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Research Article

Otolaryngological Manifestations of Patients with Confirmed Covid-19 Infection

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ABSTRACT

Background: the coronavirus leads to upper respiratory tract-associated manifestations like nasal congestion, sore throat, and smell disorder
Objectives: To reveal the impact of COVID-19 pandemic on otolaryngology symptoms using our daily medical practice.
Subject and Methods: A cross-sectional study that was carried on in the isolation wards at Al-Kindy and Al-Nu'man Teaching Hospitals during three months from the 1st of Jun. till the end of Aug. 2020. It included 1270 patients who were diagnosed with COVID-19 infection seen in the ENT consultation clinic and admitted to the isolation wards.
Results: Otolaryngological manifestations were shown as 15.7% complained of sore throat, the headache was presented in 11%. Non-otolaryngological manifestations were more common than otolaryngological manifestations as fever presented in 63% of cases and cough in 56.1%.
Conclusion: Otolaryngological symptoms are not uncommon but less than fever or cough. Otolaryngological manifestation with a history of contact with COVID-19 patients should be considered in the diagnosis.

Introduction

The third zoonotic human coronavirus (CoV) of the century emerged in December 2019, with a cluster of patients with connections to Huanan South China Seafood Market in Wuhan, Hubei Province, China (1).

Coronavirus was secluded and identified as a novel one, in the beginning, it was labeled as 2019-nCoV (2). It was announced as a pandemic by the World Health Organization on March 11th, 2020 particularly due to the rapidity and scale of the progression of the disease (3).

As of 10 March 2020, greater than 105 countries, 114,253 cases of COVID-19 and 4000 deaths have been reported globally, of which the number of confirmed cases in China has progressively decreased, however, is growing swiftly in other nations, particularly in South Korea, Italy, and Iran (4).

The maximum regularly reported manifestations of patients who were admitted to the hospital encompass fever (77–98%), cough (46–82%), myalgia or fatigue (11–52%), and shortness of breath (3–31%) at the beginning of the illness (5-7). In contrast, diarrhea, hemoptysis, and shortness of breath were the less common signs at the time of hospital admission (8).

Recently, people with asymptomatic infections have been additionally suspected of transmitting infections, which moreover adds to the difficulty of disease transmission dynamics in COVID-19 infections (9).

However, the coronavirus leads to upper respiratory tract-associated manifestations like nasal congestion, sore throat, and smell disorder (10). There is correct proof from South Korea, China, and Italy that remarkable numbers of patients with demonstrated COVID-19 contamination have anosmia/hyposmia. In Germany, anosmia was confirmed in more than two-thirds of patients. In South

Korea, in which testing has been greater substantial, 30% of positive patients have had anosmia as their major presenting symptom in otherwise mild cases (11).

In April 2020, WHO added loss of smell and taste to the official lists of COVID-19 symptoms (12). Limited data on the otolaryngological manifestations of COVID-19 are published, no previous overview observes to acquire and describe the otolaryngological manifestation in COVID-19 patients, especially in Iraq. So, the goal of this study is to give a review about the impact of the COVID-19 pandemic on otolaryngology symptoms using our daily medical practice. As our knowledge about the virus is rapidly increased, it is more than likely that these recommendations will be reviewed in the future.

Subjects and Methods

Study design, setting: This was a cross-sectional study that was carried on in the isolation wards in Al-Kindy and Al-Nu'man Teaching Hospitals for three months from 1st of Jun. till the end of Aug. 2020.

Study Population and sample size: The study included 1270 patients who were diagnosed with COVID-19 infection via real-time PCR (qRT-PCR) tests on samples from the upper respiratory tract (oropharyngeal and nasopharyngeal swabs), seen in the ENT consultation clinic and admitted in the isolation wards. In this study, patients who refused to participate were excluded. We asked about the detailed complaints consisting of signs and symptoms of the head and neck region, respiratory system, cardiovascular system, gastrointestinal system, genitourinary system, central nervous system and musculoskeletal system, and dermatological findings. The head and neck region complaints consist of the following: loss of scent and/or taste, cough, sore throat, nasal congestion, otalgia, postnasal drip, tinnitus, oro-dental issues, hearing impairment, hoarseness, dizziness, and any other additional complaints.

Ethical approval: Our study was carried on according to the ethical approval which was obtained from Al-Kindy Teaching Hospital scientific committee.

Statistical analysis: The data analyzed using Statistical Package for Social Sciences (SPSS) version 25. The data presented as mean, standard deviation, and ranges. Categorical data presented by frequencies and percentages.

Results

In this study, 1270 patients were enrolled, all of them were confirmed COVID-19 cases. Among these patients, otolaryngological manifestations were shown as 15.7% complained from sore throat, the headache was presented in 11%, the smell was affected in 8% of them, pharyngeal erythema in 6.3%, nasal congestion in 4.6%, rhinorrhea in 2.4%, and tonsil enlargement in 0.6% as shown in figure (1).

Figure 2 shows the non-otolaryngological manifestations. It was obvious that non-otolaryngological manifestations were more common than otolaryngological manifestations as fever presented in 63% of cases, cough in 56.1%, malaise, and fatigue in 27.6%, expectoration in 21.3%, dyspnea in 15.7%, myalgia in 9.4%, and diarrhea in 3.9%.

