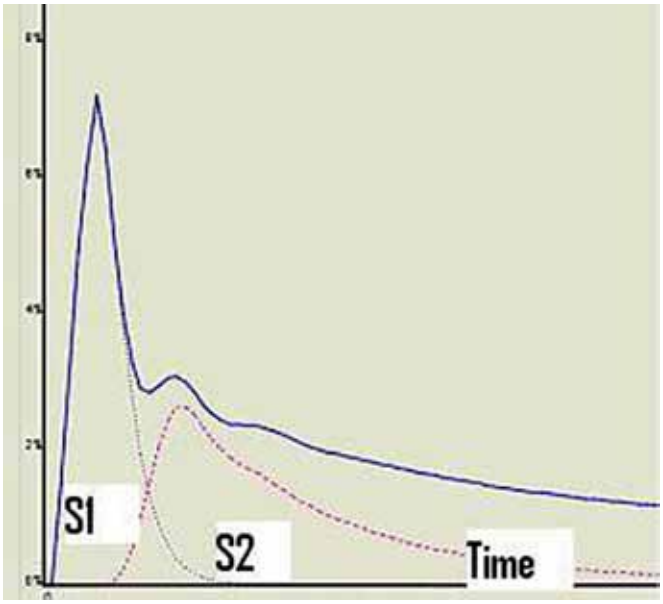
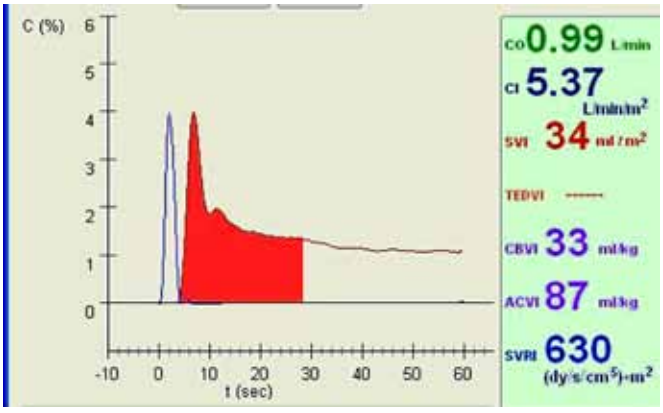
circulation via aorta. Second portion of the indicator enters lungs via PA, then again enters SV via left atria etc. The model suggests that Qp/Qs may be calculated from dilution curve (Pic.1) Qp/Qs=S2/S1.

Results COstatus monitor, (Transonic Systems Inc., NY, USA) was used in NICU and PICU patients to measures cardiac output, blood volumes and to identify shunts and PDA. According to Transonic curve data archive recoded by COstatus for single ventricle patients the actual shape of dilution curves (example, Pic.2) well agrees with model data.



Abstract 782 Figure 1 Dilution Curve Model



Abstract 782 Figure 2 SV Patient Dilution Curve

Conclusions Mathematical model for indicator movement in SV anatomy proved that Qp/Qs value can be calculated from indicator dilution curve. Next step is to validate the Qp/Qs values measured by COstatus in animal model and in patients.

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783 MANAGEMENT OF SEVERE PAEDIATRIC TRAUMA BRAIN INJURY (PTBI) GUIDED BY INTRACRANIAL PRESSURE (ICP) MONITORING IN A PICU IN ALGERIA

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Background and Aims PTBI is the leading cause of death and long-term morbidity. Current recommendations for the management of severe PTBI (Glasgow Coma [GCS] score ≤8) indicate that ICP monitoring is appropriate in infants and children (Option). The most reliable methods of ICP monitoring are ventricular catheters and intra parenchymal systems. The aim of this study is to evaluate the management of PTBI based on continues monitoring of intraparenchymal ICP in a PICU in Algeria.

Methods Between January 2005 and December 2009 we collected 308 PTBI, 57 patients had intraparenchymal ICP monitoring. The consensus is to treat ICP exceeding the 20 mmHg threshold, and to optimize cerebral perfusion pressure (CPP).

Results The mean age was 8 years, hypoxia and hypotension were frequent at admission, median GCS after resuscitation = 6, ICP monitoring was set up by the intensivist in the PICU after un average time of 13 hours after trauma. Intracranial hypertension was detected and treated (mannitol, hyerventilation and thiopental) in more than 90% of cases. the average time of ICP monitoring was 5 days. No complications (infection, hemorrhage) with this technique was detected.

Conclusion The etiology and the pathophysiology of raised ICP in PTBI is a complex challenge for the intensivist. CPP and ICP were the first brain-specific targets for goal-directed therapies enacted in PTBI. In this study, ICP monitoring allows to detect intracranial hypertension and guide treatment better than when this technique is absent even if it is not a standard of the recommendations.

784 SEEKING FOR DEFINITIONS OF POOR PERFUSION STATES (PPS) IN LOW BIRTH WEIGHT INFANTS (LBWI) (PART I)

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Background and Aims Echocardiography-derived low superior vena cava flow (SVCF) associates intraventricular haemorrhage, neurodisability and death. The weaknesses of the method relate to its variability. We aim to explore the relationship between two SVCF cut-off values to define PPS in LBWI and the patients' short-term neonatal co-morbidities.

Methods One hundred LBWI [27.4 (2) wks; 1014 (316) g] who reached illness score below threshold, underwent early (< 12h) and serial echocardiography for the first 96hs after birth. The primary outcome was low SVCF prevalence according to two thresholds: < 41 ml/k/min and [< 41 ml/k/min + SVCF repeatability index (RI)] (RI is twice the standard deviation of the differences divided by the mean of all the measures). Secondary outcomes were short-term neonatal clinical outcomes in relation to SVCF status.

Results SVCF< 41 ml/k/min prevalence was 30% and was associated with immaturity (p=0.02), corioamnionitis (0.007), advanced resuscitation at birth (0.004), lower Apgar scores (p<0.01) and postnatal ischemic events (bowel perforation or arterial vasospasm) (p=0.002). At SVCF < 51 ml/k/min (41 ml/k/min + repeatability index) cut-off value, the PPS prevalence was 50%; in addition to the above-mentioned co-morbidities trends showed an association between PPS and combined adverse outcome (death or intracranial haemorrhage).

Conclusions Low SVCF is highly prevalent in the sick LBWI during the early postnatal period. The association of low SVCF with ischemic events and adverse outcome supports this biomarker as an indicator of PPS.

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