

ENT manifestations of Covid-19 patients: A hospital based study:



Ori Jego^{1*}, Ram Ratan², Paley Tamar³, Debbarma Amrit⁴

^{1*} Assistant Prof. Department of Otorhinolaryngology, TRIHMS, Naharlagun

² Assistant Prof. Department of Medicine, TRIHMS, Naharlagun

³ Associate Prof. Department of Chest & TB, TRIHMS, Naharlagun

⁴ Associate Prof. Department of Otorhinolaryngology, TRIHMS, Naharlagun

***Corresponding Author:** Dr. Jego Ori,

*Asst prof. Department of Otorhinolaryngology, TRIHMS, Naharlagun. Arunachal Pradesh,

Email: Jegoori1978@gmail.com

Objectives:

To study & discuss the different Ear Nose & Throat (ENT) manifestations of laboratory confirmed Covid positive patient reported in TRIHMS Hospital.

INTRODUCTION:

Corona virus (Covid 19) is an infectious diseases caused by the Severe Acute Respiratory Syndrome. Corona virus 2 (SARS-CoV-2), firstly known as the 2019 novel Corona virus (2019-nCoV), started in Wuhan in China at December 2019 [1]. And has spread all over the world. World Health Organization (WHO) confirmed it as a pandemic disease and declared the outbreak as public health emergency of international concerned (PHEIC) on 30th January 2020 [2]. The COVID-19 is part of the species of the SARS-related corona viruses that have led to previous epidemics over the last two decades as SARS-CoV in 2002–2003 in China and the Middle East Respiratory Syndrome (MERS-CoV) in 2012- 2013 in Saudi Arabia [3]. The COVID-19 symptoms range from asymptomatic to deadly, present mainly by lower respiratory tract related symptoms such as fever, cough, dyspnoea, fatigue and chest tightness that could progress rapidly to acute respiratory distress syndrome (ARDS) [3]. COVID-19 also causes symptoms in Ear Nose and throat. Many patient of Covid 19 present with nasal congestion, runny nose, Nasal obstruction partial or total loss of Smell, Pharyngitis, Sore throat, Headache, Tonsil enlargement. The diagnosis of the COVID 19 is mainly done by clinical suspicion of symptoms, history of contact, and confirmed by rapid test from the swab samples of nose and throat by RTPCR. Treatment of COVID 19 is symptom control and Novel anti-viral drugs. Common mitigation measures during pandemic includes travel restrictions, lock down, closure of business establishment, work place hazards controls, mask mandates, quarantines , testing system, contact tracing of infected person. The pandemic causes severe social & economic disruption around the world and largest global recession in the world.

Mutations have produced many strains with varying degrees of infectivity & virulence. Covid vaccine was developed rapidly to the general public for Covid prevention. [4]

As per available data on literature, there are no studies done on this part of the county to see the magnitude of ENT manifestations by COVID 19 patient. Thus, the aim of the current work was to study and detect and different symptoms of Ear Nose & throat among COVID 19 patient and discusses the findings to clearly understand the clinical presentation, and its management.

METHODS:

Prospective study carried out in Tomo Riba Institute of Health & Medical Sciences hospital (TRIHMS) Naharlagun . 300 COVID 19 infected cases reported in TRIHMS hospital who were with or without on antiviral therapy were studied during the period of September 2020 to September 2025. Diagnosis of Covid 19 infection was made by RAPID antigen and Revere transcription Polymerase Chain reaction (RTPCR) test. RTPCR test which detects the presence of viral genetic materials in the sample like nasopharyngeal Swab. Symptoms of covid 19 patients were documented by history taking and clinical examination. Pre-designed Performa was used to record the various parameters including age, sex, high risk behaviour etc .Diagnosis of ENT manifestations was made by detail otorhinolaryngological examination with pure tone audiometric assessment of hearing status where ever applicable.

The data was processed using statistical soft ware (SPSS 17) Pearson chi square test and independent t- test were used wherever applicable for test of significance.

