

Ear, Nose, Throat and Head and Neck Surgery Activity in Tertiary Care Center during COVID-19 Pandemic

Krishna Chandra Rijal,¹ Krishna Prasad Koirala,¹ Bikram Babu Karki,¹ Manita Maharjan,¹

¹Dept. of ENT and HNS, Manipal College of Medical Sciences, Pokhara, Nepal.

ABSTRACT

Introduction

Corona virus disease 2019 (COVID 19) is an infectious respiratory disease caused by the novel virus severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Till 31st August 2020, 39460 COVID-19 positive cases confirmed and 228 deaths occurred in Nepal. The surgical activities in the division of ENT and HNS (Ear, Nose, Throat and Head and Neck Surgery) across the world has been affected with many hospitals confining themselves to only emergency or essential surgeries due to implementation of lockdown by many countries. Manipal Teaching Hospital being a tertiary care referral centre in western Nepal has wide array of cases coming from various parts of the country and due to the pandemic the surgical activity of our ENT and HNS unit has undergone profound changes.

Methods

A six months prospective study of "ENT and HNS Surgical Activity in Tertiary Care Center during COVID-19 Pandemic" was conducted in the department of ENT and HNS, Manipal college of Medical Sciences, Pokhara, Nepal. Statistical analysis of the study was done for various parameters like age, sex, incidence and types of elective and emergency surgeries and comparing the frequency of surgeries done during the COVID-19 pandemic vs that during the same period in the previous year.

Results

This study includes a total of 56 surgery cases out of which 26 were emergency and 30 were elective. Among 26 emergency cases, five were ear, one was nose, nine were throat and 11 were head & neck cases. Similarly, among 30 elective cases, six were ear, eight were nose, 11 were throat and five were head & neck cases. The most commonly performed emergency cases were incision and drainage of abscess followed by repair of wounds and rigid oesophagoscopy and removal of foreign body. Commonly performed elective cases were excision of ENT and HNS lesions followed by Functional endoscopic sinus surgery.

Conclusions

The COVID-19 pandemic caused a steep decrease in ENT and HNS surgical activities both the elective and emergency surgery.

Keywords: COVID-19; emergency; elective, surgery.

Correspondence: Dr. Krishna Chandra Rijal, MBBS, MS (ENT & HNS), Department of ENT & HNS, MCOMS, Pokhara, Nepal. Email: krisschnd@gmail.com. Phone: +977-9856066609.

INTRODUCTION

Ear, nose, throat and Head & Neck surgeries are common in all tertiary health care centers. Early diagnosis and surgical management if required will result in reduction of morbidity and mortality in both emergency and elective surgery. An incomparable outbreak of respiratory illness in Wuhan, Hubei province, China, was declared in December 2019. A novel coronavirus, provisionally referred to as 2019 novel coronavirus (2019-nCoV) and later named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was identified on 12 January 2020. On 11 February 2020, the World Health Organization officially named the disease caused by the virus: COVID-19 and officially announced as a pandemic in March 2020.¹ Till 31st August 2020, 39460 COVID-19 positive cases confirmed and 228 deaths occurred in Nepal.² Amongst all healthcare specialists, otolaryngologists are at a high risk of being exposed to the Sars-cov2 virus by the nature of their work at high risk for exposure to respiratory pathogens.^{3,4} Health care systems worldwide have been affected by COVID-19 emergences and had a drastic effect on the activity of otolaryngology services where both emergency and elective surgical activity was limited.⁵

The coronavirus disease 2019 (COVID-19) pandemic caused a steep decrease in elective surgery scheduling, to the extent of complete cancellation without future planning of safe development,⁶ and those regions where the COVID-19 pandemic is now developing should assume that emergency surgery activity will decrease to one third of normal.⁷ Several factors could explain this situation. First, patients delaying visits to the Emergency Department to avoid being infected. Second, changes in lifestyle during confinement could explain the lower

incidence of some diseases. Also, more patients could be being treated without surgery especially the elective cases. Finally, elective procedures are being postponed, resulting in fewer patients requiring surgical intervention.⁷ The aim of this work is discuss the surgical activity of ENT and HNS unit of Manipal Teaching Hospital, Nepal during the pandemic. Particular attention was given to the number of procedures and type of surgery performed during the pandemic, and data were compared with the same period in 2019.

