

PERBANDINGAN DERAJAT PNEUMONIA COVID-19 PADA RADIOGRAFI TORAKS PASIEN DIABETES MELLITUS DAN TANPA DIABETES MELLITUS

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INTISARI

Latar Belakang. *Coronavirus disease* 2019 (COVID-19) disebabkan oleh varian virus baru, yang banyak menyebabkan mortalitas dan morbiditas terutama pasien dengan komorbid. Komorbid diabetes mellitus memiliki prosentase jumlah kasus yang besar dan beresiko meningkatkan kematian. Keterlibatan sistem pernafasan sangat umum pada COVID-19, oleh karena itu pencitraan memainkan peran vital dalam diagnosis, stratifikasi resiko, dan tatalaksana pasien. Namun, penelitian terkait diabetes mellitus dan infeksi COVID-19 selama ini hanya terbatas pada klinis dan prognosis pasien.

Tujuan. Mengetahui perbandingan derajat pneumonia COVID-19 pada radiografi toraks pasien diabetes mellitus dan tanpa diabetes mellitus.

Bahan dan Metode. penelitian ini menggunakan metode analitik komparatif dan desain penelitian *cross-sectional* dengan sample hasil pemeriksaan radiografi toraks pasien pneumonia COVID-19 pada Januari-Juli 2021, pengambilan sample secara consecutive non-random. Derajat pneumonia COVID-19 menggunakan Brixia Score, kemudian dilakukan uji komparasi terhadap kelompok diabetes mellitus dan tanpa diabetes mellitus.

Hasil. Subyek sebanyak 70 orang dengan laki-laki sebanyak 62,85%, dan perempuan sebanyak 37,15%. Rentang usia pada kelompok DM adalah 19 hingga 70 tahun, dengan rerata usia yakni $51,29 \pm 11,35$ tahun. Sedangkan rentang usia pada kelompok tanpa DM adalah 22 hingga 66 tahun, dengan rerata usia yakni $39,57 \pm 12,37$ tahun. Analisis data menggunakan uji *Mann Whitney* didapatkan hasil terdapat perbedaan yang bermakna pada *Brixia Score* untuk kelompok DM dan tanpa DM ($p=0,015$).

Kesimpulan. Terdapat perbedaan signifikan bermakna derajat pneumonia COVID-19 pada radiografi toraks pasien diabetes mellitus dan tanpa diabetes mellitus.

Kata Kunci: COVID-19, Radiografi Toraks, Diabetes Mellitus, *Brixia Score*

THORACIC RADIOGRAPHY COMPARISON OF COVID-19 PNEUMONIA IN PATIENTS WITH DIABETES MELLITUS AND WITHOUT DIABETES MELLITUS

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Abstract

Background. *Coronavirus disease 2019 (COVID-19)* is caused by a new virus variant, which causes a lot of mortality and morbidity, especially in patients with a lot of comorbidities. Comorbid diabetes mellitus has a large percentage of cases and reported to increase the mortality rate. Respiratory system involvement is very common in COVID-19, therefore imaging plays a vital role in diagnosis, risk stratification, and patient management. However, research related to diabetes mellitus and COVID-19 infection has so far been limited to clinical and patient prognosis.

Objectives. To compare the degree of COVID-19 pneumonia on chest radiography of patients with diabetes mellitus and without diabetes mellitus.

Materials and Methods. This study used a comparative analytical method and a cross-sectional study design with a sample of the results of chest radiography examinations of patients with COVID-19 pneumonia in January-July 2021, consecutive non-random sampling. To evaluate the degree of COVID-19 pneumonia, we used the Brixia Score, then a comparative test was performed on the diabetes mellitus and without diabetes mellitus groups.

Results. The subjects were 70 people with 62.85% male and 37.15% female. The age range in the DM group was 19 to 70 years, with a mean age of 51.29 ± 11.35 years. Meanwhile, the age range in the group without DM was 22 to 66 years, with a mean age of 39.57 ± 12.37 years. Data analysis using the Mann Whitney test showed that there was a significant difference in the Brixia Score for the DM and without DM groups ($p = 0.015$).

Conclusion. There was a significant difference on chest radiographs of COVID-19 pneumonia from patients with diabetes mellitus and without diabetes mellitus.

Key Words: COVID-19, Chest Radiography, Diabetes Mellitus, *Brixia Score*