

Comparison Of Patients Emergency With Pre And Post Covid-19 Digestive Surgery

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Abstrak

Keadaan gawat darurat adalah keadaan dimana harus memerlukan penanganan atau tindakan yang segera mungkin untuk menghindari ancaman nyawa pada pasien. Pada akhir 2019, merebak wabah virus COVID-19. Virus ini sangat cepat penyebarannya, dalam beberapa sudah menyebar ke seluruh negara termasuk Indonesia. Pada masa COVID-19 para dokter harus memilih mana operasi yang gawatdarurat dan mana bukan gawat darurat yang masih tangani dengan obat-obatan. Dokter bedah juga harus mematuhi protokol yang telah dibuat oleh Persatuan Ahli Bedah Indonesia (PABI) pada saat mengani pasien selama pandemi. Penelitian ini bersifat deskriptif, dilaksanakan di Rumah Sakit Cut Meutia pada periode Januari-Desember 2019 dan 2020 dengan total sampel 136 pasien. Hasil penelitian menunjukkan terjadi jumlah kunjungan pasien bedah digestif pada tahun 2019 sebanyak 71 pasien dan pada 2020 sebanyak 65 pasien, atau menurun 4,41% selama priode tersebut Pada tahun 2019 mayoritas pasien bedah digestif berusia diatas 65 tahun (22,5%), pada tahun 2020 mayoritas usia pasien bedah digestif adalah 36-45 tahun (15,4%), dengan jenis kelamin dominan laki-laki (53,5% pada tahun 2019 dan 66,2% pada tahun 2020).. Hasil diagnosa menunjukkan pada tahun 2019 pasien terbanyak adalah HIL (Hernia Inguinalis Lateralis) inkarserata (23,9%), sedangkanpada tahun 2020 terbanyak pasien mengalami aPeritonitis ec perforasi app (21,5%). Tindakan bedah terbanyak pada tahun 2019 adalah hernioraphy (26,8%) dan pada tahun 2020 tindakan bedah terbanyak adalah laparatomi appendektomi (21,5%). Oleh karena itu dapat disimpulkan jumlah kunjungan pasien pada masa pandemic menurun sebanyak 4,41%.

Kata kunci : kegawatdaruratan, bedah digestif, karakteristik COVID-19

An emergency situation is a situation that must require treatment or action as soon as possible to avoid threatening the patient's life. At the end of 2019, there was an outbreak of a virus called COVID-19 which originated in China. This virus outbreak spread very quickly, in a matter of months it had spread to all countries including Indonesia. During the COVID-19 period, doctors had to choose which surgery was an emergency and which disease could still be cured with drugs. Surgeons also had to comply with the protocols made by the Indonesian Surgeon Association (PABI). This type of research is descriptive type, with a total sample of 136. The results of this study showed a decrease in the number of visits for digestive surgery patients by 4.41%. In 2019 there were 71 patients and in 2020 there were 65 patients. With the following characteristics: in 2019 the majority of digestive surgery patients are over 65 years old (22.5%), in 2020 the majority of digestive surgery patients are 36-45 years old (15.4%). Gender in 2019 is mostly male (53.5%) female (46,5%) and the majority in 2020 is male (66.2%) female (33,8%). The most common diagnosis in 2019 was HIL incarceration (23.9%) and in 2020 the most diagnosed was peritonitis ec perforation app (21.5%). The most surgical procedure in 2019 was hernioraphy (26.8%) and in 2020 the most surgical procedure was laparotomy appendectomy (21.5%). From the results of this study it can be concluded that the number of visits during the pandemic decreased by 4.41%.

Keywords: emergency, digestive surgery, characteristics COVID-19

Introduction

At the end of 2019, there was an outbreak of the COVID-19 virus originating from China. The COVID-19 outbreak spread rapidly in just a few months and has reached most countries including Indonesia (1). The first case was officially announced by Indonesia in March 2020, and in August 2020, the number of positive cases of COVID-19 was recorded at more than 165 thousand people and the death rate reached more than 7,000 people. According to existing data, Indonesia is ranked the second country with the highest cases of COVID-19 after the Philippines (2). The process of transmitting COVID-19, which occurs very quickly in Indonesia, causes anxiety and fear in the community (3), many people avoid visiting doctors for fear of contracting COVID-19, including patients who require surgery. This fear translates into delays in diagnosis (surgical consultations, diagnostic tests, multidisciplinary discussions) (17). the COVID-19 outbreak is a public health emergency of international concern, as more than 150 countries have rapidly become involved in the spread of the disease (16).