METHODS

This prospective analytic study was conducted in the department of ENT and HNS, Manipal Teaching Hospital, Nepal. A total 56 cases of emergency and elective surgeries done in Operation Theater from 1st march to 31st august 2020 of all age groups were included in the study. Statistical analysis of the study was done for various parameters like age, sex, incidence, types of elective and emergency surgeries and comparing the frequency of surgeries done during the COVID-19 pandemic vs that during the same period in the previous year.

RESULTS

A total of 56 surgery cases were included in the study of which 27 were male and 29 were female (Figure 1). Maximum patients were within 20 years of age. The minimum age of presentation being nine months and maximum age of 81 years with a mean age 40.87 of years (Figure 2). Among 56 cases, 26 were emergency cases and 30 were elective cases (Table 1) with maximum surgeries (n=15) were done during the month of august and minimum (n=3) during the month of June (Figure 3). Among 26 emergency cases, five were ear, one was nose, nine were throat and 11 were head & neck cases. Similarly, among 30 elective cases, six were ear, eight were nose,

11 were throat and five were head & neck cases. The commonly performed emergency cases were incision and drainage of abscess followed by repair of wounds and rigid oesophagoscopy and removal of foreign body and that of elective cases were excision of ENT and head & neck lesions followed by Functional endoscopic sinus surgery (Table 1). Total of 56 surgeries were performed from 1st march to 31st august 2020 whereas 140 surgeries were performed during the same period in the previous year (Figure 4).

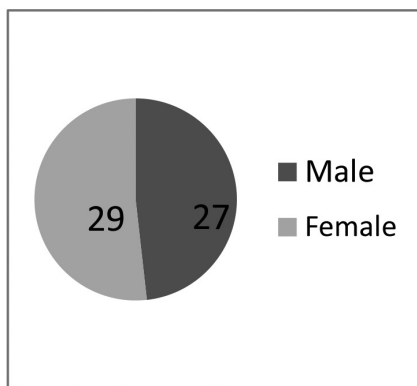


Figure 1. Sex distribution (n=56)

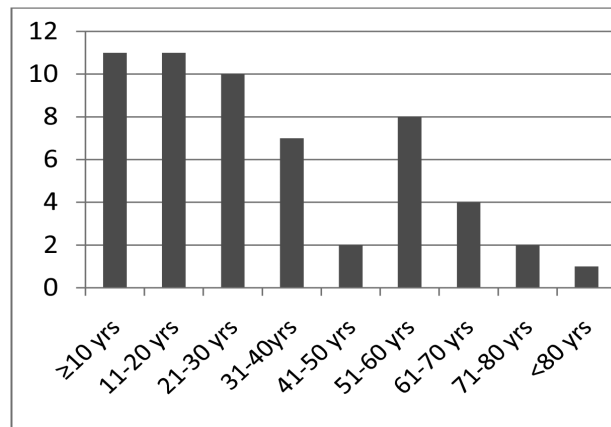


Figure 2. Age distribution (n=56)

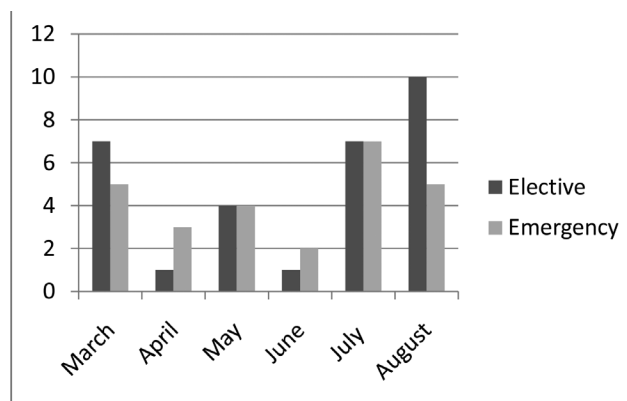


Figure 3. Elective and emergency surgeries distribution according to month during COVID-19 Pandemic (n=56)

