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COVID-19 PANDEMIC AND EFFECT OF DELAYED SURGICAL RESPONSE

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ABSTRACT

Objective: To determine the effect of delayed surgical response during COVID19 pandemic. **Methodology:** This was a case series performed in Hanif hospital Karachi, Pakistan during COVID19 outbreak from 15th March 2020 till 15th May 2020 for two months. The inclusion criteria involved only emergency visceral surgeries, including either gender. The exclusion criteria involved patients with COVID positive reports, bleeding disorders. This was a probability consecutive type sampling. The sample size of the study was n=45. **Result:** Total 45 cases were enrolled in study. All the patients presented were mostly males i-e; 38 males and 7 females with mean age 38.31±4.38 yrs. Out of 45, Small bowel obstruction with gangrenous loop of ileum secondary to peritoneal band presented in n=4(8.9%) patients, n=9(20%) cases of perforation of appendix, n=15(33.3%) cases of typhoid perforation, n=6 (13.3%) perforated duodenal ulcer, n=9(20%) patient's perforation of gall bladder, n=2(4.4%) cases were of Internal iliac artery ligation for severe postpartum hemorrhage. **Conclusions:** Increasing complications with increased morbidity especially during pandemic has affected patients physically and psychologically. Only timely intervention at this time can prevent associated morbidity.

KEYWORDS: COVID19, pandemic, Perforation.

INTRODUCTION

COVID-19 is the current pandemic also known as corona virus pandemic, has affected uptil now 4 million cases worldwide till may 2020.[1,2] It has been started in Wuhan, city of Chinese in year 2019 December and spread over the whole Asian countries, Europe, & America with a fastest doubling time 6.4 days.[3] Most of the patients around 81% presenting were asymptomatic or have milder symptoms while around 15% needed hospitalization and 3-4% required ventilator support with death rate vary from 0.34%-4% respectively.[3,4]

Due to increasing frequency of COVID-19 cases, globally practices of general surgeons have also been affected. Increased risk of disease transmission was among dentists, anesthetist, head and maxillofacial surgeons, ophthalmologists. Hospitals were instructed to de-schedule all non-urgent surgeries not affecting patient's life and pain in order to have decreased flow with increased beds availability in hospitals for urgent/emergent cases which needs strict monitoring. Also the purpose of delaying surgeries was to avoid patients from harmful effects of virus which can infect these post-surgical patients more. One study has found that according to 2015 estimates, 12% of surgical hospitalizations were due to visceral surgeries.[5]

Still epidemic of COVID19 in Pakistan is going on with increasing number of cases daily reaching upto 57,705 cases with mortality reaching to 1,197 till end of May 2020.[6-10] All emergency cases involving trauma, ischemia, infections or obstructions needs prompt surgical care. But unfortunately delayed surgical practices by surgeons due to COVID19 outbreak has increased delays in presentations with increasing complications among patients. Even emergent surgeries were initially delayed in different setups and patients then present after days and weeks of presentations.

The aim of study was to case series of 14 patients which were due to deferred surgeries resulted in complications with morbidity and mortality in this COVID19 outbreak.

METHODOLOGY

This is a case series performed in Hanif hospital during COVID19 outbreak from 15th March 2020 till 15th May

2020 for two months. Ethical approval was taken from hospital review boards. The inclusion criteria involved only emergency visceral surgeries, including either gender. The exclusion criteria involved patients with COVID negative reports, bleeding disorders. This was a probability consecutive type sampling. The sample size of the study was n=45.

Patients involved symptoms of abdominal distention, abdominal pain, fever, vomiting. There were 15 patients who presented initially with milder symptoms which progressively increased over the period of week. Patients have been given conservative treatments initially but symptoms did not subside and progressively increased. Patients have been refused by local hospitals for surgeries and therefore delay in presentations and complications. The Real Time-PCR test for COVID19 was done in all patients and when as soon as results found negative were enrolled in the study.

The data analysis was analyzed in statistical software SPSS version 22. The qualitative and quantitative variables were computed and analyzed. The frequencies and percentages were analyzed age, gender, number of surgeries performed.

RESULTS

Total 45 cases were enrolled in study. All the patients presented were mostly males i-e; 38:7 n=38 males and were 8 females with mean age 38.31±4.38 yrs. The patients usually belong middle class (table 1). Mostly patients had their own business while some were clerks and computer handling personnel's/ I.T, while the remaining not working were females and some college students. (Table 1). Mostly the patients did not have any comorbid conditions but some had Diabetes mellitus, hypertension, Chronic obstructive pulmonary disease. (table 1)

Small bowel obstruction with gangrenous loop of ileum secondary to peritoneal band presented in n=4(8.9%) patients, 2 cases in which there was delayed exploration resulting in bowel resection & ileostomy formation. There were n=9(20%) cases of delayed exploration resulting in perforation of appendix with pelvic abscess formation in 6 cases. There were n=15(33.3%) cases of typhoid perforation with delay in presentation as patient waited at home or were taking intravenous pain medications and tried different antibiotics but symptoms exacerbated. Other cases with delayed exploration involved sepsis secondary to perforated duodenal ulcer. There were n=9(20%) patients presented with delay in laparoscopic cholecystectomy with resulting in perforation of gall bladder due to impacted stone at the neck of gall bladder 2 cases. Out of 45, n=2(4.4%) cases were of Internal iliac artery ligation for postpartum hemorrhage for which surgery was given call by gynecologists and ligation was done to secure bleeding. There was no mortality in enrolled patients.

