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Research Article

Otolaryngology consultations requested by palliative care services: a five-year analysis

Palyatif bakım servisinden istenilen kulak burun boğaz konsültasyonları: beş yıllık analiz

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Abstract

Introduction: Otolaryngologists are required to possess the knowledge, skills, and confidence necessary to manage consultations requested by palliative care services. However, the inclusion of palliative care needs in otolaryngology residency training is limited. The goal of this study was to enhance awareness of otolaryngologists' palliative care knowledge and skills by evaluating otolaryngology consultations requested by tertiary palliative care services between 2016 and 2021.

Methods: This retrospective cross-sectional study included patients who consulted the otolaryngology department from the palliative care service of Kutahya Health Sciences University between January 1, 2016 and September 31, 2021. A total of 80 otolaryngology consultations were requested between 2016 and 2021. Patients were evaluated for age, gender, diagnosis of palliative admission, reason for consultation, date of consultation, interventions, and additional investigations.

Results: There were 27 female patients (33.7%) and 53 male patients (66.2%). The mean age was 65.0 (range: 22-97) years. It was found that the volume of consultations did not increase significantly over a five-year period (p=0.502) and 78.8 % of consultations were requested during working hours (08:00-16:00). In addition, the response time (minutes) for consultations during working hours (08:00-16:00) was significantly lower than outside working hours (16:01-07:59) (p<0.001). The reasons for requesting a consultation and the procedures performed were significantly different between patients under and over 65 years of age (p=0.019 and p=0.008, respectively).

Conclusions: This is the first study to evaluate otolaryngology consultations requested by a tertiary palliative care service. Awareness of these consultations may provide guidance for the assessment and management of patients in palliative care services.

Keywords: consultation, otolaryngology, tracheotomy, palliative care

Öz

Giriş: Kulak burun boğaz (KBB) hekimlerinin palyatif bakım servisinden talep edilen konsültasyonları yönetmek için bilgi, beceri ve güvene sahip olmaları gerekmektedir. Ancak, KBB eğitiminde palyatif bakım gereksinimlerine çok az yer verilmektedir. 2016-2021 yılları arasında üçüncü basamak palyatif bakım servisinden talep KBB konsültasyonların değerlendirilmesi ile KBB hekimin palyatif bakım bilgi ve becerilerinin farkındalığının artırılması amaçlandı.

Yöntem: Bu retrospektif, kesitsel çalışmaya, 01 Ocak 2016 ile 31 Eylül 2021 tarihleri arasında Kütahya Sağlık Bilimleri Üniversitesi palyatif bakım servisinden KBB bölümüne konsülte edilen hastalar dahil edildi. 2016-2021 yılları arasında talep edilen KBB konsültasyonu 80'idi. Hastalar yaş, cinsiyet, palyatif yatış tanısı, konsültasyon isteme nedeni, konsültasyon tarihi, ek tetkik ve girişimler açısından değerlendirildi.

Bulgular: Hastaların 27'si (%33,7) kadın, 53'ü (%66,2) erkekti. Ortalama yaş 65 (aralık:22-97) olarak bulundu. Konsültasyon hacminin beş yıllık süre içinde anlamlı bir artış göstermediği (p=0,502) ve konsültasyonların %78,8'inin mesai saatleri içinde (08:00-16:00) talep edildiği izlendi. Ayrıca mesai saatleri içindeki (08:00-16:00) konsültasyona yanıt süresinin mesai saatleri dışına göre (16:01-07:59) anlamlı derecede daha düşük izlendi (p<0.001). Palyatif bakım servisinde takip edilen 65 yaş altı ve 65 yaş üstü hastaların konsültasyon talep edilme nedenleri ve yapılan işlemler anlamlı derecede farklı olarak izlendi (sırasıyla p=0.019 ve p=0.008).

Sonuç: Üçüncü basamak palyatif bakım servisi tarafından talep edilen KBB konsültasyonlarını inceleyen ilk çalışmadır. Bu konsültasyonlara ilişkin farkındalık, palyatif bakım servislerindeki hastaların değerlendirilmesi ve yönetilmesi için rehberlik sağlayabilir.

