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ORIGINAL RESEARCH ARTICLE

PATTERNS OF ENT- HEAD AND NECK SURGERIES IN A TERTIARY HOSPITAL OF NEPAL

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ABSTRACT

Background: Otorhinolaryngology, also known as Ear, Nose, Throat, Head, and Neck Surgery (ENT-HNS), deals with a variety of illnesses. Scientific progress has significantly changed this field worldwide. Despite this, Nepal, as a developing nation, lacks data on ENT surgeries. Our study seeks to analyse surgery trends to improve planning and treatment at the policy-making level.

Methods: This descriptive cross-sectional study was conducted at the Nepal APF Hospital's Department of ENT-HNS. The study collected data from patients of both sexes and all ages who had operations performed by the ENT department between January 2022 and December 2023. Data were analyzed, and the findings were published to search for patterns in the various surgical procedures.

Results: Of the 370 surgeries performed during these two years, major surgeries included tympanoplasty, septoplasty, adenotonsillectomy, endoscopic sinus surgery, and thyroid surgery. Common intermediate and minor surgeries included excision of minor and benign head and neck lesions, cervical lymph nodes, and tongue biopsy. Both individual types and overall surgeries were more frequent in the second year compared to the first.

Conclusions: In our research, the trend of conducting significant otolaryngology and head and neck surgeries at our institution is on the rise. The increasing volume underscores the necessity for departmental expansion, incorporation of recent advancements, establishment of super-specialties, and specialized training of surgeons, particularly in government hospitals like ours.

INTRODUCTION

Ear, Nose, and Throat(ENT) - Head and Neck surgery (HNS)or Otorhinolaryngology is a developing subspecialty of surgery.[1] This field encompasses ear, nose, throat, and head and neck surgeries, ranging from minor to complex procedures. The patterns of these surgeries are different worldwidedepending partly on the competency of human resources and partly on the technology available in that particular centre. However, the trend seems to be ever changing. This might be due to better understanding of the disease process, awareness, globalization, introduction of day care surgeries and better anesthetic techniques.[2]

The trend of ENT related surgeries has advanced in the recent years. Worldwide, conditions requiring surgical care account for 11-30% of global burden of diseases.[3] However, not many studies have been done in our part of the world to look for the trend which signifies the burden of the related diseases in the community. In Nepal, majority of population live below poverty line so, the quest in fulfilling the basic needs discourage people to seek medical help for specially those related to ENT. This results in them landing up with complications.[4] So, this study will help to bridge this kind of gap.

This study aimed to observe the pattern of ENT-related pathologies at a tertiary-level hospital in Nepal, thereby understanding the burden of nonsurgical versus surgical ENT-related problems. The final goal is to influence policy-making and budget allocation to enhance healthcare access for nonsurgical cases in outpatient settings and track the surgical trend over time.

METHODS

This retrospective study was conducted in the Department of ENT-Head and Neck Surgery at Nepal APF Hospital, a tertiary care center in the outskirt of Kathmandu. The study population included patients who underwent ENT-related surgeries over a period of two years (Jan 2022 to Dec 2023). The study was carried` out after approval from the Institutional Review Committee of Nepal APF Hospital (IRC/NAPFH-003/2024) was obtained.

Patients of all age groups and of both sexes who underwent elective ENT surgeries (both major and minor) in the department were included in this study. Major surgeries included all the surgeries done under general anesthesia, and minor surgeries included those performed under local or regional anesthesia.

Patients who underwent emergency surgeries were excluded from the study.

Data for the study were obtained from the medical record department, the outpatient operation booking register, and the operation theatre register. Demographic features such as age, gender, and other relevant information were obtained. Data on patients' conditions, such as clinical features, diagnosis, indication for surgery, and type of surgery, were taken using a proforma. All data obtained were collected, documented, and analyzed and then expressed in percentages, frequency tables, and charts.

RESULTS

A total of 370 surgeries were performed including both major and minor during the period of two years. The average number of surgeries performed per year was 185. Out of total patients who underwent surgery, 249 were male and 121 were female. The male to female ratio was 2:1as depicted in the figure 1.

