

ORIGINAL ARTICLE

Medicine Science 2023;12(2):532-5

What had changed in patient incoming to ear, nose and throat polyclinics during COVID-19 Pandemic?

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Received 05 April 2023; Accepted 22 May 2023

Available online 26.05.2023 with doi: 10.5455/medscience.2023.04.049

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Abstract

Covid-19 Pandemic had significant effects on the diagnosis and treatment process of the patients incoming to ENT (ear-nose-throat) polyclinics. In this study, we aimed to evaluate the changes caused by covid-19 pandemic on the patient profiles and visiting reasons between the pre-pandemic and pandemic same periods. The data of the patients who had visited the ENT polyclinics between 01.09.2020-31.12.2020 and the pre-pandemic same period (01.09.2019-31.12.2019) is collected from the automation system of our hospital and evaluated retrospectively. The number of incoming patients to ENT polyclinics had decreased by 55.38% in 2020 when compared to the same period in 2019. The percentage of patients with facial paralysis is seen to increase in 2020. Both the percentage and number of patients with upper respiratory tract infections other than covid-19 and pediatric tonsillitis and adenoiditis are seen to decrease in 2020. However, it is observed that the patient incomings with upper respiratory tract infections other than the covid-19 and pediatric tonsillitis and adenoiditis are decreased because of the precautions taken to prevent the spread of the covid-19 infection, this decrease in patient incomings to the hospital is thought to have adverse effects on the diagnose and treatment of many other diseases.

Keywords: Covid-19, otolaryngology, facial paralysis, tonsil diseases

Introduction

In December 2019, there had been a few cases of a viral pneumonia reported in the city of Wuhan in China and the pathogen was defined as “Severe Acute Respiratory Syndrome Coronavirus-2 (SARS CoV-2)”. And the disease is named as Coronavirus Disease-2019[1]. In 11 March 2020 first Covid-19 case in Turkey had been confirmed[2]. In our country, as in whole world, the number of patients affected by Coronavirus Disease-2019 is continuing to increase. The Pandemic times are the times that, while struggling with the pandemic disease, other fundamental diseases that needs to get mandatory or emergency treatments should be prioritized[3]. Patients of the ENT diseases are substantially affected during Covid-19 Pandemic. In this

period decreases in the outpatient visitings and reductions/temporary endings of elective surgeries had major effects on the diagnosis and treatments of the malignancies and severe head and neck infections[4].

The fear of getting infected by Covid-19 is thought to have a major role in the reduction of hospital incomings of the patients. Especially the requirement of the unmasked and close distance examination in the ENT polyclinic disturbs the patients and the doctors. The aim of our study is to determine the changes in the visiting reasons and patient profiles of ENT polyclinic incomings of the patients during prepandemic and pandemic same periods of year by examining the diagnoses, ages and gender distributions.

CITATION

Unal A, Cecen A, Ozdemir D. What had changed in patient incoming to ear, nose and throat polyclinics during covid-19 pandemic?. Med Science. 2023;12(2):532-5.



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Material and Methods

This study is carried on with the 2021/2/11 numbered approval of the ethical committee of non-interventional clinical researches at University of Health Sciences Samsun Health Practices and Research Center,a tertiary health care center, and all the procedures are done to be convenient to Helsinki Declaration.

In our study, the data(diagnose, age, gender) that is collected from the automation system of the hospital about the outpatient incomings to the ENT polyclinic between 01.09.2020-31.12.2020 when number of patients affected from pandemic was high and between 01.09.2019-31.12.2019 the same term of the prepandemic year is retrospectively examined. If more than one diagnoses have existed, the primary one is recorded. Patients from the emergency department and the ones who came to show their previous results have been excluded. According to their diagnoses, the patients are separated into 11 groups.

- 1.Head and Neck Malignities
- 2.Plug, Otitis Externa, External audotory canal diseases
- 3.Chronic Otitis Media, Otosclerosis, Adhesive Otitis
- 4.Loss of Hearing, Tinnitus and Vertigo
- 5.Facial Paralysis
- 6.Rhinitis, Epistaxis, Sinusitis
- 7.Diseases of the tonsils and adenoids
- 8.Benign diseases of the vocal cords and larynx
- 9.Cervical mass, branchial cyst, Salivary gland diseases, Lenfadenitis
- 10.Upper Respiratory infections except Covid
- 11.Others

Statistical Analysis

The data of the years 2019 and 2020 collected from the automation system is examined by SPSS(Statistical Package for Social Sciences) for Windows 22.0. Descriptive statistics are shown as frequency distribution, percentage and mean±standart deviation.