RESULT:**Table 1. Showing Age and Sex distribution:**

Age in group	Male	Female	Percentage
0-44	80	70	50
45-75	90	60	50
	170 (56 %)	130 (43%)	100

Table 1: Shows the age distribution of the study population. The equal numbers of patients were in the age group of 0-44 years & 45-75 years (50%) and out

of 300 cases, 170 (56 %) were males and 130 (43%) were female with male to female ratio of 1:1.

Table 2. Showing the incidence of Ear Manifestations of COVID 19.

Manifestation	Number of Cases	Percentages
Sensorineural Hearing loss	50	16
Tinnitus	40	14
Dizziness	10	3.3
Otalgia	5	1.6
Bells Palsy	2	0.66

Table 2. Shows the Ear Manifestation of Covid 19. Out of 300 patients 50 (16 %) patients were presented with Sensorineural hearing loss, whereas as 40 patients (14%)

were showing tinnitus. 10 patients (3.3%) were showing dizziness, 5 patients (1.6%) shows otalgia and 2 patient (0.66) shows bell's palsy.

Table 3. Showing Nose Manifestations of Covid 19.

Nose Manifestations	Number	Percentages
Hyposmia	200	66
Runny Nose	280	93
Epistaxis	10	3.3
Burning Sensation of Nose	80	26
Nasal Obstruction	160	53

Table 3. Shows the Nose Manifestation of Covid 19. Out of 300 patients 200 (66 %) patients were presented with hyposmia, whereas as 280 patients (93%) were showing

runny nose. 10 patients (3.3%) were showing epistaxis, 80 patients (26%) shows burning sensation of nose and 160 patients (53%) shows nasal obstruction.

Table 4 Showing Throat Manifestations of Covid 19.

Throat Manifestations	Number	Percentages
Sore throat	300	100
Throat Itching	300	100
Hoarseness	200	66
Oral lesion	280	93
Loss of taste	100	33
Tonsil Enlarged	80	26

Table 4. Shows the throat Manifestation of Covid 19. Out of 300 patients 300 (100 %) were presented with sore throat and throat itching (100%), whereas as 200 patients (66%) were showing hoarseness. 280 patients

(93%) were showing oral lesion. 100 patients (33%) shows loss of taste and 80 patients (26 %) shows tonsil enlarged.

Table 5: Showing Non ENT Manifestation of Covid 19.

Non ENT Manifestations	Number of Cases	Percentages
Fever	230	76
Cough	230	76
Malaise	300	100
Shortness of breath	100	33
Myalgia	300	100
Diarrhoea	50	16

Table 5. Shows the Non ENT Manifestation of Covid 19. Out of 300 patients 230 (76 %) patients were presented with fever, cough (76%) and Malaise (100%) whereas as 100 patients (33%) were showing shortness of breath. 300 patients (100%) were showing myalgia and 50 patients (16%) shows diarrhoea.

DISCUSSION:

The COVID-19 manifests with a wide clinical spectrum ranging from no symptoms to septic shock and multi-organs failure. [5] In order to treat Covid 19 symptoms effectively, it is important to know the different clinical manifestations including ear nose and throat. Despite its rapid spread worldwide, the clinical characteristics of COVID-19 remain to a large extent vague. The main sites of harbouring infections are nasal, nasopharyngeal and oropharynx which is also main site of taking the sample for testing and a source of transmission of infection [6]. However, most published COVID-19 researches are focused on the lower respiratory tract manifestation and sequels due to their life-threatening nature. [7] The literature on ENT manifestation during COVID-19 infection is still very limited, thus, there is value in studying ENT manifestations of such novel virus and there is a need to identify the defining ENT epidemiological and clinical characteristics with more precision. In the current study, we tried to collect the symptoms concerning the ENT manifestations in the laboratory- confirmed COVID-19 cases in our hospital during Covid period.

