Profil Farmakoterapi COVID-19 dan Hubungannya dengan Variasi Gen ACE dan ACE2 pada Penyintas COVID-19 di RSUD Lahat Sumatera Selatan = Pharmacotherapy Profile of COVID-19 and its Relationship with ACE and ACE2 Gene Variations in COVID-19 Survivor at Lahat Hospital South Sumatra

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Abstrak

Varian virus dan Variasi genetik menjadi salah satu masalah dalam menentukan Farmakoterapi COVID-19. Mekanisme variasi orang-ke-orang dan antar-populasi dalam keamanan dan kemanjuran obat merupakan dasar untuk pengembangan obat yang rasional. Penelitian ini menggambarkan karakteristik dan profil Farmakoterapi pada pasien COVID-19 dan menganalisis hubungan profil Farmakoterapi dengan variasi gen ACE dan ACE2. Desain penelitian ini adalah cross sectional dengan pengambilan data profil Farmakoterapi dilakukan secara retrospektif dan Pemeriksaan Polimorfisme dilakukan pada 50 orang penyintas COVID-19 di RSUD Lahat yang terjangkit COVID-19 periode September 2020 hingga Agustus 2021. Hubungan profil Farmakoterapi dalam bentuk Penggunaan Antivirus dan Antibiotik serta durasinya terhadap Polimorfisme SNP gen ACE pada rs1799752 dan rs4331 dan gen ACE2 pada rs2014792 dengan menggunakan metode regresi logistik. Subjek penelitian terdiri dari 28 pasien rawat jalan dan 22 orang pasien rawat inap. Ada perbedaan karakteristik usia, tingkat stress dan status vaksinasi pada kelompok rawat inap dan rawat jalan. Sebanyak 98% pasien mendapatkan Antibiotik dan 84% pasien mendapatkan terapi Antivirus selama dalam terapi COVID-19. Antivirus yang digunakan selama terapi adalah Oseltamivir, Favipiravir dan Remdesivir dan Antibiotik yang digunakan adalah Azitromycin, Levofloxacin, Ceftriaxone dan Meropenem. Sebanyak 29 orang memiliki genotipe II, 14 orang memilik genotipe ID dan 7 orang mempunyai genotipe DD pada pada SNP rs1799752 gen ACE. Pada SNP rs4331 gen ACE 30 orang memiliki genotipe GG, 12 orang memiliki genotipe AG dan 8 orang memiliki genotipe AA. Dan pada SNP rs2014792 gen ACE2 18 orang memilik genotipe CC dan 32 orang memiliki genotipe CC. Secara statistik tidak hubungan signifikan antara polimorfisme gen ACE pada SNP rs1799752 dan rs4331 dan gen ACE2 pada rs2014792 dengan resiko rawat inap dan penggunaan Antivirus dan Antibiotik serta durasinya pada pasien COVID-19.
.....One of the challenges in selecting COVID-19 Pharmacotherapy is the presence of viral variants and genetic variation. Mechanisms of person-to-person and inter population variation in drug safety and efficacy are the basis for rational drug development. This research describes the characteristics and profile of pharmacotherapy in COVID-19 patients and analyzes the relationship between pharmacotherapy profile and ACE and ACE2 gene variations. The study was cross sectional, involved the retrospective collection of pharmacotherapy profile data and the polymorphism testing on 50 COVID-19 survivors at Lahat Hospital who contracted the virus between September 2020 and August 2021. Use of logistic regression approach to examine the association between Pharmacotherapy profiles in the form of Antiviral and Antibiotic Use, as well as their duration, and SNP polymorphisms at rs1799752 and rs4331 of the ACE gene and rs2014792 of the ACE2 gene. There were 28 non-hospitalized and 22 hospitalized patients who participated in the study. Age, stress level, and vaccination status were all different between non-hospitalized and hospitalized groups. While undergoing COVID-19 therapy, up to 98% of patients received antibiotics, and 84% of patients

received antiviral therapy. Oseltamivir, Favipiravir, and Remdesivir are the antivirals utilized throughout therapy. Azithromycin, Levofloxacin, Ceftriaxone, and Meropenem are the antibiotics. On SNP rs1799752 ACE gene, 29 participants had genotype II, 14 had genotype ID, and 7 had genotype DD. Thirty people had the GG genotype, twelve had the AG genotype, and eight had the AA genotype for the SNP rs4331 ACE gene. Additionally, 32 and 18 individuals with the CC genotype in the SNP rs2014792 ACE2 gene. The likelihood of hospitalization, the usage of antivirals and antibiotics, and the length of time those treatments were used in COVID-19 patients were not significantly associated with the ACE gene polymorphism at SNP rs1799752 and rs4331 or the ACE2 gene at rs2014792.