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Original Research Article

Profile of ENT manifestations among COVID - 19 patients

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ABSTRACT

Background: The general and common symptoms of covid 19 disease are fever, dyspnoea, cough, cold, headache, sorethroat, dysphagia, loss of smell and taste, Gastrointestinal manifestations. The symptoms may be exhibited alone or in combination. The prime objective of the study is to know the frequency of occurrence of symptoms for better control of the infection. The purpose of study is to detect prevalence of ENT manifestations (dyspnoea, cough, cold, headache, sorethroat, dysphagia, alterations in smell and taste sensation).

Materials and Methods: Single center, retrospective study covered 1070 inpatients for a period of 2 months duration ie; from August and September 2020 in teritiary health care centre.A questionnaire with various parameters like age, gender, smoking, alcohol, HTN, DM, fever, cough, Nasal obstruction, Anterior nasal discharge, posterior nasaldrip, headache, sorethroat, dysphagia, dyspnoea, anosmia, hyposmia, dysosmia, ageusia, hypogeusia, dysguesia history was taken and analysed.

Result: The analysedpatients sample size is1070. Among them901patients(84%), exhibited symptoms & 169patients (16%) were asymptomatic. Most of the patients age group were between 50-59yrs (24.7%) and with a gender ratio of M:F=1.8:1. Dominant observation in males noticed is positive history of smoking and alcohol consumption. The prevalence of symptoms was found to be:cough (44%), fever (39.3%), dyspnoea (32.4%), Nasaldischarge (16.6%), sorethroat (9.2%), Headache (8.8%), dysphagia (8.2%), anosmia (7.3%), ageusia (6.8%), hypogeusia (6.3%), Hyposmia (3.2%). No patient presented with dysguesia and dysosmia. 150(14%) patients had only olfactory and gustatory loss.

Conclusion: Sudden olfactory or gustatory alterations need to be recognised as an important symptom in covid 19 patients for better prognosis and self isolation.

1. Introduction

In China, Wuhan city, Hubei province, 41 patients with pneumonia of unidentified cause were detected at the end of December, 2019.[1] Throat swab samples were sent for culture on 7th January 2020 at Chinese Center for Disease Control and prevention (CCDC) and causative microorganism for the disease is named as severe acute respiratory syndrome, Corona virus-2 (SARS- COV-2). This illness was named as COVID-19[2] by World Health Organisation (WHO) in February 2020. Millions of people were infected and hundreds of thousands were dead all over the world during this pandemic and it remains as a threat to the mankind.[3] COVID-19 patients currently remain the primary source of infection. The disease spectrum varies from mild to life-threatening symptoms. To forestall spread of contamination and for isolation, it is critical to assess the prescient indicators of the illness. For COVID-19 assessed incubation period is up to 14 days from exposure, with a median of 4 to 5 days.[4] The onset of disease, span of viral shedding and the period of transmission are not characterised. Among asymptomatic or pre-symptomatic individuals with SARS-CoV-2, viral RNA may be detected in upper respiratory specimens.[5] The following symptoms were present among inpatient cases are fever, fatigue,

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cough, dyspnoea, myalgia, diarrhoea, chest pain, Nasal obstruction, Anterior nasal discharge, posterior nasal drip, headache, sorethroat, dysphagia, anosmia, hyposmia, dysosmia, ageusia, hypogeusia, dysguesia.[6,7] Significant increase in the cases presenting with ENT manifestations were noticed. An European multicenter study inferred that olfactory (85.6%) and gustatory (88%) anomalies are common side effects in European affirmed COVID-19 cases, who might not have other nasal objections.[8] In mild casesanosmia and ageusia were present alone. It is therefore necessary to test or quarantine those individuals with these complaints.

