

CHARACTERISTICS OF COVID-19 PATIENTS TREATED AT SANTA ELISABETH MEDAN HOSPITAL, 2020

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Abstract. Corona Virus Disease (COVID-19) is a disease caused by a new type of coronavirus (SARS-CoV-2). This virus was first discovered in Wuhan, China for the first time and has infected 90,308 people as of March 2, 2020. Infection is transmitted by large droplets or droplets within 1 - 2 m, which are generated during coughing and sneezing by symptomatic patients and people without symptoms. This infection is acquired by inhaling these droplets or touching a contaminated surface and then touching the nose, mouth and eyes. To see the characteristics of COVID-19 patients who are treated at the Santa Elisabeth Hospital Medan in 2020. Type of research is a descriptive study with a cross-sectional study design with a retrospective approach using total sampling technique. This type of research data is secondary data obtained from the medical record data of positive COVID-19 patients confirmed to be hospitalized in several Medan city hospitals in 2020. Of the 230 study samples, 147 confirmed positive COVID-19 patients were found, dominated by the age range 46-55 years. The sex most common is male. The most common clinical symptoms are respiratory disorders such as coughing, shortness of breath and fever. The number of confirmed positive patients at the hospital. Santa Elisabeth in March to October 2020 is 147 people (51.1%).

Keyword: *characteristic, COVID-19, positive, confirmed*

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1 Introduction

Corona virus disease 19 (COVID-19) is a disease caused by the SARS-CoV-2 virus which is a new type of Coronavirus that infects the respiratory system and causes mild to severe symptoms. This virus was first reported in the Chinese city of Wuhan on December 31, 2019 and has spread to two domestic cities as well as to several countries [1]. As of September 2, 2020, COVID-19 has been found in 216 countries, with a total of 25,602,665 confirmed cases.

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The United States is the country with the most cases of COVID-19 with a total of 5,968,380 cases, followed by Brazil 3,908,272 cases, and India 3,769,523 cases. The first COVID-19 cases in Indonesia were confirmed on March 2, 2020, amounting to 2 people (Zhou et. Al, 2020). Meanwhile, the COVID-19 cases in Indonesia have reached 184,268 confirmed cases which ranks 23rd in the cumulative total of COVID-19 cases in the world at 3 September 2020 [2]. This study aims to determine the characteristics of confirmed COVID-19 patients based on clinical symptoms, age, occupation, sex, comorbidities, laboratory and radiology results at the Santa Elisabeth Hospital in Medan starting from March to October 2020. In addition, this research also aims to know the results of the Polymerase Chain Reaction (PCR) swab examination, patient pharmacotherapy and the mortality rate for COVID-19 confirmed at the hospital.

2 Method

The research method used in this research is descriptive. The research design used by the author is a cross-sectional study design with a retrospective approach, namely by analyzing the data obtained from the patient's medical record data. The population in this study were all COVID-19 patients, who were treated at the hospital. Santa Elisabeth, starting from March to October 2020. The type of sample used was total sampling, in which the sample was determined by taking the entire population as research subjects. The data collected is secondary data obtained through the medical records of COVID-19 patients at the Santa Elisabeth Hospital, Medan. The data that has been obtained will be analyzed univariately and presented in the form of tables, diagrams or graphs.

3. Result

Research on the characteristics of COVID-19 patients has been carried out at the hospital. Elisabeth Medan with a total sampling method and there were 230 samples, from March to October 2020, 147 confirmed positive COVID-19 patients and 83 negative patients were found. The data were collected using the status of the patient's medical record and analyzed using SPSS.

Table 1. COVID-19 patients based on PCR test

	n	%
Negative	83	36.1
Positive	147	63.9
Total	230	100

Table 2. Characteristics of confirmed positive COVID-19 patients

Charasteristics		n	%
Gender	Male	76	55.1
	Female	71	48.2
Age	0-5	1	0.7
	6-11	0	0
	12-16	1	0.7
	17-25	8	5.4
	26-35	24	16.3
	36-45	22	15.0
	46-55	40	27.2
	56-65	36	24.5
	>65	15	10.2
Profession	State-owned corporation	2	1.4
	Housewife	20	13.6
	Private employees	41	27.9
	College student	8	5.4
	Student	1	0.7
	Retired	17	11.6
	Farmer	2	1.4
	Civil Servant	19	12.9
	Medical personnel	6	4.1
	Entrepreneur	31	21.1

Table 3 Symptoms and clinical criteria

		n	%
Respiratory	Cough	144	98.0
	Dispnea	137	93.2
	Anosmia	1	0.7
Non Respiratori	fever	129	87.8
	Vomitus	65	44.2
	Nausea	21	14.3
	Fatigue	97	66.0
	Disfagia	40	27.2
	Malaise	74	50.3
Kriteria Klinis	Very Severe	16	10.9
	Severe	5	3.4
	Mild	5	3.4
	Moderatte	121	82.3