Anahtar Kelimeler: konsültasyon, otolaringoloji, trakeotomi, palyatif bakım

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Key Points

1. This is the first study of otolaryngology consultations requested by a tertiary palliative care service.
2. 78.8% of consultations were requested during working hours.
3. Consultation response time during working hours was significantly shorter than outside of working hours.
4. The reasons for requesting a consultation and the procedure performed were different for patients under and over 65 years of age.
5. The most common consultation was tracheotomy care/replacement.

Introduction

Consultation is defined as a physician's request for help in the diagnosis and treatment of specialists in other disciplines [1]. This request for help is important in the management of patients receiving palliative care. Palliative care is "the improvement of quality of life by relieving pain and physical and psychological problems when a life-threatening illness is not likely to be cured" [2]. It is estimated that approximately 60 million people need palliative care each year [3]. This requirement is expected to double by 2060. The main reasons for this increase are the growing elderly population and prevalence of cancer diagnoses [4].

It is imperative that otolaryngologists have the knowledge, skills, and confidence to manage consultations requested by palliative care services. However, there is limited coverage of palliative care needs in the training curriculum. A study of 145 otolaryngologists found a general lack of knowledge regarding palliative care decisions for patients with head and neck cancer [5]. In addition, Ballou & Brasel reported that postgraduate education and training opportunities for acquiring palliative care knowledge and skills are limited [6]. Palliative care knowledge and skills are typically acquired through direct exposure and self-learning. In addition, this experience and knowledge may vary according to geographic region and teaching hospital characteristics [7].

Studies evaluating palliative care services in the management of patients with head and neck cancer have been reported in the literature [8-11]. However, no study has assessed otolaryngology consultations of patients followed in palliative care services. Investigating the volume and range of otolaryngology consultations requested by palliative care services can improve patient outcomes by encouraging interdisciplinary training. This retrospective cross-sectional study aimed to evaluate otolaryngology consultations requested by tertiary palliative care services between 2016 and 2021 in terms of requests, demographic characteristics, procedures performed, and age groups.

Methods

Ethical Approval, informed consent and permissions

This study received approval from the Ethics Committee of Kutahya Health Sciences University (2021/11-29). It was retrospective and cross-sectional. The study included patients who were consulted by the palliative care service of Kutahya Health Sciences University's otolaryngology department between January 1, 2016, and September 30, 2021. Patient records were retrospectively evaluated using an automated system. Between 2016 and 2021, the total number of consultations requested by the tertiary palliative service from other departments was 3326. The number of otolaryngology consultations requested in the same period was 80 (2.4%). The patients were analyzed for age, gender, diagnosis of palliative admission, reason for consultation request, date of consultation, imaging modalities, and interventions performed. Consultation requests that were not completed by the palliative care service, verbal requests, and repeated consultations of two or more were excluded from the study.

Statistical Analysis

Data analysis was conducted using IBM SPSS 25 USA statistical package program [12]. Descriptive analyses involved calculating frequency distributions and percentages for categorical variables, expressing means as standard deviations, and reporting medians as minimum-maximum values. The chi-squared test was used to assess the relationship between categorical variables. As the data did not follow a normal distribution, the Mann-Whitney U test was employed to compare measurements between groups. Statistical significance was set at $p < 0.05$.

Results

A total of 80 otolaryngology consultations were requested between 2016 and 2021. Of these consultations, 12.5% (n=10) were performed in 2016, 16.2% (n=13) in 2017, 17.5% (n=14) in 2018, 21.2% (n=17) in 2019, 17.5% (n=14) in 2020, and 15.0% (n=12) in 2021. When grouped by year, 46.2% (n=37) consultations were requested between 2016-2018 and 53.7% (n=43) between 2019 and 2021. No significant differences were observed when grouped by year (x^2=0.450, df=1, p=0.502) **(Table 1).**

Table 1. Otolaryngology consultations requested from palliative care services by year

	2016-2018 year	2019-2021 year	P value
Otolaryngology consultations	46.2 % (n=37)	53.7 % (n=43)	p=0.502

Categorical data were expressed in frequency (n) and percentage. The chi-square test was used to compare categorical variables.

Among the 80 patients included in the study, 33.7% (n=27) were female, and 66.2% (n=53) were male. The male/female ratio was 1.9. The mean age was 65.0 (range:22-97) years. The mean age of women was 72.1 years (range:31-97) and the mean age of men was 61.3 years (range:22-91). In our study, 46.2 % (n=37) were 65 years of age or under, and 53.7 % (n=43) were over 65. The distribution of genders was significantly different between the age groups under and > 65 years (x^2=4.529, df=1, p=0.033) (Table 2).

