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ASSOCIATION BETWEEN INVASIVE AND NON-INVASIVE TOOLS TO DETERMINE OXYGENATION STATUS AMONG CRITICALLY ILL PATIENTS

Prajwal Shetty

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Abstract

Background-In many health care centers where advanced methods are unavailable to do ABG analysis and trained clinicians are not available to perform ABG procedure, pulse oximetry based non-invasive oxygenation indices permits for a much more economical and quick evaluation of the oxygenation and also assist in recognition of the patient at risk among mechanically ventilated patients.

Patients and methods- A single-center prospective observational study was conducted. Data were collected from patients >18 years of age, who were invasively ventilated and admitted to adult ICUs. Patient details such as demographic data, diagnosis, date of admission, date of intubation, mechanical ventilator parameters, and arterial blood gas (ABG) values were collected. Invasive and non-invasive oxygenation indices were calculated from recorded parameters.

Results- spearman correlation was applied to assess the correlation between invasive and non-invasive oxygenation indices, there was a strong correlation found between OI and OSI ($r=0.781$, $p<.001$) and between S/F ratio and P/F ratio ($r=0.686$, $p<0.001$). The level of agreement between OI and OSI was moderately strong ($ICC=0.759$, $p<0.001$) and weak between the S/F ratio and P/F ratio ($ICC=0.313$, $p<0.001$)

Conclusion- In the future, large studies are required to assess whether OSI and S/F ratio over OI and P/F ratio will affect the outcomes of the treatment provided.