Results

Total 35905 patients who visited the ENT polyclinic between 01.09.2020-31.12.2020 and between 01.09.2019-31.12.2019 are included to the study. Mean age of the patients during 2019 was

38.34±21.85(0-95), and mean age during 2020 was determined as 42.22±19.29(0-98). And the total number of patients visited ENT polyclinic in 2019 was 24828 while total number in 2020 was 11077. By looking at the number of patients who visited ENT Polyclinic in 2019, it is found to be dropped by 55,38% in 2020 (Table 1).

When gender distribution in years is examined, it is found that in 2019, 49.3%(n=12228) of the patients was male and 50.7%(n=12600) of the patients was female. In 2020 50.7%(n=5618) was male and 49.3%(n=5459) was female (Table 2).

Table 1. Distribution of number of patients in years

Year	Frequency(number)	Percentage
2019	24828	69.1
2020	11077	30.9
Total	35905	100

Table 2. Gender distribution in years

Year		Frequency(number)	Percentage
2019	Male	12228	49.3
	Female	12600	50.7
	Total	24828	100
2020	Male	5618	50.7
	Female	5459	49.3
	Total	11077	100

Table 3 shows the distribution of diagnose groups of the patients who visted ENT polyclinics in years. According to this table, in both periods, the most frequent patient incoming had occurred in the 6th diagnose group consisting of Rhinitis, Epistaxis and sinusitis (In 2019 32.9%, n=8179, In 2020 29.2%, n=3234). The second frequent incoming occurred in the 4th group consisting of Loss of Hearing, Tinnitus and Vertigo (in 2019 17%, n=4231, in 2020 20.4%, n=2256). When 5th diagnose group is examined it is seen that in 2020 although the total number of patients had decreased when compared to 2019, number of patients with facial paralysis did not drop off. This led to increase in the ratio of this group of patients in total.(In 2019 0.2%, n =61, In 2020 0.5%, n=60). Both number of patients and the ratio of applications had decreased in 7th group of patients consisting of tosils and adenoid diseases in year 2020 (In 2019 1.8%, n=443, In 2020 0.5%, n=52). The patients with non-covid upper respiratory infections in 10th group both number of patients and ratio of incomings had decreased in 2020 (In 2019 9.4%, n=2342, In 2020 7.3%, n=808). Number of patients decreased although the ratio in total did not change in the 1st diagnose group of patient with head and neck malignities (In 2019 0.7%, n=176, In 2020 0.8%, n=87)(Table 3).

Table 3. Distribution of diagnose groups in years

		Group of Diagnoses											Total
		1	2	3	4	5	6	7	8	9	10	11	
2019	number	176	3614	2469	4231	61	8179	443	685	822	2342	1806	24828
	% in year	0.7	14.6	9.9	17.0	0.2	32.9	1.8	2.8	3.3	9.4	7.3	100
	% in diagnose group	66.9	61.6	73	65.2	50.4	71.7	89.5	71.1	68.4	74.3	70.5	69.1
2020	number	87	2255	911	2256	60	3234	52	279	379	808	756	11077
	% in year	0.8	20.4	8.2	20.4	0.5	29.2	0.5	2.5	3.4	7.3	6.8	100
	% in diagnose group	33.1	38.4	27	34.8	49.6	28.3	10.5	28.9	31.6	25.7	29.5	30.9
Total	number	263	5869	3380	6487	121	11413	495	964	1201	3150	2562	35905
	% in year	0.7	16.3	9.4	18.1	0.3	31.8	1.4	2.7	3.3	8.8	7.1	100
	% in diagnose group	100	100	100	100	100	100	100	100	100	100	100	100

1. Head and Neck Malignities, 2. Plug, Otitis Externa, External audotory canal diseases, 3. Chronic Otitis Media, Otosclerosis, Adhesive Otitis, 4. Loss of Hearing, Tinnitus and Vertigo, 5. Facial Paralysis, 6. Rhinitis, Epistaxis, Sinusitis, 7. Diseases of the tonsils and adenoids, 8. Benign diseases of the vocal cords and larynx, 9. Cervical mass, branchial cyst, Salivary gland diseases, Lenfadenitis, 10. Upper Respiratory infections except Covid, 11. Others

