

Clinical Summary

AGM100's Use in Pulmonary Vascular Disease



Title: Non-Invasive Evaluation of Oxygen Deficit in Pulmonary Vascular Disease

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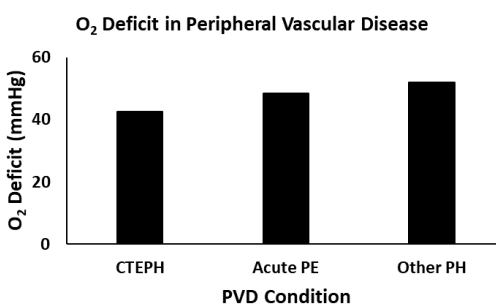
Background: Static oxygen saturation (SpO₂) is the most readily available clinical measurement of gas exchange. However, SpO₂ leaves out assessment of ventilatory function and subtle changes in arterial partial pressure of oxygen. This data can only be collected by performing invasive, costly, or time-consuming procedures such as arterial blood gas and cardiopulmonary exercise testing. The MediPines AGM100 has previously been shown to reliably provide an accurate estimate of PaO₂ and the A-a Gradient in healthy patients and patients with COPD

Research Question: We sought to assess the clinical utility of this device in patients with Pulmonary Hypertension (PH) and other Pulmonary Vascular Disease (PVD) using a non-invasive gas exchange monitor (MediPines AGM100)

Study Design and Methods: Single-center, prospective pilot study assessing patients with PVD in the clinic or acute hospital setting. O₂ Deficit values were obtained before (N=17) and after (N=6) 6-minute walk tests to determine if O₂ Deficit changed with exercise. Between group comparisons were made. p < 0.05 was considered significant

Study Results: Significantly elevated O₂ Deficit for patients with PVD.

Figure: O₂ Deficit measurements from 17 patients with PVD.



Adapted from ATS presentation



Patient test with clinician

Author Conclusions: This study demonstrated patients with PVD demonstrate a significantly elevated Oxygen Deficit. Light exercise does not appear to affect the O₂ Deficit in these patients. This pilot study demonstrates feasibility of testing this device in both a clinic and acute hospital setting. Future plans include tracking patients' Oxygen Deficit over time and treatment to determine possible prognostic value of this tool and response to treatment for the underlying condition.