Discussion

A novel coronavirus provokes Coronavirus disease (COVID-19). Two decades ago, the transmission of Severe Acute Respiratory Syndrome Corona Virus (SARS-CoV) (13), and Middle East respiratory syndrome coronavirus (MERS-CoV) (14) produced more than 10000 cases, with mortality rates of 10% and 37% respectively (15) SARS- CoV- 2 is the seventh member of the family of coronaviruses that infects humans. Like SARS- CoV and MERS-CoV, SARS- CoV- 2 is responsible for lower respiratory infection and can cause acute respiratory distress syndromes (ARDS) (16). In the current study, 1270 patients were enrolled, ENT manifestations were sore throat in 15.7%, headache in 11%, pharyngeal erythema in 6.3%, nasal congestion in 4.6%, rhinorrhea in 2.4%, and tonsil enlargement in 0.6%.

Different results observed in El-Anwar et al study in 2020, as reported within 1773 COVID-19 laboratory-confirmed positive patients, the most common ENT manifestations had been sore throat (11.3%) and headache (10.7%). At the same time as pharyngeal erythema became (5.3%), nasal congestion (4.1%), runny nostril or rhinorrhea (2.1%), and tonsil enlargement (1.3%) (17).

Guan and colleagues reported a similar result, as noticed in a large series of 1099 COVID- 19 patients, found sore throat in 13.9% of cases (18). The sore throat was reported in Chen et al study (19) and Wang et al study (7). To be present in 5% to 17.4% of COVID- 19 patients. Regarding smell dysfunction, the smell was affected in 8% of the patients of the current study. In the same accordance, Mao et al study in 2020 report anosmia in about 5.1% of cases (20). Differently, Menni et al study in 2020 showed that anosmia and loss of taste were found in 59% of positive confirmed COVID-19 patients in comparison to 18% of individuals who were free from the disease (21).

Other high results were found in Kaye et al study in 2020, which report that the first symptom was a loss of sense of smell (26.6%), and 73% of patients suffered from anosmia (22). In addition to the different sample size of each study, the majority of COVID-19 studies did not point out the affection of smell, especially the initial reports, and most patients with COVID-19 (66%) showed an integral restoration of their chemosensitive functions throughout the disease course (22), which might explain the difference observed among the above studies. Although the pathophysiology of olfactory dysfunction in SARS-CoV-2 is not been promptly assured, direct spread through the mucosal lining of the nasal cavity (via angiotensin-converting enzyme-II receptor on the basal layer of the nasal epithelium) and extension to the olfactory bulb are probable hypotheses. Post-viral olfactory dysfunction is a prevalent cause of this dysfunction, which is caused by neuroepithelial dysfunction (23).

In the present work, non-otolaryngological manifestations were fever presented in 63% of cases, cough in 56.1%, malaise, and fatigue in 27.6%, expectoration in 21.3%, dyspnea in 15.7%, myalgia in 9.4%, and diarrhea in 3.9%. By comparison to El-Anwar et al study in 2020, close results observed, as the main clinical features, was fever in 73.5%, cough in 61%, expectoration in 22.8%, dyspnea in 16.2%, chest pain in 0.1%, diarrhea in 4.2%, malaise/ fatigue in 27.2%, and myalgia/arthralgia in 10.4% (17). The main clinical symptoms of COVID- 19 patients in the Li, Long-Quan, et al study in 2020 were fever (88.5%), cough (68.6%), myalgia, or fatigue (35.8%), expectoration (28.2%), dyspnea (21.9%). Also, the

symptoms of headache or dizziness (12.1%) diarrhea (4.8%), nausea, and vomiting (3.9%) were obvious in some patients (24). Other high results found in Guan et al study in 2020, as a clinical presentation, was Fever (87.9%) and cough (67.7%) were the most common symptoms, while Diarrhea is uncommon (25). Different results observed among the above studies can be related to, different sample size, the virulence of viruses, the host's immune status, age of patients, obesity, genetic factors, gender, as found that low females exposure to viral infections could be attributed to the protection from X chromosome and sex hormones, which play an important role in innate and adaptive immunity (26), comorbid disease, as Some patients, especially severely ill ones, had co-infections of bacteria and fungi, all these factors can affect the severity of the disease and then affect the presentation.