2. Materials and Methods

In teriatary health care facility which is recognised to provide Covid services, a retrospective study was conducted during August and September 2020 among positive COVID-19 patients. The aim of study is to analysis the prevalence of all ENT manifestations at the time of admission of the patient ie, Nasal obstruction, Anterior nasal discharge, posterior nasal drip,, headache, cough, dyspnoea, sorethroat, dysphagia, anosmia, hyposmia, dysosmia, ageusia, hypogeusia, dysguesia. The study included a questionnaire about fever, cough, Nasal obstruction, Anterior nasal discharge, posterior nasal drip, headache, dyspnoea, sorethroat, dysphagia, anosmia, hyposmia, dysosmia, ageusia, hypogeusia, dysguesia. History was taken from patients telephonically and those who were not responding to call thrice were excluded from the study.

2.1. Inclusion criteria

All COVID-19 positive patients admitted irrespective of severity, with no previous history of smell and taste dysfunction and who are willing to participate in study are included.

2.2. Exclusion criteria

All children <10 yrs and elderly people who cannot tell their symptoms, who have previous history of smell and taste dysfunction and individuals who haven't agreed for study have been excluded.

3. Results

Demographic profile among Covid – 19 inpatients

Patients were predominantly seen in 6^{th} decade of life with M:F ratio=1.8:1

2% patients were smokers and 17.8% were alcoholics

6% patients were hypertensives and 25.2% patients have diabetes

Among 1070 patients 901 patients (84%) were symptomatic and 169 patients (16%) were asymptomatic.

Table 1: Demographic profile among Covid – 19 inpatients

Variables	Frequency	%
Age Group		
10 – 19	27	2.5
20 – 29	95	8.9
30 – 39	134	12.5
40 – 49	206	19.3
50 – 59	264	24.7
60 – 69	216	20.2
70 – 79	109	10.2
80 – 89	19	1.8
Gender		
Male	689	64.4
Female	381	35.6
Smoking		
Present	56	5.2
Absent	1014	94.8
Alcohol		
Present	190	17.8
Absent	880	82.2
HTN		
Present	317	29.6
Absent	753	70.4
DM		
Present	270	25.2
Absent	800	74.8

Significantly cough (44%), fever(39.3%), dyspnoea (32.4%) and anterior nasal discharge (12%). We have observed that other symptoms were seen in less than 10%.

P Value is significant if the value is less than 0.05

With this study we have observed that Women were more likely to present with Anterior nasal discharge, sore throat, hypogeusia and Men were more likely to present with dyspnoea and cough.

4. Discussion

Patients with Covid-19 disease can encounter a scope of clinical appearances, from no symptoms to critical illness. In United States, a report on more than 370,000 affirmed COVID-19 cases - 70% of patients experienced fever, cough, or shortness of breath, 36% had muscle aches, and 34% had headaches.[9] Issues during the pandemic COVID-19 emergency are Chemosensory dysfunctions and are the indicators for early diagnosis. Hu et al[10] studied the cellular distribution of taste cells and ACE2 receptor distribution. They found that the percentage of ACE2 positive cells are more in taste cells, which indicated that SARS-CoV-2 might invade them and lead to ageusia in these patients. Olfactory dysfunction is generally found to be the initial symptom.[11] Taste disturbance along with smell abnormality is that both chemosensory senses are intimately correlated.[12] The analysed sample size is 1070. Among them 901 patients (84%) exhibited symptoms and prevalence was

Table 2: Prevalance of ENT manifestations among Covid-19 inpatients

Symptom	Frequency	%
Nasal obstruction		
Present	40	3.7
Absent	1030	96.3
Anterior nasal discharge		
Present	128	12
Absent	942	88
Posterior nasal drip		
Present	49	4.6
Absent	1021	95.4
Sorethroat		
Present	98	9.2
Absent	972	90.8
Headache		
Present	94	8.8
Absent	976	91.2
Dysphagia		
Present	87	8.1
Absent	983	91.9
Dyspnea		
Present	347	32.4
Absent	723	67.6
Anosmia		
Present	78	7.3
Absent	992	92.7
Hyposmia		
Present	34	3.2
Absent	1036	96.8
Ageusia		
Present	73	6.8
Absent	997	93.2
Hypogeusia		
Present	67	6.3
Absent	1003	93.7
Fever		
Present	421	39.3
Absent	649	60.7
Cough		
Present	471	44
Absent	599	56