All the patients have been deferred by different hospitals due to COVID 19 outbreak and fear to operate which resulted in delay and therefore complication and morbidity.

Table 1:

Demographic variables	**Frequency(percentages) n=45**
Age in yrs ± SD	38.31 ± 4.38yrs
Gender M:F	38:7
Economic Lower Middle class Higher class	 5 30 7
Occupation Clerk Own Business IT worker Unoccupied	 8 25 6 6
Comorbid condition Diabetes mellitus Hypertension Chronic obstructive pulmonary disease No associated illness	 10 5 3 27

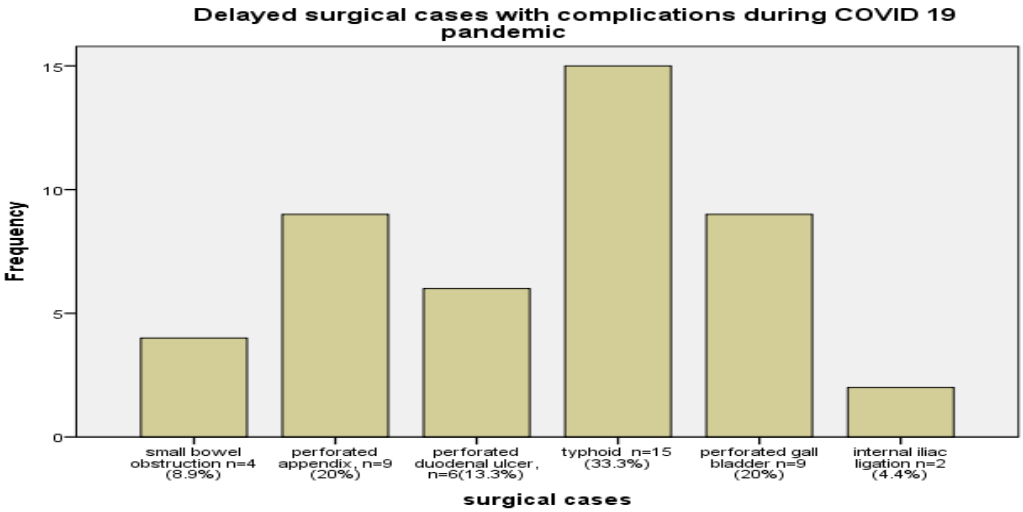

Figure 1:

DISCUSSION

Our study demonstrated that vigilant care is important when dealing with life-threatening emergencies especially in pandemic situations. COVID 19 outbreak has truly been a dilemma in society and people are being affected psychologically and socially with delaying their symptoms and also delaying for surgeries which has also been a concern by some patients or their attendants.[7-10] The Governments has announced to defer the non-urgent surgeries and continue with only emergent surgical conditions which if not treated will result in morbidity and mortality.[7,11,12]

During COVID19 pandemic, delaying elective surgeries, avoids undue patient trafficking, decrease patients spread of disease among symptomatic and asymptomatic carriers. Increased delays among patients however can sometimes result in emergent surgery. Flemming et al has also explained clinically challenging role of surgeons during pandemic and strategies needed to be applied to hospitals in order to prevent spread of COVID19.[11,12]

In our study most of the patients presented with complications were males compared to females. Most of the cases were initially managed in nearby outpatient clinics with different antibiotics given empirically for acute cholecystitis, typhoid fever, acute gastritis and Helicobacter pylori induced duodenal ulcers. While some patients with fever were afraid of pandemic and thus started treated treatment at home extracted from social media and family doctors. After their multiple visits, patients due to unrelenting pain and fever were sent to tertiary care hospitals who also due to nonavailibility of COVID facility did not agreed to keep patient and deferred them to COVID facility due to presence of fever or associated symptoms for COVID19.

All patients had twice and thrice times had their COVID19 test performed and was found negative, despite this a number of big tertiary hospitals with COVID facility, referred them due to oversaturation in hospitals with COVID suspected and confirmed patients. This further delay was the causal factor in almost all of our patients who presented in emergency with severe pain and perforations and required urgent surgeries. Qazi et al has also explained the disruptions and challenges they had to face regarding pediatric emergencies with increasing burden during pandemic in the hospitals with COVID 19 facility.[8-12] Another dilemma associated with patient suffering was financial constraint which has prevented some to go to big COVID 19 private hospitals and bear burden of the costs.

All doctors in our hospital were supplied with daily and mandatory wearing personal protective equipment's with judicious use in hospital.[13-15] All the staff and doctors too, were fully wearing PPEs and following strict COVID 19 precautionary measures. Not only this disposal of the surgical gloves every time patient was reviewed and examined. Postoperatively patients were managed stringently with care in post anesthesia care room/ isolation room in ICU.

CONCLUSIONS

Increasing complications with increased morbidity especially during pandemic has affected patients physically and psychologically. Only timely intervention at this time can prevent associated morbidity.

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