

IMPACT OF THE COVID-19 PANDEMIC ON PEDIATRIC SURGICAL PRACTICE IN A TERTIARY CARE HOSPITAL

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Abstract

Introduction: COVID-19 has been everywhere for one year. The first case was reported in early December 2019 and was tagged Pneumonia of unknown origin from the sea whale market in Wuhan City, Hubei Province, China. Cases started slowly to swell up. The WHO was informed by the Chinese health authorities about the novelty of this corona virus genome. World Health Organization (WHO) was informed by the Chinese health authority about the novel nature of this genome of corona virus.

Materials and Methods: We conducted an analytic cross-sectional study at Kurnool Medical College and GGH, Kurnool. The study was retrospective, considering patients who consulted and/or were operated on in our service of pediatric surgery. The study period went from 24 September 2019 to 23 September 2020. It was subdivided into two six-month periods: the first, before the lock down, was declared (24 September 2019 to 23 March 2020), and the second, during the lockdown period (24 March to 23 September 2020).

Results: During the study period, a total of 6476 consultations were recorded, 1696 patients were admitted to the hospital, and 1225 surgical interventions were performed, 450 of which were emergency procedures. When these activities were compared between the two eras, there was a general decline during the pandemic period: 62.7% fewer consultations, 46% fewer hospitalized patients, 52.4% less surgical interventions, and 55.8% fewer emergency surgical operations. When using Pearson's chi-squared test, all of these differences were found to be statistically significant.

Conclusion: The covid-19 pandemic has challenged the practice of pediatric surgery in the whole world, including in our environment. This resulted in a global reduction of all activities with consequences on pediatric health, which should be investigated in further studies.

Key Words: COVID-19,

INTRODUCTION

COVID-19 has been everywhere for one year. The first case was reported in early December 2019 and was tagged Pneumonia of unknown origin from the sea whale market in Wuhan City, Hubei Province, China.¹

Cases started slowly to swell up. The WHO was informed by the Chinese health authorities about the novelty of this coronavirus genome. World Health Organization (WHO) was informed by the Chinese health authority about the novel nature of this genome of corona virus.²

Since December 2019, the disease has been declared a public health emergency of global concern by the WHO from January 30 to 2020. Globally USA, Italy, Spain, China, Germany, and Iran have been the most hit countries.³

In India, there has been an alarming increase in the incidence of COVID-19. As of December 31, the total number of COVID-19 cases has increased to over one and a half million. Fortunately, children and teenagers have not been the most affected by the virus, even though these two groups are not immune to this new virus. Although vulnerable groups among population <20 years are; prematurity, cystic fibrosis, post-transplant patient's malignancy, children on steroid therapy.⁴

In many countries, there was a complete shutdown of hospital based services for elective surgery. Clearly, the unprecedented pressure on health services was all over the world pediatric surgery Services were no exemptions.⁵

MATERIALS AND METHODS

We conducted an analytic cross-sectional study at Kurnool Medical College And GGH, Kurnool. The study was retrospective, considering patients who consulted and/or were operated on in our service of pediatric surgery. The study period went from 24 September 2019 to 23 September 2020. It was subdivided into two six-month periods: the first, before the lock down, was declared (24 September 2019 to 23 March 2020), and the second, during the lockdown period (24 March to 23 September 2020).

From the data of the service of medical information, we retrospectively collected the number of outpatient and emergency consultations, the number of hospitalized patients, and the number of those who underwent surgical intervention. The waiting time for elective surgery was collected from the registry of planning elective surgical interventions.

During the pandemic period, our service of pediatric surgery initiated some changes to reduce the exposition of health workers to covid-19. This included: (a) reduction of staffing, allowing morning meetings only between teams on call for briefing; (b) cancellation of in-presence

courses, with their replacement by online courses, mainly using Zoom platform; (c) categorization of surgical intervention in elective, semi-elective and emergencies, with the latter two being practiced during the pandemic period. Results are presented in numbers and percentages. A comparison of numbers between the two six-month periods was made using Pearson’s chi-squared test, considering the difference to be significant with a p-value < 0.05.

RESULTS

During the study period, a total of 6476 consultations were recorded, 1696 patients were admitted to the hospital, and 1225 surgical interventions were performed, 450 of which were emergency procedures.

When these activities were compared between the two eras, there was a general decline during the pandemic period: 62.7% fewer consultations, 46% fewer hospitalized patients, 52.4% less surgical interventions, and 55.8% fewer emergency surgical operations. When using Pearson’s chi-squared test, all of these differences were found to be statistically significant.

The mean time to elective surgery was four months eight days before the national emergency proclamation and passed to eight months and seven days during the first six months of the national emergency proclamation.

	Before the pandemic	During the pandemic	Total	P-Value
Consultations	5715	2761	8476	<0.001
Hospitalizations	1101	595	1696	<0.001
Surgical Interventions	830	395	1225	<0.001
Emergency Surgical Interventions	312	138	450	<0.001

Table 1: Comparison of pediatric surgical activity

DISCUSSION

The purpose of this analytic cross-sectional study was to assess the influence of the covid-19 epidemic on surgical activities at our facility.

As a result of the covid-19 epidemic, certain medical professions modified their practises to limit viral transmission during the "stay-at-home" phase. This allowed some hospitals to reallocate resources to better manage covid-19 patients while keeping the remaining beds available for surgical emergencies.⁶

Some surgical guidelines, such as surgical prioritisation, have been proposed. Guidelines lead to less contamination in patients and medical personnel, according to evidence. As a result, activity in surgical units across all surgical subspecialties were reduced globally.⁷

Our study found that outpatient consultations were reduced by 62.7%. This is comparable to the findings of others who observed reductions ranging from 78 to 82%. In this situation, several teams decided to give telemedicine. Despite the stay-at-home restriction, the greatest benefit is the continuation of some outpatient consultation. The lack of physical examination and live touch, on the other hand, is a significant drawback.⁸

Implementing a telemedicine service in our circumstances seemed unthinkable because the internet is only available to 47% of the population and urgent development of a telemedicine service would be costly, especially at a time when most resources are devoted to combating the covid-19 outbreak. The reduction in outpatient visits resulted in a 46% decrease in hospitalisations.⁹

During the pandemic period, many guidelines suggested the postponement of elective procedures. Globally, surgical interventions were reduced by 52.4%. This was noted by other authors who found a 62.7% reduction.¹⁰

The timing to surgery for elective surgery almost doubled in our study. This is because elective surgeries were postponed while applying our guidelines. Other institutions reported a delay in elective surgeries, with incensement in the time to surgery.

CONCLUSION

The covid-19 pandemic has challenged the practice of pediatric surgery in the whole world, including in our environment. This resulted in a global reduction of all activities with consequences on pediatric health, which should be investigated in further studies.

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