

Hubungan Rasio PAO₂/FIO₂ dan Kadar D-Dimer terhadap Kadar ST₂ Terlarut dan Spirometri pada Pasien dengan Penyakit Kardiovaskular Pasca Covid-19 Varian Omicron = Relationship of PaO₂/FiO₂ Ratio and D-Dimer Levels to sST₂ Levels and Spirometry Profile in Patients with Post COVID-19 Variant Omicron with Cardiovascular Disease

Risca Rini Aryanti, author

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Abstrak

Latar Belakang: COVID-19 di Indonesia menyebabkan kematian hingga lebih dari 150.000 orang. Salah satu populasi yang mengalami dampak dengan risiko kematian yang tinggi adalah populasi penyakit kardiovaskular. Severitas COVID-19 sering dikaitkan dengan rendahnya rasio PaO₂/FiO₂ dan tingginya kadar D-dimer. COVID-19 varian Omicron diketahui memiliki angka penyebaran yang lebih tinggi dengan severitas infeksi yang lebih rendah dibandingkan varian sebelumnya. Namun dampak jangka panjang pada pasien COVID-19 varian Omicron, khususnya pada populasi pasien dengan penyakit kardiovaskular masih menjadi pertanyaan. Penelitian ini ingin mengetahui dampak pasca COVID-19 varian Omicron dengan melihat kadar ST₂ terlarut dan adanya gangguan paru yang dinilai dengan pemeriksaan spirometri.

Tujuan: Penelitian ini dilakukan untuk mengetahui hubungan Rasio PaO₂/FiO₂ dan Kadar D-dimer pada saat admisi terhadap kadar ST₂ terlarut dan gambaran spirometri pada pasien pasca COVID-19 varian Omicron dengan penyakit kardiovaskular. Metode: Penelitian berupa studi potong lintang terhadap pasien COVID-19 varian Omicron dengan riwayat komorbid penyakit kardiovaskular yang dirawat di Rumah Sakit Jantung dan Pembuluh Darah Harapan Kita. Diagnosis COVID-19 varian Omicron dilakukan dengan menggunakan metode WGS/SGTF. Pasien dengan kriteria inklusi menjalani pemeriksaan spirometri dan pengukuran kadar ST₂ terlarut pada 6 bulan pasca perawatan.

Hasil dan Pembahasan: Penelitian ini menunjukkan rasio PaO₂/FiO₂ dengan median 454 dan kadar D-dimer 790ng/mL. Mayoritas pasien menunjukkan gambaran gangguan restriktif. Kadar ST₂ terlarut pasca perawatan memiliki median 2716,8pg/mL. Tidak ditemukan adanya hubungan yang signifikan antara rasio PaO₂/FiO₂ dan kadar D-Dimer terhadap kadar ST₂ terlarut maupun gambaran spirometri pada 6 bulan pasca COVID-19. Hal ini dapat dikaitkan dengan severitas COVID-19 yang lebih rendah sehingga tidak terdapat hubungan bermakna terhadap parameter admisi serta hubungan pengukuran 6 bulan pasca COVID-19 dengan kemungkinan adanya perbaikan fibrosis.

Kesimpulan: Tidak ada hubungan yang signifikan antara rasio PaO₂/FiO₂ dan kadar D- Dimer terhadap kadar ST₂ terlarut ataupun gambaran spirometri pada 6 bulan pasca COVID-19 varian Omicron.

.....Introduction: COVID-19 in Indonesia has caused more than 150,000 deaths. One of the affected populations with a high risk of death is the cardiovascular disease population. The severity of COVID-19 is associated with a low of PaO₂/FiO₂ ratio and the increased levels of D-dimer. Omicron variant is known to have higher transmission with less severe infection than the previous variant. However, research related to long term effect post COVID-19 with Omicron variant in cardiovascular population is not yet known.

Aim: This study was conducted to determine the relationship of PaO₂/FiO₂ ratio and D- dimer levels at admission to sST2 levels and spirometry profile in post COVID-19 variant Omicron patient with cardiovascular disease.

Method: Research in the form of a cross-sectional study was conducted on Omicron variant COVID-19 patients with a history of comorbid cardiovascular disease who were treated at the Harapan Kita Heart and Blood Vessel Hospital (RSJPDHK). The diagnosis of COVID-19 is carried out using the WGS/SGTF method. Patients undergo spirometry examination and measurement of sST2 levels at 6 month after hospitalization.

Results and Discussion: This study shows a PaO₂/FiO₂ ratio with a median of 454 with D-dimer levels 790 ng/mL. The majority of patients have a restrictive patterns. The median sST2 value in Omicron variant COVID-19 patients at 2716.8 pg/mL. There was no significant relationship between the ratio of PaO₂/FiO₂ and D-Dimer levels to sST2 levels and spirometry profile at 6 months after COVID-19 infection. This can be associated with lower COVID-19 severity so that there is no significant association with inflammatory parameters such as PaO₂/FiO₂ ratio and D-dimer levels, as well as the relationship between measurements 6 months post COVID-19 and the possibility of fibrosis improvement.

Conclusion: There was no significant relationship between the ratio of PaO₂/FiO₂ and D-Dimer levels to sST2 levels and spirometry abnormality at 6 months post COVID-19 variant Omicron.