Table 2. Distribution of patients over and under 65 years of age by gender

Age	Man	Women	P value
≤65	54.7% (n=29)	29.6% (n=8)	p=0.033
>65	45.3% (n=24)	70.4% (n=19)	

Categorical data were expressed in frequency (n) and percentage. The chi-square test was used to compare categorical variables.

It was found that 78.8% (n=63) of the consultation requests were made between 08.00-16.00 hours and 21.5% (n=17) between 16.01-07.59 hours. There was a significant difference between consultations during working hours (08.00-16.00) and consultations outside working hours (16.01-07.59) (x^2=26.4, df=1, p<0.001) (Figure 1). The median response time for consultations during working hours was 129 (SD:174, range:4-724) minutes, while the median response time for consultations outside working hours was 383 (SD:327, range:62-1052) minutes. When the response times for consultations during and outside working hours were compared using the Mann-Whitney U test, a significant difference was observed **(**p<0.001).

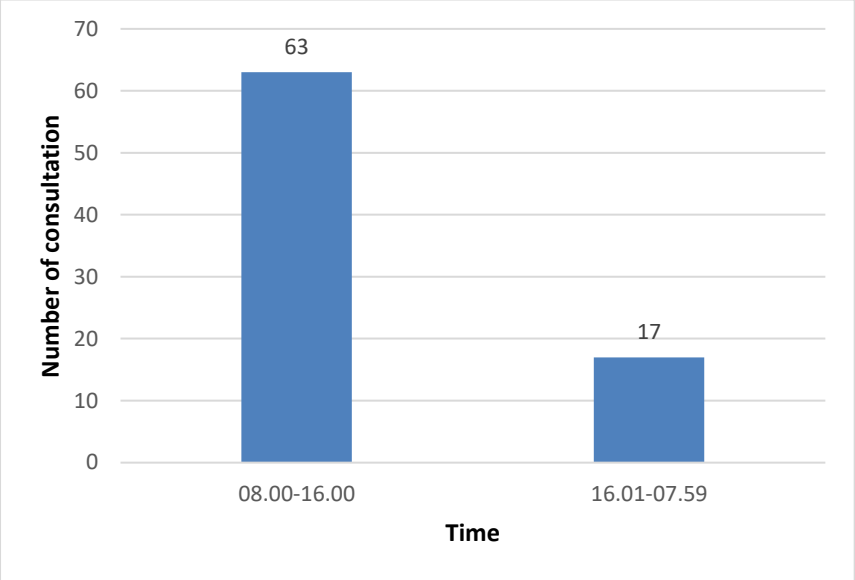

Figure 1. Number of consultations requested during working hours and outside of working hours.

Among the patients included in our study, 30.0 % (n = 24) were admitted to the palliative care service due to cerebrovascular problems, 13.7 % (n = 11) due to laryngeal cancer, 12.5 % (n = 10) due to hypertension and related complications, 6.2 % (n = 5) due to fall complications, and 5.0 % (n = 4) due to amyotrophic lateral sclerosis. When we evaluated the patients included in our study with respect to otolaryngologic diagnoses during palliative care follow-up, 13.7% (n= 11) had laryngeal cancer, 2.5% (n = 2) had paranasal sinus tumors, and 2.5% (n = 2) had nasopharyngeal cancer.

The most common requests for consultation from palliative care to otolaryngology were tracheotomy care/replacement 42.5% (n=34), oropharyngeal problems 7.5% (n=6) and dysphonia 11.2% (n=9). When the requests for consultation were grouped according to age (under and over 65 years), a significant difference was observed (x^2=21.238 df=10, p=0.019) **(Table 3).**

Table 3. Requests according to age group

Requests for consultations	≤65 age	>65 age
Dysphagia	-	5 (11.6%)
Dysphonia	6 (16.2%)	3 (7%)
Ear/hearing-balance problem	2 (5.4%)	4 (9.3%)
Epistaxis	1 (2.7%)	4 (9.3%)
Evaluation for the health board committee	2 (5.4%)	3 (7.0%)
Evaluation of operation	-	2 (4.7%)
Mass in the neck	1 (2.7%)	1 (2.3%)
Oral/oropharyngeal problem	-	6 (14.0%)
Otalgia	1 (2.7%)	2 (4.7%)
Sinonasal complaints	1 (2.7%)	2 (4.7%)
Tracheotomy care and replacement	23 (62.2%)	11(25.6%)

The five most common procedures were tracheostomy cannula replacement 42.5% (n=34), oral/wound care 26.2% (n=21), flexible nasolaryngoscopy examination 7.5% (n=6), tracheotomy 7.5% (n=6), and epistaxis management 6.2% (n=5). A significant difference (x^2=22.234, df=9, p=0.008) was observed when comparing the procedures performed according to age group (under and over 65 years) (Table 4).