The operating room is one of the areas that has a high risk of transmission of COVID-19, because surgical patients who have contracted COVID-19 but are still in the incubation phase have not shown clear symptoms. In 2012 operations continued to increase every year, there were 148 million patients who carried out surgical procedures worldwide (14). According to data from the National Tabulation of the Ministry of Health of the Republic of Indonesia in 2016, surgical management occupies the 11th level out of 50 diseases with a percentage of 12.8%, of which 32% are major operations (15). According to Ngaamy and Novianti (2020) who conducted a retrospective study in China of 34 patients aged 34-83 years who had elective surgery at the start of the pandemic tested positive after PCR was performed (4). Therefore, the emergency abdominal surgery during the COVID-19 pandemic became a concern for medical personnel, if they did not perform surgery, it could result in severe complications and even loss of life. But on the other hand, if doctors perform surgery on COVID-19 patients it can result in risks of iatrogenic morbidity and death in patients. Therefore, doctors must choose which surgery is an emergency and which disease is still being treated with drugs, to reduce the potential for medical personnel to contract COVID-19 during a pandemic. During this period, the European Association for Trauma and Emergency Surgery (ESTES) recommended postponing elective cases to a later date,

except for a few identified cases, and a series of recommendations for perioperative preparation for emergency surgery and trauma patients were reported (18).

Method

During the COVID-19 period, when the transmission rate was high, it greatly impacted the health facility system. Patients who are positive for the Covid-19 virus can come to surgical services, both in the emergency room, outpatient polyclinic, treatment room, or operating room. Where having initial management, namely, diagnosis, as well as direct action, which is interactive with patients, this results in surgeons and medical personnel having a high risk of contracting COVID-19 (12).

This type of research is descriptive type. This research will be conducted at Cut Meutia Hospital, from June 2022-December 2022. The population in this study were patients who performed emergency abdominal surgery before COVID-19 and during COVID-19. During the period before COVID-19, namely January-December 2019, there were 164 patients, and during the COVID-19 period, namely January-December 2020, there were 111 patients. The inclusion criteria in this study were all digestive surgery patients at Cut Meutia Hospital with abdominal emergencies in 2019 and 2020, and patients who had undergone surgery. The exclusion criteria were incomplete medical record data. The sampling technique is total sampling. This research was tested by univariate test.

Results

The Univariate analysis was used to explain the characteristics and distribution of each variable in this study. Univariate analysis in this study included digestive surgery, age, sex, and diagnosis. The following is an explanation of the results of the univariate analysis.

The population of this study is 275 people from 2019 to 2020, with the following details 164 people in 2019 and 111 people in 2020. Because the number of samples taken was 136 people (49.45%), namely in 2019, and people in 2020.

Table 1 Distribution of Research Samples at Cut Meutia Hospital

Year	Frequencies (n)	Percentage (%)
2019	71	52,2
2020	65	47,8
Total	136	100,0

Source: Secondary Data, 2022

Table 2. An overview of the age variables for emergency digestive operations in 2019 and 2020 at Cut Meutia Hospital

Age	Average	Frequencies (n)	Percentage	Frequencies (n)	Percentage
		2019	(%) 2019	2020	(%) 2020
Children	5-11 yo	4	5,6	8	12,3
Early Teens	12-16 yo	4	5,6	6	9,2
Late teens	17-25 yo	9	12,7	7	10,8
Early Adulthood	26-35 yo	6	8,5	9	13,8
Late adulthood	26-45 yo	6	8,5	10	15,4
Early Elderly	46-55 yo	11	15,5	7	10,8
Elderly	56-64 yo	15	21,1	9	13,8
Old age	Above 65 yo	16	22,5	9	13,8
Total		71	100,0	65	100,0

Source: Secondary Data, 2022

Based on the frequency distribution of the characteristics of respondents for digestive surgery patients based on age at Cut Meutia Hospital, North Aceh in 2019, it showed that most of the respondents had old age, namely 16 patients (22.5%) and the lowest were children, namely 4 patients (5.6%) (Table 2). Based on the frequency distribution of the characteristics of respondents for digestive surgery patients based on age at Cut Meutia Hospital, North Aceh in 2020, it showed that most of the respondents had late adulthood, namely 10 patients (15.4%) and the lowest were early adolescents, namely 6 patients (9.2%).

