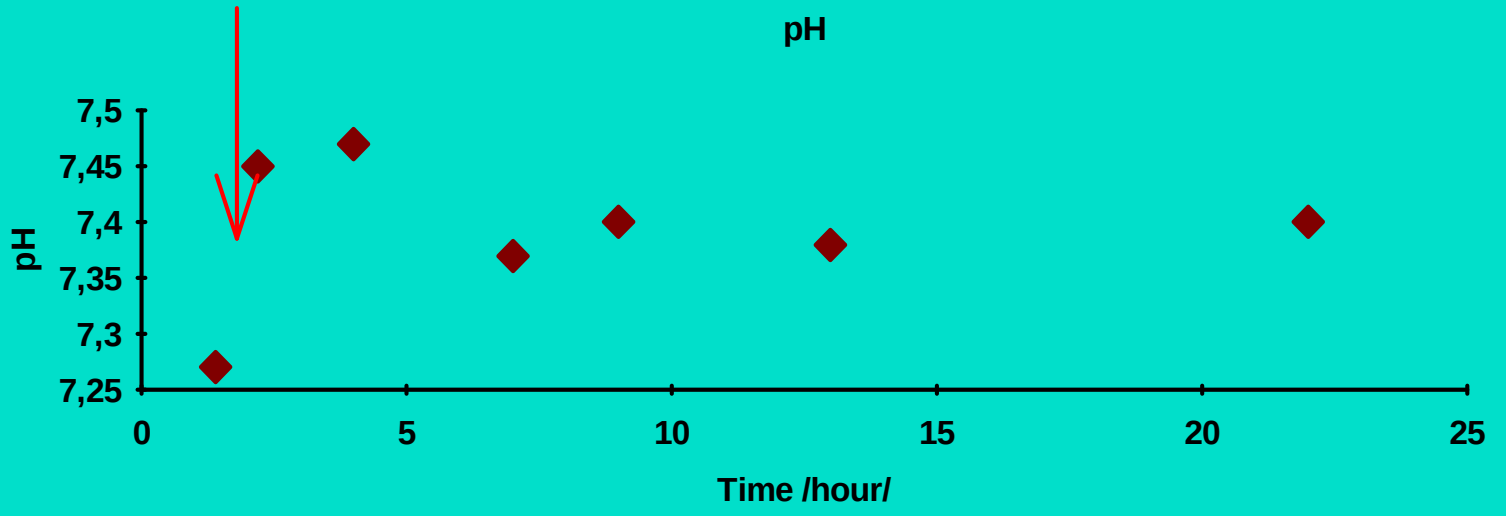
MAP & Vm after intubation



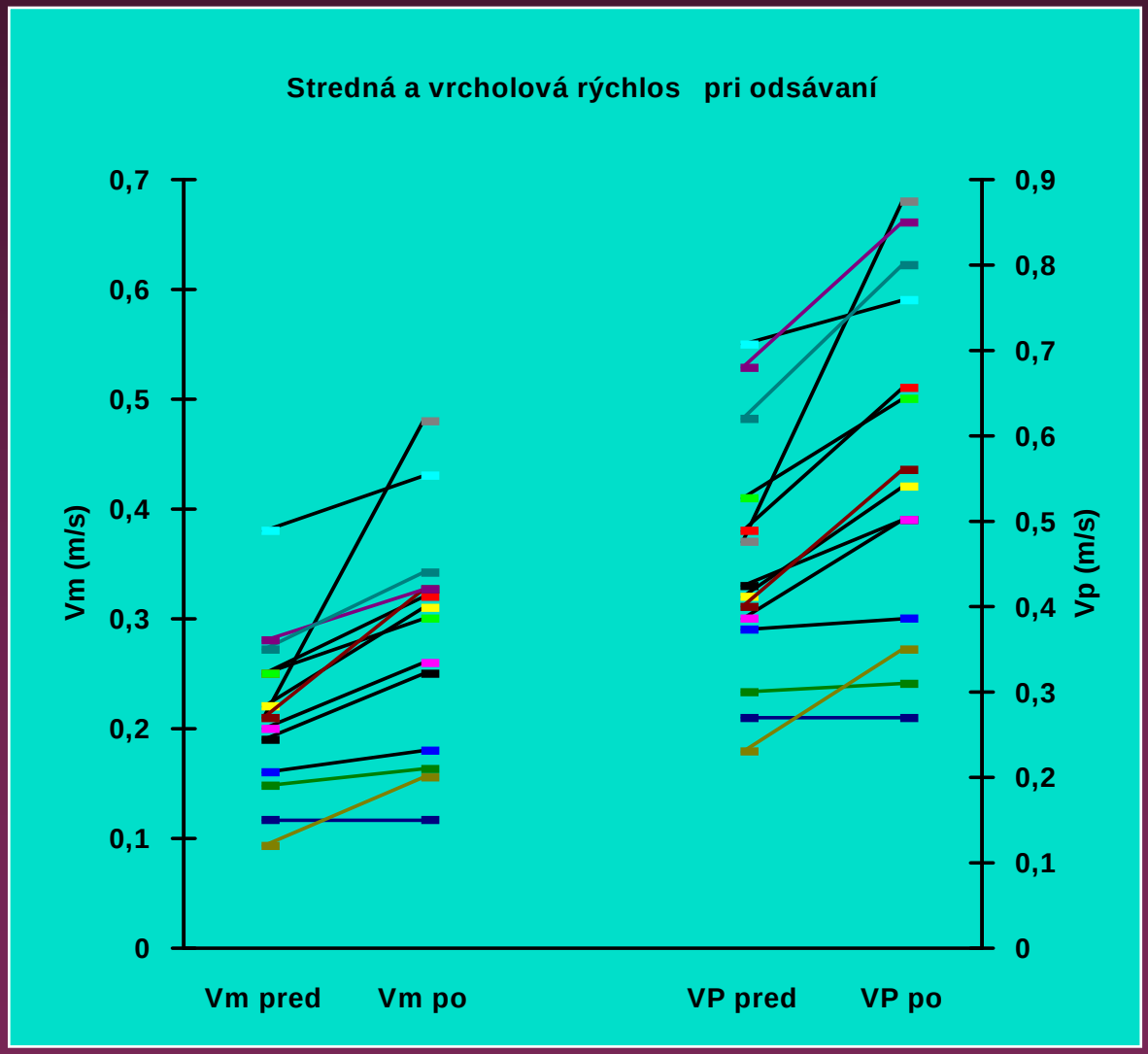


PCO2 & pH after intubation

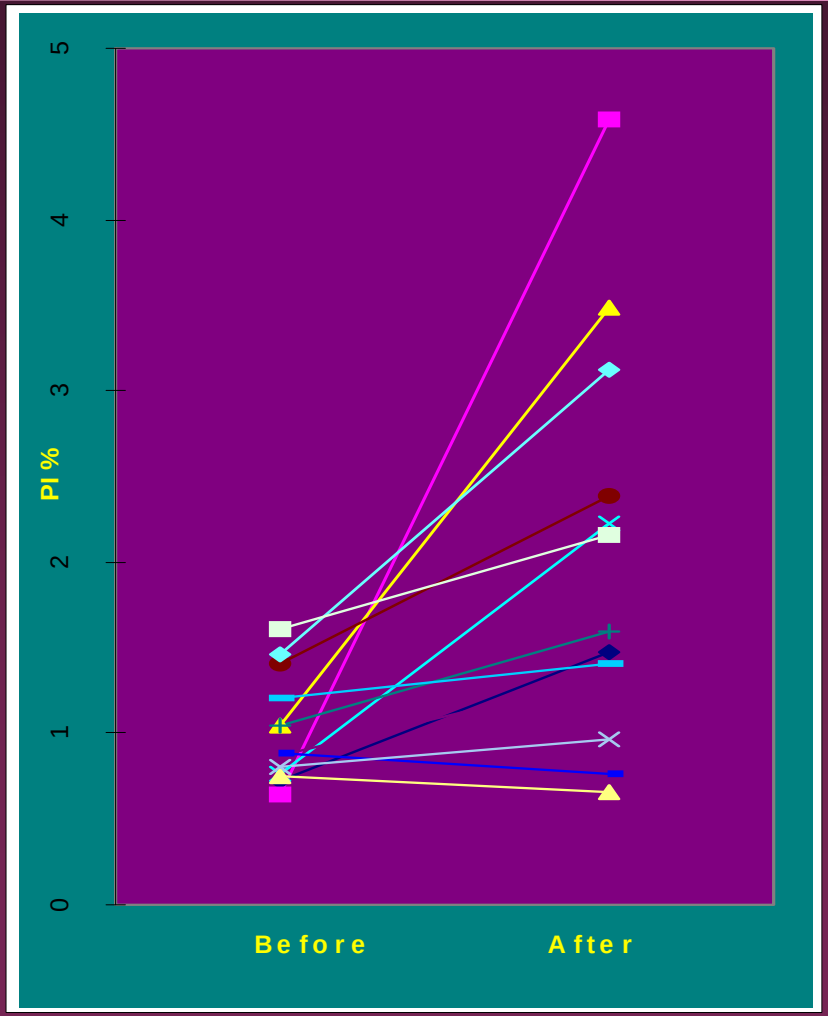


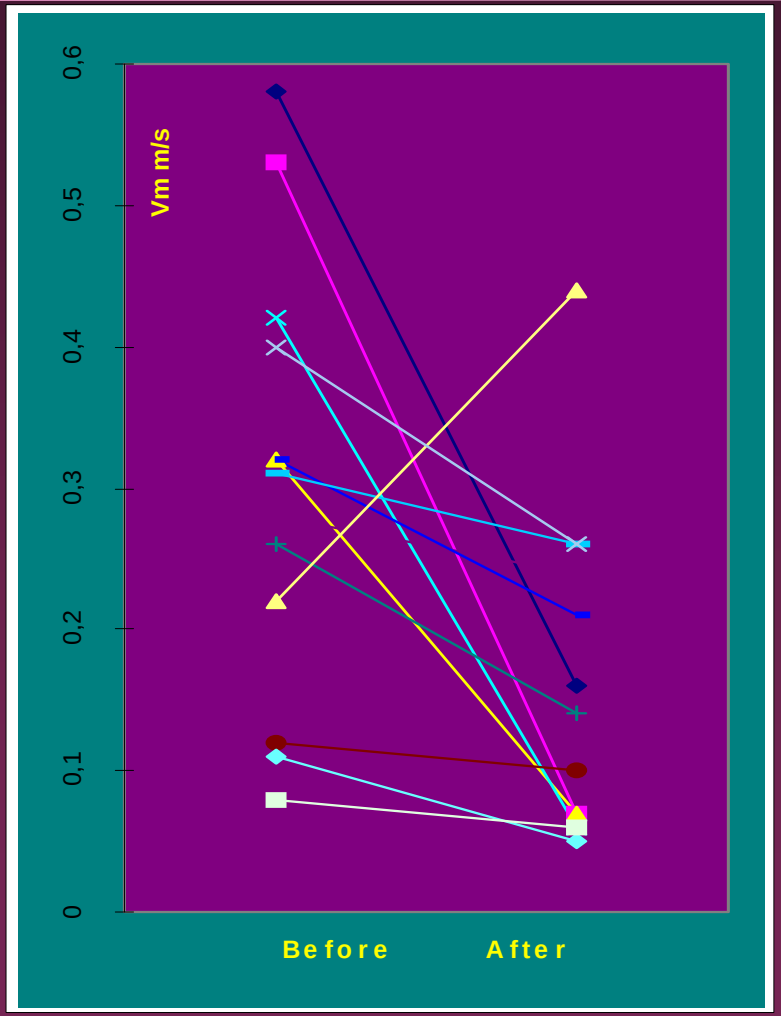


Vm & VP before and after ET suction



Changes of PI and Vm

