



International Journal of Case Reports (ISSN:2572-8776)



SURGICAL PRACTICE IN A MEDICAL COLLEGE HOSPITAL IN COVID TIMES

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ABSTRACT

Introduction:

We studied the incidence of surgical admissions in our hospital and the presentation of COVID patients

Results:

Of the 190 patients who were admitted during the lockdown period, 5 patients were COVID positive. Soft tissue infections especially diabetic foot and appendicitis were the common presentations

Conclusion:

The theory of obliterative emboli could account for the overall surgical presentations seen due to COVID 19.

Keywords: COVID 19; Surgery; emergency

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How to cite this article:

Rekha A, Dinesh KB, Sivarahini, Arihanth Ravichandran. SURGICAL PRACTICE IN A MEDICAL COLLEGE HOSPITAL IN COVID TIMES. International Journal of Case Reports, 2020; 4:152.

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Introduction

The novel corona virus COVID 19, unleashed a pandemic of gargantuan proportions.

The impact was felt by the people not only in the health care segments but as well in economic, social and educational sectors.

Aim of this study

To study the incidence of COVID patients at a private not for profit medical college hospital from March 2020 to June 2020

To study the profile of patients who presented with surgical complaints

To study the incidence of COVID 19 positive patients in the surgical population.

To analyse the subset of COVID patients with surgical complaints.

Materials and Methods

This was a prospective study done from March 2020 to June 2020 at Saveetha Medical College Hospitals from the period that the lockdown was announced by the government of India.

Data from operative records was collected and laboratory investigations were collected. The study population includes all patients who underwent surgery in the general surgery department in that period. All patients admitted, underwent preoperative swabs for COVID 19, by RT PCR. However, since we didn't have the results preoperatively, all the patients were assumed positive, and the emergency surgery was performed with full PPE.

Results

The number of surgical procedures performed in the preceding months is represented as table 1, to give a representation of the decrease in surgical patient volume in the last 4 months. It is evident that the number of surgical procedures has fallen dramatically. The factors could include probably migration of the population back to their native towns, lack of facility to reach the hospital, economic reasons and fear to come to the hospital. These are factors that are not studied in this paper.

We had a total of 190 procedures performed in the department in the last 4 months. The breakup of these cases is given in Table 2. Soft tissue infections including diabetic foot ulcers

accounted for 47.37% of the admissions, followed by acute appendicitis accounting for 19.47%. Patients seeking attention for malignancy include 7.3%, one patient for perforation and SMA thrombosis and 15.8% had miscellaneous problems.

Of the 37 patients with acute appendicitis, 2 patients were COVID 19 positive which is less than 1% of the study group. Two patients who were positive had diabetic foot ulcer requiring debridement and one patient had a thrombosis of the superior mesenteric artery requiring small bowel resection and anastomoses. Out of the 190 patients who underwent surgery, 2.6% (5patients) were COVID 19 positive. In all patients the reports were available after surgery only. What was also surprising was that we had a whopping 73.7% male patients, (140) reflecting the disparity in seeking medical care. Several reports talk about the inequalities during the pandemic and this could also be a reflection of the same. Table 3 shows the demographics of the population studied.

When we analysed the patients who were C19 positive, 2 had acute appendicitis, two had diabetic foot ulcers and one had the SMA thrombus. None of these patients presented with respiratory symptoms of breathlessness, cough, or rhinorrhoea. The laboratory findings of these patients is summarised in table 4. The patient M, with a diabetic foot required a below knee amputation. He was found to be diabetic, had a thrombus below the popliteal artery. His CRP was >90mg/dl, bilirubin was elevated (1.9mg/dl), alkaline phosphatase was elevated (243).

In view of the thrombus, D Dimer was sent and it was 2032. INR was elevated at 2.31. His TSH was also elevated.

What was evident in this initial study is that due to the pandemic, there is a substantial fall in the number of surgical admissions.^{1,2} The various factors cited for the decreased numbers include the nation wide lockdown in India.

The near total stop of vehicular traffic meant that many people could not reach hospitals for treatment. The regulatory authorities encouraged hospitals to focus on COVID and avoid elective

surgeries. Patients were reluctant to seek health care due to fear of acquiring infection in a hospital hot spot compounding the issues created by the lockdown, travel bans and movement restrictions. Women’s health took an obvious back seat with over 73% males only seeking surgical

attention. The gender disparity due to Covid has been addressed by the MSF and other organisations³, yet the woman as the primary care giver is bound to home chores and her health is put on the back burner.

