

Valuable Experience With Urology Emergency Measures Before And During The COVID-19 Pandemic An Experience From Tertiary Hospital

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ABSTRACT

The coronavirus disease (COVID-19) has sparked a significant public health catastrophe, dramatically altering hospital operations. It is critical to assist people who have been infected with the virus and to treat anybody who has developed non-deferrable oncological or urgent benign diseases as a result of the pandemic. Additionally, they agreed on possible ways for reorganising urology's routine practises, as well as recommendations that should make it simpler to schedule inpatient stays and surgical operations in the future if Indonesia has a COVID-19 pandemic. In line with this, only non-deferrable and urgent benign oncological activities have been continued. We examined urgent visits requested by emergency departments (ED) from March 1st to August 30th 2020, during the COVID-19 outbreak comparing the data from January 1st 2019 to February 29th 2020 of pre-COVID-19 pandemic. To compare variables, the Mann-Whitney U and Chi-square tests were utilized. Our research indicates that during the COVID-19 pandemic, the number of people visiting the emergency room decreased (from 408 to 248). This resulted in a 24.39% decrease in visit rates from 60% to 45.6% ($p = 0.001$). The frequency of visits to the ED for urgent conditions such as renal colic, acute urinary retention, hematuria, acute scrotum, genitourinary trauma, and anuria has remained constant as a result of these changes. When comparing this time of year to the previous year, urgent endourology and surgical activities have decreased ($p = 0.02$). The kinds of surgeries performed during COVID-19 differed from those performed at the previous year's event ($p = 0.04$). When a COVID-19 pandemic strikes, urgent urology practice was affected with a remarkable reduction in cases and procedures but it may also educate people on how to properly use an ED after the pandemic.



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1. INTRODUCTION

Beginning on December 31st, Chinese government authorities have been informing the public that the Coronavirus Disease (COVID-19) virus has been rapidly spreading across all continents, reaching the pandemic stage as reported by the World Health Organization on March 11th [1]. Indonesia was initially the country that suffered the most from the disaster in Southeast Asia [2]. Despite the fact that the first case was

recorded in late February 2020, the situation became critical just a few days later [3]. This outbreak has been ongoing since March 8, 2020, and it expanded rapidly during the first week of March 2020, prompting the government to shut schools and businesses on March 20, 2020. There was broad public awareness of the growing pandemic, as well as news coverage of the first local cases, starting at the beginning of March 2020. In accordance with state regulations, elective surgery at our facility was discontinued on March 20, 2020.

Because of the unprecedented impact of the COVID-19 pandemic on health care in Western countries, hospitals are being asked to devote all of their medical and logistical resources to assisting COVID-19 patients and to only provide treatments for urgent operations or non-deferrable oncological therapies to patients. Because of this, all medical activities that are not directly related to the treatment of patients with COVID-19 have been redistributed, which was unavoidable. Medical operations were postponed until the pandemic of COVID-19 was ended, and urgent and non-deferrable tasks were kept separate during this time [2]. Even treatments that are essential but not urgent, such as non-deferrable oncological surgeries in patients with a high anaesthetic risk (ASA 3-4), have been restricted, however, due to the scarcity of critical care unit beds in the United States (ICU). Treatments are therefore restricted to patients with low anaesthetic risk (ASA 1-2) who require surgery for high-risk conditions such as kidney cancer (TCC), urinary tract urothelial cancer (UTUC), prostate cancer (prostate cancer), or bladder cancer, with operations for other cancers being postponed. Alternative treatments for prostate cancer were recommended in cases where they were deemed necessary [4], [5].

The purpose of the article is to report the experience of the Urology Department at Dr. Soetomo General Hospital with regards to urgent inpatient visits and surgical activities before to and during the COVID-19 pandemic.