Table 4 Comorbid

	n	%
Hypertension	27	18.4
Lung Disease		
TBC	14	9.5
Bronchitis	5	3.4
COPD	7	4.7
Kidney Disease	3	2.0
Heart Disease	29	17.7
Liver Disease	5	3.4
Dyspepsia Syndrom	37	25.2
Diabetes Melitus	27	18.4
Cancer	3	2.0
Autoimun	3	2.0

Table 5 Laboratory Examination

	Normal		Increase		Decrease	
	n	%	n	%	n	%
Erythrocytes	110	74,8	6	4,1	31	21,1
Hb	101	68,7	9	6,1	37	25,3
Platelet	114	77,6	20	13,6	13	8,8
Leukocytes	93	63,3	37	25,2	17	11,6
Lymphocytes	61	41,5	61	41,5	77	52,4
ALC	64	43,5			69	46,9
Eosinophils	120	81,6	27	18,6		
CRP	46	31,1	101	68,7		
Troponin	84	57,1	38	25,9		
Prokalsitonin	82	55,8	51	34,7		
D-dimer	54	39,1	84	60,8		

Table 6. Blood and sputum culture examination of patients COVID-19 positive confirmation

Culture Type			n	%
Blood	Exist	<i>Micrococcus lentus</i>	2	
		<i>Salmonella thypi</i>	2	
		<i>Staphylococcus epidermidis</i>	1	
		<i>Staphylococcus hominis</i>	1	
		<i>Staphylococcus saprophyticus</i>	1	
		<i>Staphylococcus lentus</i>	1	
Sputum		<i>Pseudomonas aeruginosa</i>	1	
		<i>Acinetobacter lwoffii</i>	1	
		<i>Staphylococcus hominis</i>	2	
		<i>Pseudomonas stutzeri</i>	1	
		<i>Pseudomonas aeruginosa</i>	1	
		<i>Yeast cell</i>	1	
Total			15	10,2
	Doesn't Exist		100	68

Tabel 7. Radiological examination of chest X-ray and CT scan of the patient COVID-19 positive confirmation

		n	%
Chest X-ray	Normal	29	19.7
	Abnormal	118	80.3
	Bilateral bronchopneumonia	109	
	Fibrosis	7	
	Bilateral bronchiectasis	2	
	<i>Cardiomegaly</i>	7	
	Pleural Effusion	1	
	Calcification	1	
	Infiltrat	1	
	Total	147	100
CT-Scan	Normal	7	23.3
	Abnormal	23	76.6
	GGO	12	
	Consilodation	3	
	Fibrosis	3	
	Bilateral bronchopneumonia	2	
	Total	30	100

Table 8. Pharmacological therapies such as antivirals, antibiotics, and other drugs

		n	%
Antiviral	Hidroxychloroquine	135	91.8
	Ritonavir	125	85.0
	Oseltamivir	138	93.9
	Klorokuin	21	14.3
Antibiotik	Levofloxacin	69	46.9
	Azithromycin	139	94.6
	Meropenem	128	87.1
	Vancomycin	91	61.9
	Fosfomycin	32	21.8
	Linezolid	9	6.1
	Cefoperazone	15	10.2
Other Drugs	NAC	139	94.5
	Vit C	147	100
	Proove D3	147	100
	Curcuma	128	87.0
	Zink	147	100
	Terapi Simtomatik	147	100

Table 9. The case fatality rate of COVID-19 patients was confirmed positive from March to October

	n	%
Life	142	96.5
Death	5	3.4
Total	147	100

Table 1 illustrates that there are 230 research samples, and based on PCR examination, 147 samples (63.9%) were positive and 83 samples (36.1%) were negative.

Table 2 illustrates that of the 147 samples, there were 76 (55.1%) male samples and 71 female samples. The age group most diagnosed with confirmed positive COVID-19 was 46-55 years, namely 40 samples (27.2%). types of work that contracted the most COVID-19 were private employees, namely 41 (27.9%) and private employees as many as 31 samples (21.1%).

Table 3 illustrates that the most common clinical symptoms are cough clinical symptoms found in 144 samples (98.0%), spasms in 137 samples (93.2%), fever in 129 samples (87.8%).

Table 4 illustrates that there are 121 samples (82.3%) which are moderate clinical criteria, then followed by severe clinical criteria, namely 16 samples (10.9%), critical with 5 samples (3.4%) and mild with 5 samples (3, 4%).

Table 4 illustrates that the comorbid dyspepsia syndrome was found in 37 samples (22.5%). Heart disease in the form of heart failure, coronary heart disease and myocardial infarction, there were 29 samples (17.7%). There were 27 samples of type 2 diabetes mellitus (18.4%). hypertension was found in 27 samples (18.4%).