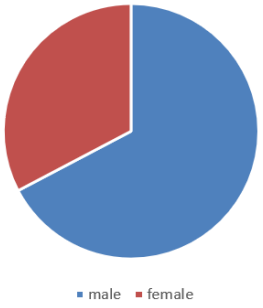

Figure 1: Sex distribution of patients

The age distribution was found to be quite variable ranging till the two extremes of life. The age of the patients ranged from 3 to 88 years. However, the maximum number of surgeries performed were in patients of 20-40 years of age, as shown in the Table 1.

Table 1: Age distribution of surgery

Age	Frequency
0-10	17
11-20	48
21-30	103
31-40	144
41-50	30
51-60	15
61-70	8
71-80	4
80-90	1

The total number of surgeries done in the year 2022 and 2023 were 158 and 212 respectively. Among them the number of ear, nose, throat, head and neck surgeries were 120, 100, 74 and 76 respectively. The most commonly performed major surgery was Septoplasty(n=58), followed by Tympanoplasty (n=52), followed by (Adeno) tonsillectomy(n=52), FESS(n=33), thyroid surgery(n=15), Modified Radical Mastoidectomy(n=13), Micro Laryngeal Surgery (MLS)(n=10), (Fig.2); and a few number of other procedures like Ventilation Tube Insertion(n=6), Parotid surgeries(n=2) etc.

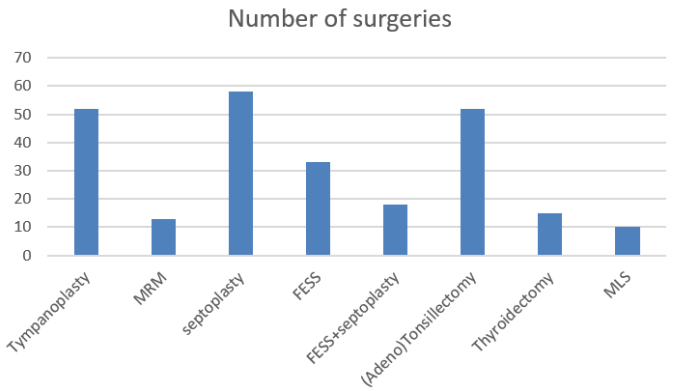

Figure 2: Frequencies of specific major surgeries

Among minor procedures, the commonest one was excision of benign lesions from ear, nose and head and neck region (n= 37). This includes excision of sebaceous cyst, epidermal cyst, pseudocyst, papilloma, lipoma and aural polyps. This was followed by lymph node biopsy(n=13), pinna keloid excision(n=11), excision of mucus retention cyst(n=7), tongue ulcer biopsy(n=7) and few cases of Preauricular Sinus Excision and Abscess Drainage.

The number of surgeries performed in the year 2023 was much higher than that in 2022 as shown in the Figure 3.

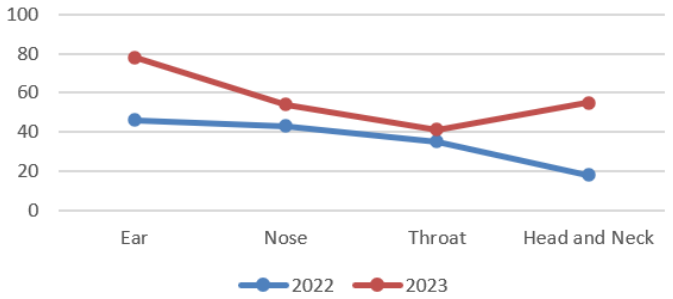

Figure 3: Number of surgeries in the year 2022 and 2023

Overall as well as individual procedures were done in higher numbers in the second year in comparison to the first.