Table 4. Procedures according to age group

Procedures	≤65 age	>65 age
Epistaxis management	1 (2.7%)	4 (9.3%)
Excisional biopsy from the neck and lymph node	-	1 (2.3%)
Flexible nasolaryngoscopy examination	-	6 (14.0%)
Incisional biopsy	-	2 (4,7%)
Treatment of inflammation	-	1 (2.3%)
Oral/wound care	6 (16.2%)	15 (34.9%)
Tracheotomy	5 (13.5%)	1 (2.3%)
Tracheostomy cannula replacement	23 (62.2%)	11 (25.6%)
Vestibular rehabilitation	1 (2.7%)	1 (2.3%)
Vocal cord paralysis treatment	1 (2.7%)	1 (2.3%)

Computed tomography was ordered in 22.5 % (n=18) of the consultations, audiologic testing in 13.7 % (n=11), ultrasonography in 2.5 % (n=2), magnetic resonance imaging in 2.5 % (n=2), and vestibular testing in 2.5 % (n=2).

Discussion

This is one of the first studies to assess trends in the volume of otolaryngology consultations requested by a tertiary palliative care service. There was no significant increase in the number of consultations over the five-year period (p=0.502). 78.8% of consultations were during working hours. The response time for consultations during working hours was significantly lower than that for consultations outside working hours (p<0.001). The reasons for requesting a consultation and the frequency of procedures performed differed between patients under and over 65 years of age (p=0.019 and p=0.008, respectively).

The total number of consultations requested by the palliative care service between 2016 and 2021 was 3326. There were 80 otolaryngology consultations in the same period. This was 2.4% (80/3326) of the total number of consultations. In Topuz's study, the number of otolaryngology consultations requested from palliative care services was low, similar to our findings [13]. When the number of consultations was grouped according to the period 2016-2018 and 2019-2021, no significant difference in the volume of consultations was observed (p=0.502). In a study by Sher et al. evaluating the volume of otolaryngology consultations, a significant increase in the number of consultations was observed over the years [14]. Contrary to the literature, the lack of increase in our study may be due to the closure of the palliative care service due to the Covid-19 pandemic.

The mean age of the patients was 65.0 years (range:22-97). In Choi et al. study, the mean age of patients was 50.3 years [15]. Similar to our study, Kozlov et al. reported a mean age of 69.5 [16]. Forty-six percent were under 65 years old, and 53 percent were over 65 years old. In a study by Snijders et al. with 73.833 patients, 63% were older than 65 years [17]. In addition, in a study by Yuruyen et al, the proportion of patients older than 65 years was 71.5 % [18]. In contrast to the literature, the proportions of patients under and over 65 years of age in our study were similar. However, there was a significant difference in the gender distribution of patients under and over 65 years of age (p=0.033). To determine the reasons for this distribution, further studies with larger numbers of patients are needed.

It was found that 78.8 % of the otolaryngology consultations were requested during working hours. A significant difference was found when comparing the number of consultations requested during and outside working hours (p<0.001). Sher et al reported that 65.0 % of consultations were requested outside working hours [14]. This difference may be due to the fact that the majority of consultations in Sher's study were from the emergency department. Furthermore, the response times for consultations during and outside working hours were significantly different (p<0.001). In a prospective descriptive study by Karakaya et al, the mean response time for otolaryngology consultations requested from the emergency department was reported to be 30 minutes [19]. The mean response times in our study were longer than those reported by Karakaya. The data obtained in this study may play a role in providing faster and more effective services by raising awareness of the long response times for outside working hours consultations.