The COVID-19 is presented mainly by lower respiratory tract related symptoms such as fever, cough, dyspnea and chest tightness that could progress rapidly to acute respiratory distress syndrome (ARDS).

The results of the current study agree with some previous studies in the literature. The main symptoms of covid 19 are non ENT Manifestations. In the current study 76% of cases are presented with fever and cough whereas in the literature 73.5% of the covid19 present with fever and 61 % of the cases present with cough [5]. The Gastro-intestinal symptoms are uncommon in the Covid 19 whereas 50 (16%) of the cases are reported with diarrhoea in the current study.

In the current study there is no age & sex preponderance in relation to the ENT Manifestations of Covid 19. Male and female are equally affected. The most common Ear manifestations of Covid 19 are Sensori-neural Hearing loss (16%) followed by Tinnitus, (14%) Dizziness (3.3 %) otalgia (1.6%) and Two cases reported with Bells Palsy (0.66).

In the present study the most common Nose manifestation of Covid 19 is runny nose (93%) followed by hyposmia (66%) nasal obstruction (53%), burning sensation of nose (26%) and epistaxis (3.3%).

In the current study, the most common throat Manifestation of Covid 19 is sore throat (100%) and itching sensation on throat (100%) which is followed by oral lesion (93%), hoarseness (66%), loss of taste (33%) and tonsil enlargement (26%).

The most common ENT manifestations for COVID-19 in the current study were sore throat (100%) and itching sensation on throat (100 %). Therefore, if we choose one ENT manifestation to be added to the definition of suspected cases or the triage check list for covid-19, we will choose the sore throat and itching sensation throat. While sore throat was found in COVID-19 patient in higher incidence than diarrhoea that is included in some triage checklists for COVID-19, so this needs to be revised. All the reported ENT manifestations in COVID-19 patients are nonspecific and so could be easily missed and no emergency ENT symptoms like stridor were reported in COVID-19 cases. Post viral anosmia is one of the chief reasons of smell dysfunction in adults (66% of cases of hyposmia).

LIMITATIONS:

The seriousness of COVID-19 situations and its protocol makes patient's examination and history taking very difficult. The audiometric test like pure tone audiometry was very challenging. The current study missed asymptomatic or mild cases managed at home. The COVID-19 diagnosis is based on RT-PCR test that is not fully sensitive and inadequate sample collection may decrease test sensitivity [28]. More accurate diagnostic tests would offer a more accurate diagnosis and so the results might differ. The sequential appearance of the ENT manifestation of the COVID-19 manifestation could not be established. No ENT endoscopic or radiological examination was done therefore some hidden manifestations may be missed out. All these limitations are characteristics of all the published researches on COVID-19 up till now and should be considered in future research.

CONCLUSION:

ENT manifestations are significant clinical manifestation of Covid 19. Sore throat, throat itching, running nose, hyposmia and sensorineural hearing loss are significant ENT clinical manifestations of covid 19. The other ENT manifestation of covid 19 includes tinnitus, dizziness, otalgia, bell's palsy, burning sensation of nose, nasal obstruction, hoarseness, oral lesion, loss of taste and tonsil enlargement. The other non ENT manifestation which are found in covid 19 includes fever, cough, Malaise, shortness of breath, myalgia and diarrhoea.

RECOMMENDATION:

Further research into the ENT implications of human COVID-19 infections is needed in future. As the current epidemic continues, a better understanding of the virus will emerge, we emphasize on research into the relationship between COVID-19 and ENT manifestations. This understanding will not only help to guide infection control measures but can also provide insights diagnostic features of the ENT manifestations and the possible ENT consequences. It is highly recommended to re-evaluate the recovered patient from

COVID-19 and become negative for late sequels of the disease including the ENT examination and radiology because the late sequels of the COVID-19 infection after being negative need also to be evaluated for further discussion and depth research outcome

DECLARATION:

The authors declare no conflict of interest and do not have any potential financial conflict of interest related to or could influence this work. The authors declare no financial support or interest to any organisation or individual.

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