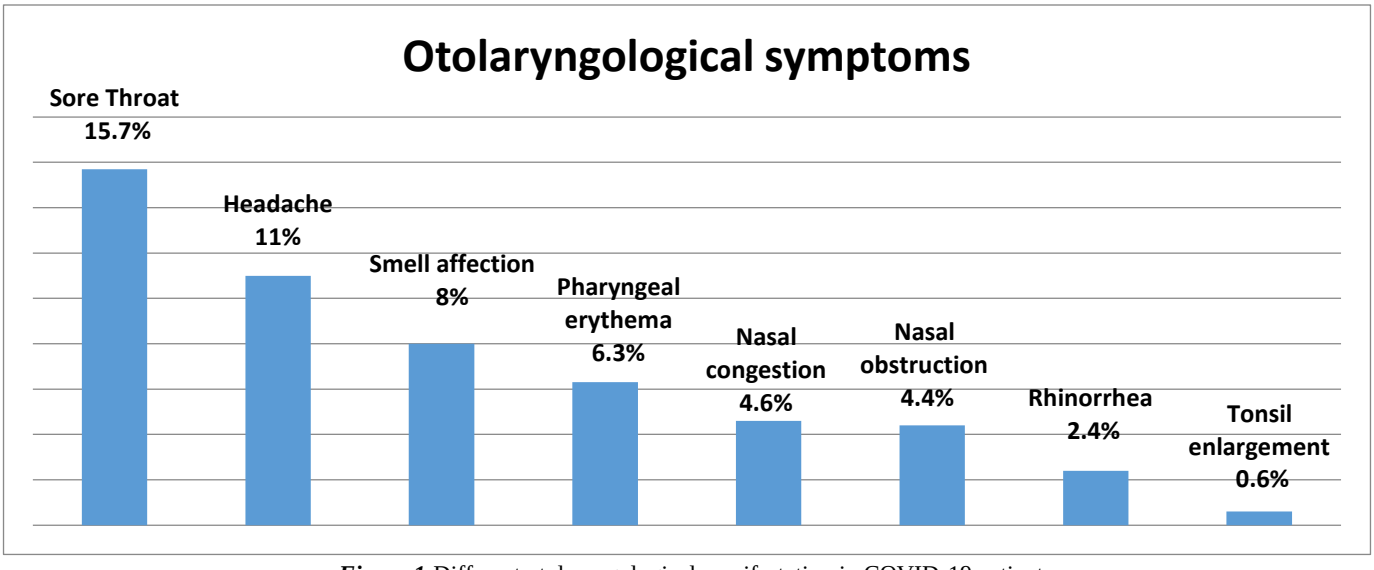

Figure 1:Different otolaryngological manifestation in COVID-19 patients.

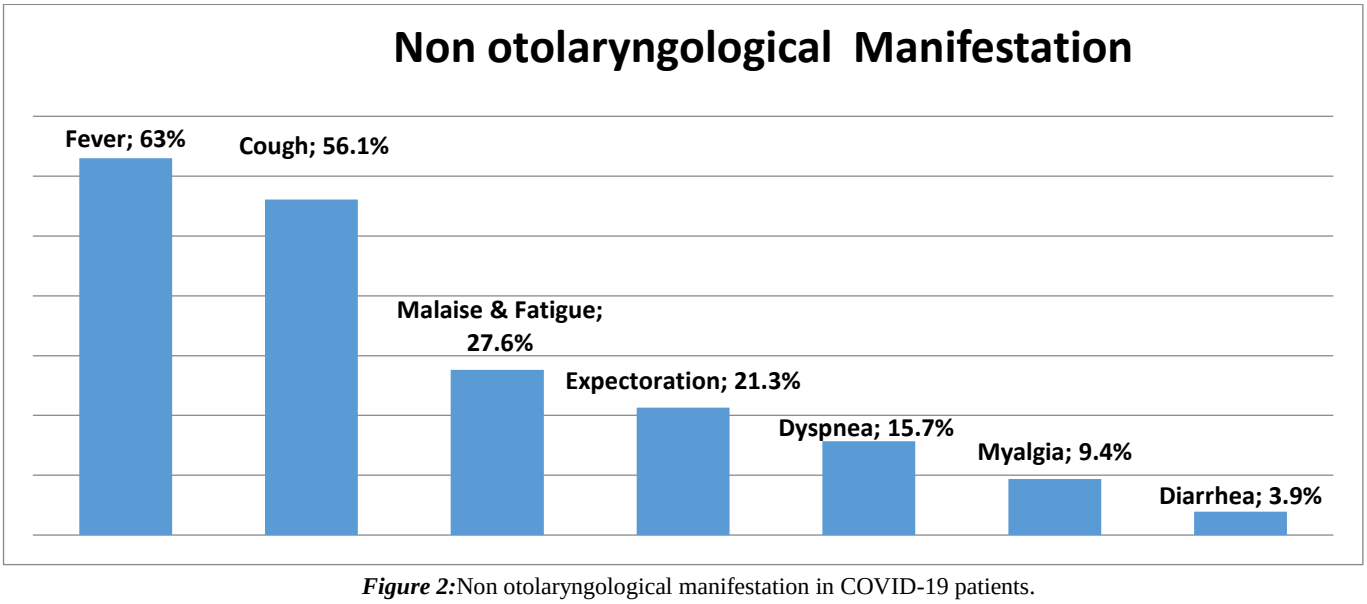

Figure 2:Non otolaryngological manifestation in COVID-19 patients.

Conclusion

Otolaryngological symptoms are not uncommon but less than fever or cough. ENT manifestation with a history of contact with COVID-19 patients should be considered in the diagnosis.

An otolaryngologist is at high risk of becoming infected with covid19. ENT specialists cope with URT infections during performing a clinical examination & surgery.

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Conflict of Interest

No conflict of interest

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