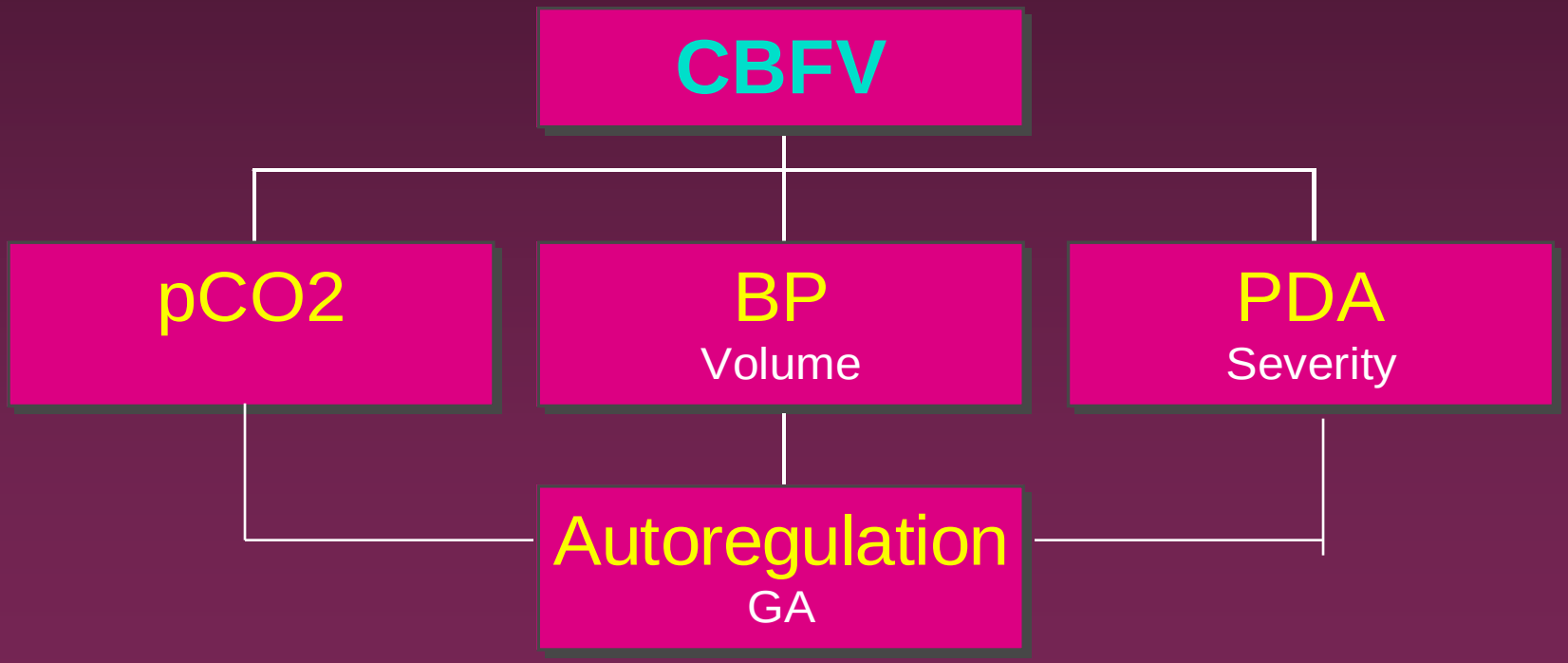




Results

Significant changes of CBFV were found in some neonates early after arrival or soon after intubation, with an appropriate response of CBF to the decrease in pCO_2.

Relations of CBFV



The risk of dangerous hypoperfusion

after intubation is higher in neonates with

- **good pulmonary functions**
- **good heamodynamic functions**
- **central apnoe**
- **without sedation**

Recommendation

- Very important to have informations about the main disease
- We recommend transport of the neonate after short stabilisation in place
- Very careful ventilation especially with high ventilation rate

Recommendation

- Exact monitoring fo ventilated neonates during transport

- StcO2 - pulse oximetry - no higher than 92-96% (especially in VLBW)

- PetCO2 - capnography - monitoring of end tidal CO2 as a way for the future

Thank You for Your Attention