2. MATERIALS AND METHODS

We examined all patients brought to our unit between January 1st 2019 to February 29th 2020 as pre-COVID-19 pandemic and March 1st to August 30th 2020 as COVID-19 pandemic for an urgent visit required by the Emergency Department (ED). This included patients with renal colic, acute urine retention, hematuria, acute scrotum, genitourinary injuries, and anuria. Additionally, other diseases such as urosepsis dan penile disorders were added. Both surgical treatments for acute scrotum, genito-urinary traumas or infections and emergency endourological procedures for urinary retention or renal colic have been evaluated. These data were obtained a year before to the COVID-19 outbreak and compared to those collected during COVID-19. Statistical analysis was performed using the chi-square and Mann-Whitney U tests. The hospital ethics committee determined that this study was exempt (protocol number 0354/LOE/301.4.2/II/2021).

3. RESULTS

These data show that ED urgent care visits reduced during the COVID-19 pandemic (408 vs 248; $p = 0.001$). Visits to the ED decreased from 62.20 percent to 37.80 percent (Table 1). When the COVID period was compared to the same time previous year, the number of emergency room visits for renal colic, acute urine retention, hematuria, acute scrotum, and anuria decreased. Other disorders such as urosepsis dan penile disorders were also decreased. On the other hand, the number of emergency room visits for genitourinary trauma remained constant. However, none of the patients who required an urgent inpatient visit met the statistical significance threshold ($p = 0.22$).

Table 2 summarizes the of the urological surgeries performed. During the COVID-19 period, surgeries were different ($p = 0.01$). There were 92 (59.4%) procedures performed before COVID-19 and 63 (40.6%) during COVID-19. Based on type of procedures, there were different ($p = 0.04$) compared to the last period.

Table 1. Emergency Department (ED) visits for COVID-19 pandemic-related inpatient care before and during the pandemic.

	Before COVID-19	(%)	During COVID-19	(%)	total	<i>p</i> value
Urgent inpatient visit	408	62.20%	248	37.80%	656	0.00
Renal colic	83	79.05%	22	20.95%	105	
Acute urinary retention	110	65.87%	57	34.13%	167	
Hematuria	70	51.85%	65	48.15%	135	
Acute scrotum Genitourinary trauma	37	59.68%	25	40.32%	62	0.22
Anuria	31	43.66%	40	56.34%	71	
Other disorders	41	65.08%	22	34.92%	63	
	37	71.15%	15	28.85%	52	

p <0.05 statistically significant

Table 2. Before and during the COVID-19 pandemic-related endourological and surgical procedures in emergency setting

	pre-COVID-19		COVID-19	<i>p</i> value	
Total	92	59.4%	63	40.6%	0.02
Urinary Retention Procedures	14	51.9%	13	48.1%	
Debridement	9	50.0%	9	50.0%	
Penile Procedures	5	45.5%	6	54.5%	
Testicular Torsion	6	46.2%	7	53.8%	0.04
GU Trauma Procedures	35	66.0%	18	34.0%	
Abscess Drainage	21	70.0%	9	30.0%	
Others	2	66.7%	1	33.3%	

p <0.05 statistically significant

4. Discussion

In many urological units, the COVID-19 pandemic has changed therapeutic practices forever. As a result of the terrible circumstances of this pandemic, all available health care resources had to be directed on treating COVID-19 patients. Urologists have been requested to assist new COVID-19 units that have arisen all across the nation as a result of numerous Urological Units shutting.

No critical activities have been severely cancelled in our Unit, as per urological recommendations [4], [6]. The requirement for anesthesiologists, mechanical ventilators, and intensive care beds for COVID-19 patients has also delayed cancer procedures in high-risk patients due to undeferrable oncological activities (ASA 3-4) [6]. During the COVID-19 pandemic, significant operations such as a radical cystectomy for bladder tumor needed ICU post-operative monitoring, which was not accessible.