Table 3 Description of the sex variables for emergency digestive operations in 2019 and 2020 at Cut Meutia Hospital

Gender 2019	Frequencies (n)	Percentage (%)	Gender 2020	Frequencies (n)	Percentage (%)
Male	38	53,5	Male	43	66,2
Female	33	46,5	Female	22	33,8
Total	71	100,0	Total	65	100,0

The frequency distribution of the characteristics of respondents for digestive surgery patients based on sex at Cut Meutia Hospital, North Aceh in 2019 showed 38 male patients (53.5%), and 33 female patients (46.5%). Based on the frequency distribution of the characteristics of the respondents for digestive surgery patients based on sex at Cut Meutia Hospital, North Aceh in 2020, it showed that there were 43 male patients (66.2%) and 22 female patients (33.8%) (Table 4).

Table 4 Description of the variables for emergency digestive surgery in 2019 and 2020 at Cut Meutia Hospital

Surgery Type	Frequency (n) 2019	Percentage (%) 2019	Surgery Type	Frequency (n) 2020	Percentage(%) 2020
Appendektomi	12	16,9%	Appendektomi	12	18,5%
Hernioraphy	19	26,8%	Hernioraphy	6	9,2%
Ileostomi	2	2,8%	Ileostomi	5	7,7%
Laparotomi	10	14,1%	Laparotomi	14	21,5%
appendektomi			appendektomi		
Laparotomi	6	8,5%	Laparotomi	4	6,2%
eksisi biopsi			eksisi biopsi		
Laparotomi	4	5,6%	Laparotomi	1	1,5%
repair gaster			biopsi hepar		
Laparotomi	1	1,4%	Laparotomi	9	13,8%
rectopexy			repair gaster		
posterior with					
mesh					
Laparotomi	3	4,2%	Laparotomi	1	1,5%
drainase abses			rectopexy		
intraabdomen			posterior with		
			mesh		
Laparotomi	2	2,8%	Laparotomi	2	3,1%
kolesistektomi			drainase abses		
			intraabdomen		
Laparotomi	12	16,9%	Laparotomi	11	16,9%
repair perforasi			repair perforasi		
usus			usus		
Total	71	100%	Total	65	100%

The most common surgical procedure in 2019 was hernioraphy with 19 actions (26.8%), and in 2020 the most surgical procedure was laparotomy appendectomy with 14 actions (21.5%) (Table 4).

Table 5 Description of the variables for diagnosing emergency digestive operations in 2019

Diagnose	Frequency (n)	Percentage (%)
Acute appendicitis	6	8,5%
Cronic Appendisitis	6	8,5%
HIL Strangulata	2	2,8%
HIL Inkarserata	17	23,9%
Inflammatory bowel disease	2	2,8%
Ileus obstruktif	7	9,9%
Abses hepar	2	2,8%
Intra-abdominal tumor	5	7,7%
Gallstones	2	2,8%
Peritonitis et causa perforasi gaster	4	5,6%
Peritonitis et causa perforasi ileum	4	5,6%
Peritonitis et causa perforasi App	10	14,1%
Peritonitis et causa ruptur hepar	1	1,4%
Peritonitis et causa perforasi jejunum	1	1,4%
Prolaps rectum	1	1,4%
Abdominal wall abscess	1	1,4%
Total	71	100%

Source: Secondary Data, 2022

Table 6 Description of the variables for diagnosing emergency digestive operations in 2020

Diagnose	Frequency (n)	Percentage (%)
Acute appendicitis	11	16,9%
Chronic appendicitis	1	1,5%
HIL Strangulata	1	1,5%
HIL Inkarserata	5	7,7%
Inflammatory bowel disease	5	7,7%
Ileus obstruktif	5	7,7%
Abses hepar	1	1,5%
Intra-abdominal tumor	2	3,1%
Peritonitis et causa perforasi gaster	9	13,8%
Peritonitis et causa perforasi ileum	5	7,6%
Peritonitis et causa perforasi App	14	21,5%
Peritonitis et causa ruptur hepar	1	1,5%

Peritonitis et causa perforasi jejunum	1	1,5%
Prolaps rectum	1	1,5%
Peritonitis et causa fournier gangren dan sepsis	1	1,5%
Colon tumor	2	3,1%
Total	65	100%

Source: Secondary Data, 2022

The results showed that the most frequent distribution of diagnoses for digestive surgery patients at Cut Meutia Hospital, North Aceh in 2019 was incarcerated HIL, with 17 patients (23.9%) and based on table 6, it shows that the distribution of diagnoses for digestive surgery patients at Cut Meutia Hospital, Aceh North in 2020 the most common peritonitis et causa perforated appendicitis in 14 patients (21.5%) (Table 5).