Elective surgery		Emergency surgery	
Type	Frequency	Type	Frequency
Excision of lesions	7	Incision and drainage	13
FESS	5	Repair of wound	7
Mastoid exploration	3	Rigid oesophagoscopy	4
Tonsillectomy	3	Foreign body removal-ear	1
Septoplasty	2	Tracheostomy	1
Tracheostomy	2		
Aural polypectomy	2		
Tympanoplasty	1		
Medial maxillectomy	1		
DL Biopsy	1		
Microlaryngeal surgery	1		
Superficial parotidectomy	1		
Hemithyroidectomy	1		
Total	30		

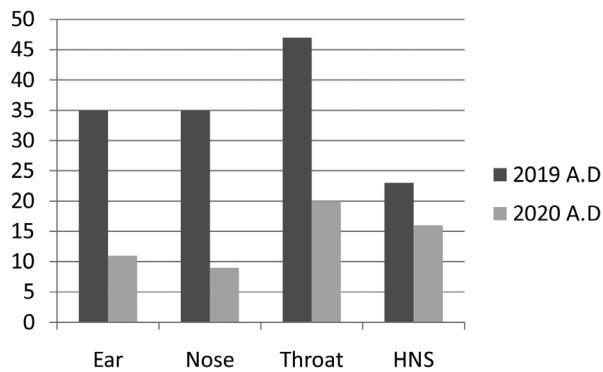


Figure 4. Comparing the frequency of surgeries done during the COVID-19 pandemic vs that during the same period in the previous year.

DISCUSSION

The coronavirus disease 2019 (COVID-19) pandemic is causing profound changes in worldwide health care systems, resulting in a major reduction of surgical interventions and routine non-urgent outpatient diagnostic procedures.⁸ From 1st march to 31st august 2019, 140 ENT and Head & Neck surgeries were performed in our hospital of which 40 were emergency and 100 were elective cases. But during similar time frame from 1st march to 31st august 2020, there is steep decrease in both emergency and elective surgery by 60% accounts 26 emergency and 30 elective cases which was also supported by research conducted by Camarena C et al⁶ and Ralli M et al.⁸ Similarly, in a study performed by Valderrama C et al,⁷ surgical activity was reduced to one-third of the expected level. Koirala KP⁹ in his study shows rigid esophagoscopy, septoplasty, myringoplasty, mastoid exploration, tonsillectomy and endoscopic sinus surgeries were the most commonly performed surgeries during non COVID period which is also supported by our study. In our study rigid esophagoscopy 25 (17.85%) was the most commonly performed emergency surgery whereas

endoscopic sinus surgeries 20 (14.28%) followed by tympanoplasty 10 (7.14%) and mastoid exploration 10 (7.14%) were the most commonly performed elective surgeries during non COVID period. Similarly, incision and drainage 13 (23.21%), repair of wounds 7 (12.5%) and rigid oesophagoscopy with removal of foreign body 4 (7.14%) were the most commonly performed emergency surgeries and excisions of head and neck lesions 7 (12.5%) was the most commonly performed elective surgeries during COVID-19 pandemic. Similar study by Atru B et al¹⁰ showed 52 surgeries were performed during the period of 24th march to 20th may, 2020 whereas 255 surgeries were performed during the same period in the previous year and commonly performed surgeries were airway surgeries 28 (53.8%), deep neck infections 7 (13.4%), malignancies of head and neck 6 (11.54%), foreign body removal 5 (9.6%), emergency nasal debridement 5 (9.6%) and surgeries of unsafe ear 1 (2%).