Because of this, we were able to treat patients with low-risk anesthesia (ASA 1-2) and perform only partial nephrectomy or radical urethrectomy for patients with non-muscle invasive high-risk bladder cancer, and radical prostatectomy for high-risk patients who weren't eligible for radiation therapy or radical prostatectomy

for those who weren't. Other people with prostate cancer may benefit from alternative treatments (radiotherapy or androgenic deprivation). According to COVID-19 guidelines, all robotic and laparoscopic operations have been cancelled to prevent viral transmission and to minimize or optimize operating time [5]. This emergency has delayed all non-essential processes until the end of the COVID-19 situation is resolved, and only urgent ones have been maintained.

During the COVID-19 pandemic, we saw a significant drop in the number of urgent inpatient visits handled by the ED (Table 1). This suggests that these visits are frequently unnecessary, while those suggested by the GP were more suitable since they needed emergency treatments. If you have hematuria with clot retention and anemia due to urological neoplasms or radiation pelvis, your doctor may need an urgent hematuria visit. As soon as the anemia has been corrected and vesical catheters have been placed and local irrigation of hemostatic solution has been applied to the patient, radiographic or urological operations must be carried out. People's anxiety and the COVID-19 lock down lowered ED admittance in these instances, thus the number of urgent visits for hematuria needed by the ED dropped. Asymptomatic and isolated cases of hematuria may thus be examined at home using sonography or computed tomography, with the result being that urological follow-up would be unnecessary. As a result, urgent inpatient visits per diagnosis such as renal colic, acute urine retention, hematuria, acute scrotum, genitourinary injuries, and anuria are not changed (Table 1) during the COVID-19 pandemic since they are expected to need immediate endourological or surgical treatment. It's been challenging to make sense of the decline in ED-required urgent visits for all urological emergencies.

It's possible that patients didn't turn up to the ED because severe dysuria is frequently mistaken for urine retention, and during the COVID-19 lockdown, severe dysuria wasn't deemed an urgent issue. Reduced emergency procedures for urological emergencies suggest that these are not required. GPs in secondary hospital instead sent patients with symptoms of emergencies to the hospital, where almost everyone was admitted for urgent endourological procedures. In cases when conservative to relieve the emergency symptoms of an acute scrotum (testicular torsion, trauma, or abscess), surgical operations were carried out. Expert urologists conducted endourological and surgical treatments to keep recovery time and problems to a minimum [7]. Before every emergency operation, every patient was screened for COVID-19, including those who were asymptomatic [8]. Improved Recuperation After Surgery Protocols have been implemented after each therapy and while in the hospital [9], [10].

There are a number of limitations to this research. This is a retrospective research conducted at a single location. It's possible that local variables had an impact on the findings. Only urgent inpatient visits were recorded during COVID-19, and this is most likely due to people's apprehension about COVID-19 and the tight lockdown enforced by official governments, which orders them to "STAY AT HOME." The findings of this study have some consequences for urological emergencies, despite the fact that COVID-19 is still a serious medical problem with unknown repercussions for other medical conditions.

COVID-19 had a detrimental impact on health care service, but it also offered opportunities to increase access. Telemedicine (sometimes called virtual care) and telemonitoring have been shown in recent years to offer advantages in enhancing access to specialists without increasing costs in a number of studies [11], [12]. In the short term, it seems to be a feasible solution to the problems of restricted mobility and a way to reduce unnecessary visits and the risk of virus transmission in the community, but more data is required on telehealth's long-term efficacy and safety [13].

5. Conclusions

Urgent urology practice was affected during COVID-19 pandemic with a remarkable reduction in cases and

procedures due to urologists are not engaged in the first line during the COVID-19 pandemic. However, patients treated for urological emergencies are still prevalent and to avoid severe complications it is essential to perform urgent urological operations.

Finally, COVID-19 has altered urological activities, but it may also educate people on how to properly use an ED after the pandemic. Additional research is needed to determine the long-term consequences of refraining from obtaining emergency treatment and procedures for certain urological presentations.

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7. References

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