Table 1 showing the number of patients seeking surgery during the pandemic

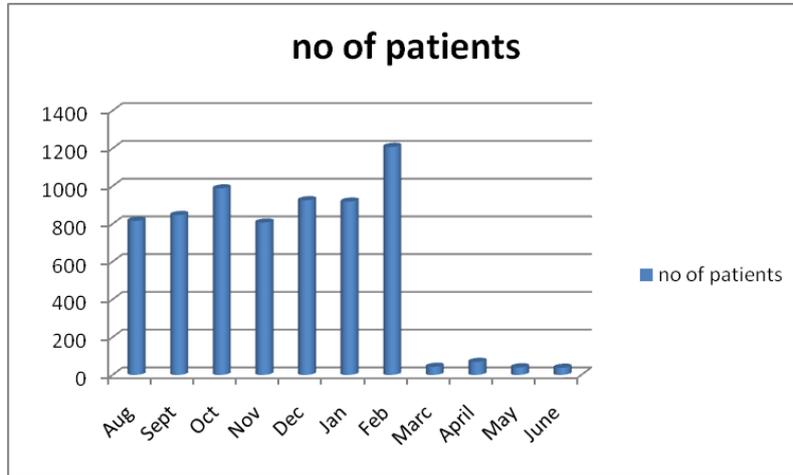


Table 2 shows the distribution of the surgical patients

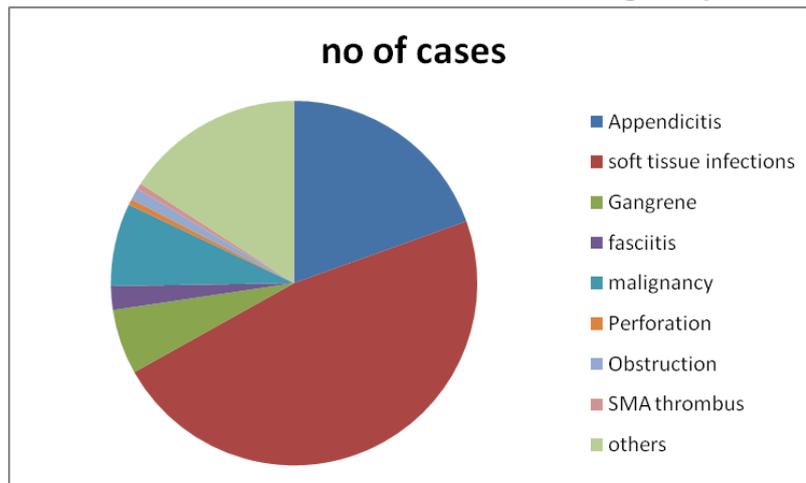


Table 3 showing the demographics of the study population

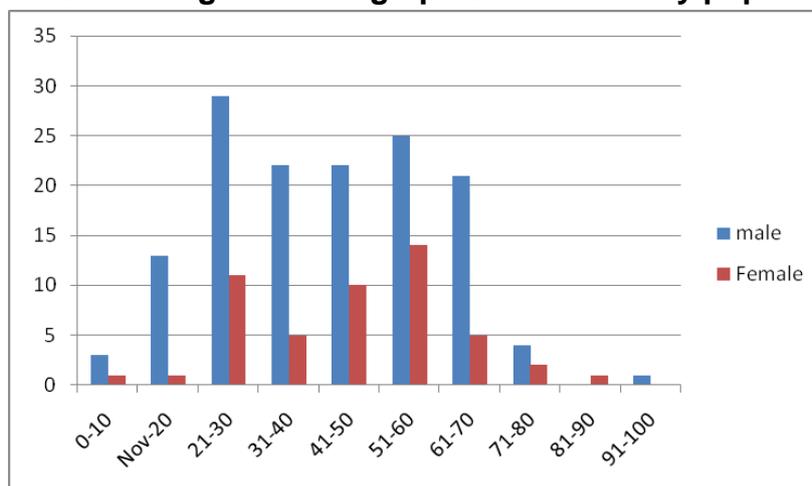


Table 4 show the profile of the COVID 19 positive surgical patients.