DISCUSSION

ENT-HNS is a specialty that had been practiced as a sub-specialty of surgery for a long time and later developed into a separate full-fledged specialty.[1]The current sub-specialties under ENT are otology, neuro-otology, skull-

base surgery, rhinology, laryngology, phonosurgery, head and neck oncology, sialology, pediatric otolaryngology, and facial plastic surgery.[5] Due to the variety of organs involved and also due to the ever-evolving advances in this field, the learning curve is very steep. Thus, there is the need for the upgradation of surgical skills regularly by the surgical team by attending different training programs.[4]

Globally, access and availability of surgical care in developing countries remains scarce.[6] Nepal APF Hospital is in an evolving phase and so is its ENT department. With only two surgeons and limited resources, it has been providing the utmost service to the beneficiaries which includes Nepal APF staff, ex-staffs, their families, and civilians. The surgeries done are mostly in the early adult population and noticeably low in the extreme ages similar to the study by Harikrishnan et al.[7]

In the present study, the total number of surgeries performed in the second year is higher than in the first. This pattern might be contributed because endoscopic tympanoplasty was introduced in the year 2023 at this center. Another thing to be noted is that the major volume included surgeries that need less expertise and those that needed more, like surgeries for major head and neck malignancy, glomus tumors, vascular malformations and neck dissection, are very less in number. These were referred to other centers due to inadequacy of surgical as well as technical expertise at our center.

During the two-year period, the commonest surgery was tympanoplasty which is similar to the studies done by Afsal et al[8] and Singh et al[9] in different parts of India. This depicts the wide prevalence of otitis media in this part of the world. It is the most common cause of persistent mild to moderate hearing impairment in children and young adults and a study showed that the prevalence of chronic suppurative otitis media in children studying in urban private schools of Nepal is 5.0%.[10] The second commonest surgery was tonsillectomy which also has been found to be in an increasing trend. Although (adeno)tonsillectomy remains one of the most commonly performed operations in children worldwide,[11] tonsillectomy in adults was found to be more common in our study. In contrast, the study done by Douglas et al showed that the tonsillectomy trend has been decreasing over 2 decades.[12] However, other studies showed that (adeno) tonsillectomy is still one of the most common surgeries performed in the ENT department.[7,13,14] The common surgeries in the nose were septoplasty and septoplasty combined with Functional Endoscopic Sinus Surgery (FESS). The trend of these types of surgery was seen to be increasing similar to the study by Pynnonen et al which concluded that the rates of sinus surgery increased over their study period.[15] However, recently, image guidance surgeries have been focused on where the facilities of such are available. Another common surgery performed was thyroid surgery with a maximum number of hemithyroidectomies and few total thyroidectomies done for papillary carcinoma of the thyroid. Other major head and neck malignancies and tumors like glomus tumors were not treated at our center but referred to cancer centers with a view of better treatment outcomes and thus survival rates.[16] The trend is similar to many tertiary hospitals within a similar socioeconomic background.[7,8,17,18] This shows that surgeries like the common ones in this study can be done in limited settings with limited resources and are also more prevalent in society but the rarer diseases with atypical presentations still remain a challenge even at a tertiary level of our country. They obviously need specialized and advanced diagnostic modalities along with more expertise.

In the present study, all of the individual types as well as the overall surgeries were performed more in number in the second year than in the first. The increasing trend signifies the increase in the overall number of patients in spite of many private centers providing ENT care in the near vicinity or within a few kilometers distance. The growing number emphasizes the need for the growth of the department, addition of the recent advances, development of super-specialties, and training of the surgeons for the same.It is largely believed that the provision of surgical services in low-income countries like ours is inadequate to the need.[19] Benchmarking operative volume and resources is necessary to understand current efforts addressing surgical need.[20]These types of studies can positively impact in training healthcare professionals with the necessary skills to address the disease burden effectively.

Our study is a short retrospective study conducted only at APF hospital, so the findings may not be generalizable. A longer prospective study at various tertiary-level hospitals would provide a more comprehensive observation of the trend. Additionally, this study does not include emergency surgeries performed in the department, which also contributes significantly to the volume.

CONCLUSION

Ear, nose, and throat (ENT) involve a wide range of treatment and surgical procedures. In this study, the trend is an overall rise in number of both major and minor surgeries conducted in the department. In conclusion, there is a growing demand for ENT specialists and specialized training to offer more advanced tertiary care. In addition to that, this kind of studies will help for planning at a larger scale which will eventually help government to provide adequate infrastructure to the tertiary hospital.

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CONFLICT OF INTEREST: None

FINANCIAL DISCLOSURE: None

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