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CEREBRAL RSO2 MONITORING DURING SHUNT TAP IN MALFUNCTIONING VENTRICULAR SHUNT

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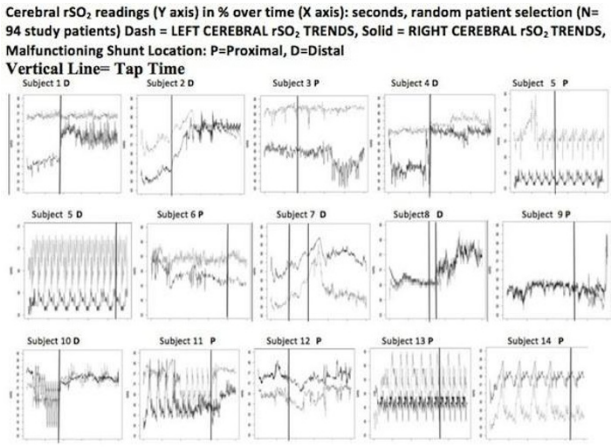
Background and aim: Shunt tap decreases ICP & improves cerebral perfusion & should be detected by cerebral rSO2.Determine cerebral rSO2 reliability during shunt tap.
Method: Left & right cerebral rSO2 q 5 seconds before,during &1 hour posttap.
Results: 94 subjects had cerebral rSO2 monitoring, 63 proximal & 31 distal malfunctioning.
Overall post-pretap rSO2,right hemisphere showed significant difference,p=0.03. Post-pretap linear regression mean,Left:-0.17,95%CL:-0.27,-0.06,p=0.002, Right:-0.12,95%Cl:-0.22,-0.02,p=0.019) & SDLeft:-0.68, 95%CI:-0.9,-0.5,p< 0.001,Right:-0.64 95%CI:-0.82,-0.45,p< 0.001 were significant. 94 pts´ Bland-Altman test showed wide between cerebral difference -0.28,95%CI:-18.1,17.5. Distal vs proximal pre-posttap linear regression was predictive for site. (Left:-0.48,95%CI:-0.72,-0.24,p< 0.001,Right:-0.23,95%CI:-0.43, -0.018,p=0.033).

Probe Position Forehead Ages:mean4.8yrs SD4.4±	Status	Mean	S.D.	Median				
Left Forehead rSO2	Pre-tap	68.9	11.0	68.5				
Left Forehead rSO2	During Tap	69.1	11.1	69.7				
Left Forehead rSO2	Post-Tap	69.6	10.3	71.9				
Right Forehead rSO2	Pre-Tap	69.7	9.2	70.9				
Right Forehead rSO2	During-Tap	70.7	9.0	70.4				
Right Forehead rSO2	Post-Tap	70.7	8.9	71.4				
ICC Analysis for Pre & Post Tap	N 94	Left Forehead ICC	95% LL	95% UL	N	Right Forehead ICC	95% LL	95% UL
Pre-Tap	60095	0.86	0.82	0.89	60095	0.80	0.76	0.85
Post-Tap	40761	0.79	0.74	0.84	40761	0.81	0.77	0.85

[Cerebral rSO2 94 Subjects]



[Demonstrating Patient's cerebral rSO2 response to]

Conclusion: Cerebral rSO2 monitoring during shunt taps demonstrated cerebral perfusion changes with CSF removal. rSO2 readings were significantly different after tap; more in distal vs proximal malfunction.