CONCLUSIONS

Ear, nose, throat and Head & Neck surgeries are common in all tertiary health care centers. The COVID-19 pandemic caused a drastic change in ENT and HNS surgical activities both the elective and emergency surgery. Several factors could explain this situation like patients delaying visits to the hospitals because of inadequate transport facilities due to partial and complete lockdown, to avoid being infected, changes in lifestyle, more patients could be being treated without surgery especially the elective cases and elective procedures are being postponed, resulting in fewer patients requiring surgical intervention.

REFERENCES

1. Simone BD, Chouillard E, Saverio SD, Pagani L, Sartelli M, Biffi WL et al. Emergency surgery during the COVID-19 pandemic: what you need to know for practice. *Ann R Coll Surg Engl.* 2020;102:323–332. <https://doi.org/10.1308/rcsann.2020.0097>
2. COVID19: Nepal COVID 19 and Flood Response Situation Report No.XXII, as of 31 August 2020. Published online August 31, 2020. <https://reliefweb.int/report/nepal/COVID19-nepal-COVID-19-and-flood-response-situation-report-noxxii-31-august-2020>
3. Sharma A, Bhardwaj R. COVID-19 and ENT surgery: a brief review of essential precautions and triage. *Eur Arch Otorhinolaryngol.* Published online Jul 11, 2020. <https://doi.org/10.1007/s00405-020-06207-0>
4. Cui C, Yao Q, Zhang D, Zhao Y, Zhang K, Nisenbaum E et al. Approaching Otolaryngology patients during the COVID-19 pandemic. *Otolaryngology-Head and Neck Surgery.* 2020;163(1):121–131. <https://doi.org/10.1177%2F0194599820926144>
5. Ralli M, Minni A, Candelori F, Cialente F, Greco A, Vincentiis MD. Effects of COVID-19 Pandemic on Otolaryngology Surgery in Italy: The Experience of Our University Hospital. *Otolaryngology-Head and Neck Surgery.* Published online May 19, 2020. <https://doi.org/10.1177%2F0194599820928970>
6. Camarena C, Marin JEB, Duran H, Hoyos A, Romero COL, Cervantes JAR et al. Elective Surgery during SARS-Cov-2/COVID-19 Pandemic: Safety Protocols with Literature Review. *Plastic and Reconstructive Surgery.* 2020;8(6):e2973. <https://dx.doi.org/10.1097%2F0000000000002973>
7. Valderrama C, Morales X, Ferrigni CJ, Antona EM, Turrado V, García A et al. Reduction in emergency surgery activity during COVID-19 pandemic in three Spanish hospitals. *The British Journal of surgery.* 2020;107(8):e239. <https://dx.doi.org/10.1002%2Fbjs.11667>
8. Ralli M, Greco A, Vincentiis MD. The Effects of the COVID-19/SARS-CoV-2 Pandemic Outbreak on Otolaryngology Activity in Italy. *Ear, Nose & Throat Journal.* 2020; 99(9):565-566. <https://doi.org/10.1177%2F0145561320923893>
9. Koirala KP. Analysis of otorhinolaryngology related surgeries performed in a tertiary care center over four years' period. *Asian Journal of Medical Sciences.* 2020;11(3):22-26. <https://doi.org/10.3126/ajms.v11i3.27399>
10. Atru B, Sutrave M, George R, James R, Anita Ross A, C.B P. Otolaryngology Surgical Activity in Tertiary Care Center During the COVID-19 Lockdown. *Indian Journal of Otolaryngology and Head & Neck Surgery.* Published online Oct 1, 2020. <https://dx.doi.org/10.1007%2F012070-020-02155-7>

Citation: Rijal K, Koirala K, Karki B, Maharjan M. Ear, Nose, Throat and Head and Neck Surgery Activity in Tertiary Care Center during COVID-19 Pandemic. *JCMS Nepal.* 2021; 17(2); 180-84.