Discussion

The results of the study showed a 4.41% decrease in the number of digestive surgeries during the COVID-19 pandemic from 2019 to 2020. The same thing was reported by Fahrner et al. (2021) during the Swiss ED lock down period. The decrease in the number of patients for digestive surgery in Switzerland is likely due to two things, namely first, the existence of a policy of restrictions from hospitals to maximize health services by diverting workers for the diagnosis and acute care of COVID-19 patients, and reducing unnecessary exposure from patients. and health workers carrying potentially positive but asymptomatic COVID-19 (6). Second, anxiety and concern in the community that there is a higher potential to be infected with COVID-19 when visiting a hospital. According to Cao et al. (2020) that the COVID-19 pandemic has increased the risk of death due to viral infection, and psychological pressure on people in the world (7), including patients in Cut Meutia Hospital. Even though most of the elective services have been stopped, emergency cases must still be handled . In particular, acute abdominal hospitalization and general surgical trauma continue to require emergency care as a necessity (13).

The results of this study indicate the characteristics of patients who underwent digestive surgery in the pre-pandemic period, namely in 2019 the elderly age group was dominated, while during the pandemic in 2020 the late adult age group was dominated.

This finding is in line with a study conducted by Karlafti et al. (2022) who concluded that the majority of digestive surgeries are in men. This is because aging (elderly) affects the function of the gastrointestinal system (GIS) which includes motility, enzyme and hormone secretion, digestion, and absorption. In old age, changes occur such as altered gastric microbiota, reduced mucosal protection mechanisms, decreased blood flow to the stomach, and consequently impaired repair mechanisms, these are the hallmarks of age-related gastric changes (9).

The results of this study also illustrate that patients who underwent digestive surgery before the pandemic (2019) and during the pandemic (2020) were dominated by men, 43 patients. Generally the type of digestive that is done is an inguinal hernia. The results of this study are in line with Karlafti et al. (2022) the incidence of inguinal hernias is nine times greater in men, especially more common in old age because at that age humans experience weakness in the abdominal wall muscles, and pressure due to continuous physical work (10). In addition, men also experience appendicitis more often because men are more often exposed to the outside environment and have irregular eating patterns (11).

The results of the diagnosis showed that HIL incarceration was the most common type of disease before the COVID19 pandemic, but the most common surgical procedure was Hernioraphy. It is commonly suffered (12.7%) by male patients worldwide. Apart from hernias, appendicitis is also one of the highest cases in Indonesia, 0.05%. Appendicitis is said to attack 10 million Indonesians every year and the morbidity rate of appendicitis in Indonesia reaches 95 per 1000 population, this figure is among the highest among ASEAN countries (11).

Conclusion and Suggestion

This study aims to describe the number of digestive surgery patients before the pandemic and during the pandemic. The results of this study showed a decrease in the number of digestive surgery patients before the pandemic, namely in 2019 there were 71 patients, while in 2020 there were 65 patients. This study supports the change in patients in the digestive surgery emergency department where there was a reduction in patients during the COVID-19 pandemic decreased by 4.41%.

The majority based on age in 2019, namely the elderly, there were 16 patients, while during the pandemic, namely late adulthood, there were 10 patients. The majority based on gender in 2019 were 38 male patients, while during the pandemic there were 43 male patients. The majority based on surgery in 2019 was hernioraphy with 19 actions while in 2020 there were 14 laparotomy appendectomies. The majority based on diagnoses in 2019 were incarcerated HIL in 17 patients. And in 2020 there were 14 patients with peritonitis ec perforation. As for some suggestions that are useful for all parties, namely, for hospitals, it is hoped that the results of this study can become a reference and it is hoped that the hospital can complete accurate medical record recording. This research is also expected to be a reference, support, guide, comparison, and researchers who wish to conduct similar research are expected to add more subjects and seek relationships with COVID-19.

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