Table 5 illustrates that on routine blood tests found an increase in the value of leukocytes in 37 (25.2%) samples. Lymphocyte values were found to be increased in 61 samples (41.5%) and decreased ALC values were found in 69 samples (46.9%). CRP values were found to be increased in 101 samples (68.7%). Troponin values were found to be increased in 38 samples (25.9%). Procalcitonin values were found to be elevated in 51 samples (34.7%). The increase in the D-dimer value was found to be more, namely from 138 samples there was an increase in 84 samples (60.8%) and this result indicates a state of hypercoagulability.

Table 6 describes the examination of bacterial cultures carried out on 147 samples and found 100 samples (68%) with the results of the examination that there was no bacterial growth and there were bacteria in 15 samples (10.2%).

Table 7 describes the results of chest X-ray examinations performed on 147 samples, of which 188 samples (80.3%) had abnormal thoracic images with the most pictures, bilateral bronchopneumoni. And on the CT scan, there is an abnormal picture in the form of consolidation, multiple groundglass shadows, fibrosis, and cardiomegaly.

Table 8 describes the use of the antiviral type hydroxychloroquine (HCQ) found in 135 samples (91.8%). The use of antiviral lopivia was found in 125 samples (85.0%). The type of antiviral most often used was chloroquine with 21 samples (14.3%). And oseltamivir was the most widely used antiviral, with 138 samples (93.9%). The most widely used type of antibiotic was azithromycin with 139 samples (94.6%). Then meropenem with 128 samples (87.1%), levofloxacin as many as 69 samples (46.9%), Fosfomycin as many as 32 samples (21.8%), cefoperazone as many as 15 samples (10.2%). For other drugs it can be seen that Vitamin C, Proove D3 and Zink were used in 147 samples (100%), while N-acetylcstein was

4. Discussion

In this study, it was found that more confirmed cases were found than negative cases. Several factors can increase the risk of COVID-19, such as the elderly (> 60 years), toddlers, pregnant women, people with disabilities, and / or comorbidities such as: heart disease, diabetes / diabetes, lung disease, cancer, high blood pressure, stroke, [3]. Male sex is also more exposed to COVID-19 in men, which is thought to be associated with a higher prevalence of active smoking. In smokers, hypertension, and diabetes mellitus, it is suspected that there is an increase in ACE2 receptor expression [4,5]. Most cases of COVID-19 occurred in the age range 45-54 years and at least occurred at the age of 0-5 years [2]. Types of work that increase the risk of contracting COVID-19 are jobs that often involve the general public, visitors, or customers in a crowded work environment (such as food markets, bus terminals, public transportation, and other work activities where physical distancing is minimal. 1 meter is difficult to adhere to), or work tasks that require frequent close contact with coworkers [6]. In COVID-19, the most common clinical symptoms are respiratory clinical symptoms, because in humans, SARS-CoV-2 primarily infects cells in the airways that line the alveoli, SARS-CoV-2 binds to receptors and creates a pathway. enter the cell [7]. On blood tests, the leukocyte count can be found to be normal or decreased, the lymphocyte count decreases and the increase in inflammatory markers such as CRP and procalcitonin. And in some samples who experienced heart problems such as CHF, CHD, myocardial infarction, an increase in troponin values was found [7,8].

Chest X-ray can reveal features such as ground-glass opacification, infiltrates, focal consolidation, pleural effusion, and atelectasis while CT-scan can reveal bilateral opacities, subsegmental consolidation, lobar or pulmonary collapse or nodules, groundglass view [10]. Pharmacological therapies recommended in COVID-19 patients are oseltamivir, lopinavir, Hidroxychloroquine, rendemsivir, chloroquine, fapivavir and ritonavir which are recommended

antivirals for COVID-19 therapy [11]. The use of Vitamin C as management in COVID-19 is very important, where the provision of vitamin C can accelerate the improvement in cases of COVID-19 which works on plasma and neutrophils, besides that Vitamin C can also ward off free radicals and prevent oxidative stress by coronavirus and it is also proven, in the journal that with the administration of high doses of vitamin C, there is a rapid improvement of the radiological chest X-ray image after several days of therapy [12].

5. Conclusion

Based on the results of the research from the data obtained, the conclusions obtained were that in 2020 there were 230 patients with positive COVID-19 status confirmation based on RT-PCR examinations totaling 147 patients. The most common age range for confirmed positive COVID-19 patients is 40-45 years. The most common sex with confirmed positive COVID-19 is male. The types of work that contracted the most COVID-19 are private employees. The most common clinical symptoms are respiratory symptoms, such as coughing and tightness. On blood tests found an increase in leukocytes, CRP, procalcitonin, D-dimer, and a decrease in lymphocyte and ALC values and Case fatality rate (CFR) in patients with positive COVID-19 confirmation at the hospital. Santa Elisabeth Medan from March to October 2020 amounting to 3.4%

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