cough (44%), fever (39.3%), dyspnoea (32.4%), Nasal discharge (16.6%), sorethroat (9.2%), headache (8.8%), dysphagia (8.2%), anosmia (7.3%), ageusia (6.8%), hypogeusia(6.3%), hyposmia (3.2%) and 169patients (16%) were asymptomatic. No patient presented with dysguesia and dysosmia. Olfactory and gustatory alterations were found in 10.5% and 13.1% respectively. Among 1070 patients, 150(14%) patients ie; 89 males and 61 females had only smell and taste alterations irrespective of other symptoms. Speth et al. reported that the predominance of olfactory dysfunction was 61.2%.[13] Paderno et al. demonstrated that the olfactory and gustatory dysfunctions were seen in 83% and 89% of patients, respectively.[14] There have been not many investigations on the event of olfactory and gustatory dysfunction in Asia, only one study reported hyposmia as a symptom of the COVID-19.[15] In our study, nasal obstruction is present in 3.7% of patients. In an investigation of 1099 patients Guan et al. revealed a prevalence of nasal obstruction in 5% of patient.[4] In this study 128 patients (12%) had Anterior nasal discharge and 49 (4.6%) had posterior nasal drip. Chen et al. reported four patients with rhinorrhea (4%) in a case series of 99 patients.[16] The limitation of this study is purely subjective study, didn't register the time of onset and time taken for resolution of symptoms.

Table 3: Frequency of symptom versus Gender

Symptom	Male frequency (%)	Female frequency (%)	Chi square statistic	P value
Nasal obstruction			3.75	0.05
Present	20(2.9)	20(5.2)		
Absent	669	361		
Anterior nasal discharge			11.74	0.00
Present	65(9.4)	63(16.5)		
Absent	624	318		
Posterior Nasal drip			1.17	0.27
Present	28(4)	21(5.5)		
Absent	661	360		
Sorethroat			5	0.02
Present	53(7.6)	45(11.8)		
Absent	636	336		
Headache			2.16	0.14
Present	54(7.8)	40(10.5)		
Absent	635	341		
Dysphagia			2.69	0.10
Present	49(7.1)	38(10)		
Absent	640	343		
Dyspnea			16.25	0.00
Present	253(36.7)	94(24.7)		
Absent	436	287		
Anosmia			1.37	0.24
Present	55(8)	23(6)		
Absent	634	358		
Hyposmia			0.16	0.68
Present	21(3.1)	13(3.4)		
Absent	668	358		
Ageusia			0.25	0.61
Present	45(6.5)	28(7.4)		
Absent	644	353		
Hypogeusia			4.60	0.03
Present	35(5.1)	32(8.4)		
Absent	654	349		
Fever			1.67	0.19
Present	281(40.8)	140(36.8)		
Absent	408	241		
Cough			4.08	0.04
Present	319(46.3)	152(39.9)		
Absent	370	229		

5. Conclusion

In this single centre, retrospective study, fever, cough and dyspnoea were the most common symptoms. It was discovered that the incidence of the ENT manifestation at the time of admission in the hospital among COVID-19 patients is not as high as cough and fever but 14% had only smell and taste alterations but preventive care and screening must be offered for such patients to avoid further spread. Sudden olfactory or gustatory alterations need to be recognised as an important symptom, for better prognosis and self isolation. With this study we also observed that woman were more presumed to present with anterior nasal discharge, sore throat, hypogeusia and men were more presumed to present with dyspnoea and cough. As the epidemic still continues better understanding of the ENT manifestations in Covid-19 is important in controlling the disease.

6. Conflicts of Interest

All contributing authors declare no conflicts of interest.

7. Source of Funding

None.

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