

## **Brain CO-Oximetry: A Useful Noninvasive Parameter Adjuvant to Standard Perfusion Parameters in Septic Shock**

Das D, Mitra K, Das S. J Anesth Clin Res. 2021;12(1)987.

Background and aim: Standard monitoring for tissue perfusion includes mixed venous saturation (CvSO<sub>2</sub>), blood lactate. Cerebral oximetry (CrSO<sub>2</sub>) non-invasively observes trends in cerebral saturation and it can be used as adjuvant to standard monitoring. The aim of the study is to evaluate septic shock mortality and patient outcome.

Methods: In this study 40 patients were entailed with septic shock at ICU for study period of 10 months. CrSO<sub>2</sub> was monitored using “MASIMO O3 Regional Oximetry”. Patients were monitored with CrSO<sub>2</sub>, CvSO<sub>2</sub>, blood lactate, mean arterial pressure (MAP), arterial oxygen saturation (SaO<sub>2</sub>) 6 hourly for 72 hours. Patients with history of cerebrovascular diseases and neurological deficits were excluded from study. IBM SPSS Statistics, Version 24.0. software was used and independent t test, paired t test, Pearson coefficient (r) etc. parameter values were analyzed.

Results: There is significant negative correlation after six hours from admission was noticed between CrSO<sub>2</sub> and lactic acid ( $r=-0.749$  to  $-0.956$ ). Significant positive correlation was noticed between CrSO<sub>2</sub> and CvSO<sub>2</sub> ( $r=0.904$  to  $0.993$ ). In addition, significant positive correlation was also found between CrSO<sub>2</sub> and mean arterial pressure ( $r=0.957$  to  $0.993$ ) and SaO<sub>2</sub> ( $r=0.864$  to  $0.988$ ). Significant difference was also detected between the value of CrSO<sub>2</sub> in the survivors (29 patients) and the non-survivors (11 patients) after 72 hours from admission.

Conclusion: CrSO<sub>2</sub> could be parameters in patients with shock and it could have a prognostic value in mortality prediction and clinical outcome.