Analyzing the diagnoses of the patients included in the study, 30.0 % (n=24) were followed for cerebrovascular disease, 13.7 % (n=11) for laryngeal cancer, and 12.5 % (n=10) for hypertension complications. Kaasa et al. reported that in a study of 3013 patients receiving palliative care services, 93.9 % of patients had a history of cancer [20]. A study published in 2014 by Murtagh et al. reported an increasing need for palliative care in patients with cardiac, cerebrovascular, and neurodegenerative diagnoses in high-income countries [21]. In the study by Yuruyen et al, the most common diagnosis in palliative care was cerebrovascular disease, 9.7 % [18]. The results of our study were consistent with those reported in the literature. However, the characteristics of health care in different countries may lead to different results. In addition, when the patients included in the study were evaluated in terms of otolaryngology diagnoses, the most common diagnosis was laryngeal cancer (13.7 %). Mulvey et al. found that among 4029 head and neck cancer patients followed up in palliative care, the most common diagnosis was oropharyngeal cancer (39.1 %) [22]. These discrepancies may be due to differences in geographic location.

In our study, the most common reason for consultation was tracheotomy care/replacement (42.5%). Choi & Russell reported that the most common reason for otolaryngology consultation was airway evaluation [15,23]. The results of our study clearly show the importance of otolaryngologists as "airway specialists". Therefore, it is important to consider airway in palliative care patients. It is important that otolaryngologists providing palliative care services are aware of tracheostomy tubes, aspiration, tube replacement, and appropriate cannula selection. This awareness may reduce the devastating consequences of cannula replacements. Identifying frequently requested consultations may help to prepare resident training curricula. In Topuz's study, the most common reason for consultation in patients over 65 years of age was tracheotomy/tracheostomy [13]. This

finding is similar to that of the present study. Although the most common reason was tracheotomy care/replacement in all age groups, the reasons for requesting consultation differed according to age (under and over 65 years) (p=0.019). It is suggested that consultation for oropharyngeal problems, dysphagia, and epistaxis, especially with increasing age, may have caused this difference.

The most common procedures were tracheostomy cannula replacement 42.5%, oral/wound care 26.2%, and flexible nasolaryngoscopy 7.5%. Garneau et al. reported that flexible nasolaryngoscopy 38.2 % was the most common procedure performed in patients who were referred from the emergency department to the otolaryngology department [24]. The most common procedure performed in the Choi study was flexible nasolaryngoscopy 55.7% [15]. Our most common procedure rates differed from those reported in the literature. The reason for this difference may be the heterogeneity of the patients followed in the palliative care service. When the most common procedures were compared according to age (under and over 65 years), the most common procedure under 65 years was tracheostomy cannula replacement 62.2%, whereas the most common procedure over 65 years was oral/wound care 34.9%. The procedures performed differed significantly (p=0.008) between those under and those over 65 years of age. Studies with larger patient populations may play an important role in determining the age-specific procedures.

Additional investigations were ordered in 43.7% of patients. In a study analyzing otolaryngology consultations, the rate of additional investigations was reported to be 5.0% [25]. In our study, the rate of additional investigations may have increased by including only inpatients. Aydin et al. reported that computed tomography was the preferred imaging method in patients who were admitted to the emergency department [26]. In our study, computed tomography was the most commonly used imaging modality, as reported in the literature. The short procedure time and easy access may be the reason for the frequent preference of computed tomography.

Limitations

Despite the utmost care, the retrospective study design and single-center results limited our study. Our patient numbers were low due to the recent establishment of the palliative care service and the use of the palliative care service as a Covid-19 intensive care service in 2020-2021. Finally, the number of consultations was based on the availability of the electronic medical records. However, consultations were sometimes requested verbally. Therefore, the total number of consultations was higher than in this study.

Conclusion

This is the first study to evaluate otolaryngology consultations requested by palliative care services. To our knowledge, this is the first study to evaluate otolaryngology consultations requested by palliative care services. Patient profiles may vary due to regional and geographic differences. Therefore, similar studies conducted in different geographical regions will contribute to a better understanding of the characteristics of otolaryngology consultations requested by palliative care services. The results of this study may also guide the curriculum needed to prepare otolaryngology residents to provide consultation services in teaching hospitals.

Conflict of interest: The authors declare that they have no conflicts of interest.

Author Contributions		**Author Initials**
SCD	Study Conception and Design	NT, YK
AD	Acquisition of Data	MV
AID	Analysis and Interpretation of Data	NT
DM	Drafting of Manuscript	NT, MV
CR	Critical Revision	NT, YK

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