Patient	Age	Gender	Diagnosis	TLC	Lymphocyte count	Hb gm%
L	45	F	Ac appendicitis	20,300	7.60%	10.8
M	70	M	DM foot	17900	2.50%	11.7
R	37	M	SMA thrombus	4200	8.50%	14
J	26	M	Ac appendicitis	11000	11.00%	11.3
R	55	F	DM foot	11900	6.40%	8.1

Discussuion

The huge decrease in surgical volume has implication on surgical trainee programs⁴. The final exams have been reduced to virtual case based scenarios and the first year residents are roped into COVID duty. The residents have drastically reduced operative training chances. Anaesthetists (decreased operating times) and protocols dictate that the senior surgeon finish the surgery and this further diminishes their training.

When we analysed the patients seeking surgical help, a little less than 50% of all patients had soft tissue infection (80% of them diabetic), requiring debridements and wound dressing in addition to diabetic control. Approximately 8% presented with gangrene and necrotising fasciitis, indicative of decreased vascularity and possible thrombus. In small vessel disease in a low resource setting, digital amputations offer rapid recovery. Several colleges have issued directives regarding surgical mangemnet in COVID times^{5,6}. The most common surgical procedure was appendectomy in nearly 20% of the population. There have been a few papers suggesting that the GI manifestations of COVID mimic appendicitis⁷. Of the 37 patients who had appendectomy, only 2 were COVID positive.

SARS-CoV-2, the causative of COVID-19, uses angiotensin-converting enzyme 2 (ACE2), which expressed on the cell membranes of the lungs, intestines, arteries, heart, and kidney cells; as an entry point to get into the cell for replication. Consistent with the pathophysiology that COVID produces micro thrombi, it is plausible that the obliterative arteritis is the cause for all the pathology we observed in our population -the appendicitis, the diabetic foot gangrene, and the mesenteric ischemia.

All the COVID positive patients (table 4) showed features of sepsis (as evidenced by their leucocyte counts). Lymphopenia was observed in Patient M. He had features of peripheral arterial occlusion, secondary to diabetes and required a below knee amputation. His D dimer was elevated (2032), his CRP was elevated(>90mg/dl), platelets were normal, total bilirubin was slightly elevated(1.9mg/dl) and surprisingly TSH elevated(7.68IU). He required postop ICU care, had a stormy postoperative period, but recovered and was discharged.

The seemingly small numbers of surgery must be interpreted in the background that our hospital is a COVID centre and in the time period of the study we had 670 Covid patients, with 35 deaths. We had a mortality rate of nearly 5% in this period. So the incidence of surgical presentation in COVID positive is 0.74 %. We had two surgeons test positive during this 4-month period.

Conclusions

In our hospital, less than 1% (0.7%) presented with surgical symptoms due to COVID.

Young males (21-30) presented during lockdown with surgical problems

The most common admission was for drainage/debridement of soft tissue infections (47.37%), followed by acute appendicitis (19.47%), gangrene (8%) and malignancy (7.3%).

Only 2.63% of all surgical patients were COVID positive.

The COVID positive diabetic food patient with lymphopenia and elevated D dimer had a stormy postoperative period after his below knee amputation.

References

1. Alberto Patriti, Emilio Eugeni, and Francesco Guerra

What happened to surgical emergencies in the era of COVID-19 outbreak? Considerations of surgeons working in an Italian COVID-19 red zoneUpdates Surg. 2020 Apr 23: 1–2.doi: 10.1007/s13304-020-00779-6 [Epub ahead of print]

2. 2) J Lee , J Y Choi , M S Kim Elective surgeries during the COVID-19 outbreak Br J Surg. 2020 Jul;107(8):e250. doi: 10.1002/bjs.11697. Epub 2020 May 14.
3. Women and girls face greater dangers during the CoVID pandemic says the MSF in its news letter<https://www.msf.org/women-and-girls-face-greater-dangers-during-covid-19-pandemic>
4. Bernardi L et al., Impact of COVID-19 pandemic on general surgery training program: An Italian experience, The American Journal of Surgery, <https://doi.org/10.1016/j.amjsurg.2020.06.010>
5. COVID-19: guidance for triage of non-emergent surgical procedures. *American College of surgeons*. 2020. <https://www.facs.org/covid-19/clinical-guidance/triage> Available from:
6. Federico Coccolini, Gennaro Perrone, Fausto Catenena Surgery in COVID-19 patients: operational directivesWorld Journal of Emergency Surgery volume 15, Article number: 25 (2020)
7. Ahmed Abdalhadi, Mohammed Alkhatib, Ahmad Y. Mismar, Waleed Awouda, and Loai Albarqouni Can COVID 19 present like appendicitis? IDCases. 2020; 21: e00860.