Discussion

After Covid-19 appeared in December 2019 in China and the Pandemic affected the whole world many clinics decreased or stopped the outpatient visitings and elective surgeries and only the emergency patients were accepted. Because the work area is the upper respiratory tract where the virus is replicated and the requirement of the mask been taken off, high risk of infection occurs for either the consulting doctor, health carers and the patients around. Because the disease has a wide nonspecific symptomatic range from asymptomatic illness to severe pneumonia, personal protective equipment is a must to use for ENT examination of all patients[3,4,5]. Manelli et al had reported in a study in which effects of covid-19 pandemic on Italian Otolaryngology Units is examined that during pandemic outpatient incomings had dropped off by 80.5% when compared with pre-pandemic period [6]. In our clinic, like many Clinics during pandemic, except emergencies, number of polyclinic examinations and elective surgeries had been decreased. As a result 55.38% decrease in number of patients visiting the ENT polyclinics is detected when the pandemic period between 01.09.2020-31.12.2020 and the prepandemic period between 01.09.2019-31.12.2019 is compared. This decrease is thought to be because of many reasons, some of which are peoples' fear of getting infected at hospitals, whatever doctors' specialty and primary working unit is, their being working in units that treat covid-19 and the effect of lockdown and the warnings made by the media about not to go to hospitals except emergency situations.

İslamoğlu et al had examined the SARS-Cov-2 IgG+IgM antibody levels of patients with acute facial paralysis and patients with Bell's Palsy, and they reported 24.3% of positiveness. They had reported that this ratio was higher than the seroprevalance of the asymptomatic patients and could be because of neuroinvasive tendency of coronavirus and that facial paralysis could be the only symptom of Covid-19[7]. In our study when compared to pre-pandemic period although a prominent decrease is seen in total number of patients visiting the ENT polyclinics, the number of patients with facial paralysis had not decreased. On the contrary an increase in the ratio of the patients with facial paralysis in total number of patients had been detected. This situation supports the result of the study of İslamoğlu et al. Furthermore because the patients consulted from the emergency department had been excluded, the patients with facial paralysis who came to emergency department and consulted to ENT clinic were not included in this ratio.

In a study for examining the effects of lockdown because of Covid-19, on adenotonsillar hypertrophy and related diseases on children made by Gelardi et al, 162 children who were waiting for surgery because of adenotonsillar hypertrophy related symptoms were included. On control examination of symptoms of the children in the period of lockdown statistically significant recovery was reported[8]. Further Mannelli et al reported 97.59% decrease of the pediatric otolaryngologic surgeries. In our

study it is seen that when compared to period before covid, both number and ratio of the patients in the diagnose group consisting of pediatric tonsil and adenoid diseases which are treated at ENT polyclinic are decreased during period after covid-19[6]. This is thought to be because of the reasons like closure of schools for stopping the spread of Covid-19, widespread usage of mask, implementation of the rules of social distance that cause the dropping of the upper respiratory tract infections which leads to hypertrophy of lymphoid tissues in children.

In our study, when compared to pre-pandemic period, both number and ratio of the patients in the diagnose group consisting of non-covid upper respiratory tract infections who visited ENT polyclinic during pandemic is found to decrease. This is thought to be because of the protective effects of the masks used for avoiding covid-19, more attention on social distance and hygiene rules that avoid upper respiratory tract infections disseminating by aerosols like covid-19.

Reiman et al reported 43% decrease of critical procedures like diagnostic processes for malignancy suspicions, surgeries for malignancies, salivary gland diseases and emergencies. Especially 41% of surgeries made for malignancy suspicious situations[4]. In a study made for examining the effects of pandemic on cancer patients in which 3 to 6 month of delay of surgery per patient was modelled, negative effects were reported on survival for different cancer types[9]. Schutte et al showed 12% increase on 3 years-survival just by 13 days decrease of the period between diagnose and treatment of patients with head neck cancer[10]. Although the ratio of patients with head and neck cancers to total number of patients is not found to be significantly changed in our study, the decrease of the incomings is thought to have delaying effects on diagnosing many of the cancer patients, detecting the early recurrences and as a result cause negative effects on survival.

Conclusion

In our study the data of outpatient visitings during pandemic to an ENT clinic which is a tertiary health care center is examined. First three frequent reasons of incomings were not found to be different when compared to pre-pandemic period. However it is most obviously seen that the ratio of patients with facial paralysis to total number had increased and both the number and the ratio of the pediatric patients with tonsil and adenoid diseases had decreased. In the light of this information, it is thought that for examining the longterm effects of pandemic, studies including both wide multicenter patient data and especially the stage and survival data of the cancer patients could be guiding.

Conflict of interests

The authors declare that there is no conflict of interest in the study.

Financial Disclosure

The authors declare that they have received no financial support for the study.

Ethical approval

This study is carried on with the 2021/2/11 numbered approval of the ethical committee of non-interventional clinical researches at University of Health Sciences Samsun Health Practices and Research Center.

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