



Current Practices and Recommendations for Prioritizing Patients Mimicking Upper Respiratory Tract Symptoms in Period of Covid 19 Pandemic: A Strategic Perspective

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Abstract Upper respiratory tract symptoms can be caused by many diseases like Covid 19 disease, common cold, seasonal flu or allergy. This present a diagnostic dilemma in OPD to clinically identify which patient is suspected of Covid 19 disease and which is not. Which patient needs immediate Covid 19 testing, as not all patients presenting with these symptoms have Covid 19 disease. To develop a criteria which can help clinician in OPD while dealing with cases of upper respiratory tract symptoms and to highlight this grey area which needs further research. 107 patients with upper respiratory tract symptom over a period of 1 month, fulfilling the inclusion and exclusion criteria were evaluated and analysed. Patients were divided into 2 groups. Group I is High suspicion group having 43 cases, Group II Low Suspicion group having 64 cases. In group I there were 29 Covid 19 positive cases (67.44%). In group II there were 3 Covid 19 positive cases (4.6%). By dividing the patients of upper respiratory tract symptoms into three groups (I & II) a system can be made for proper, timely and efficient treatment of such cases.

Keywords Covid 19 · Common cold · Seasonal flu · Allergy · Dry cough

Introduction

In current Covid 19 pandemic, upper respiratory tract symptoms of throat pain, cough, cold or fever alarms the patient as well as the relatives towards COVID 19 disease [1]. ENT Out Patient Department (OPD) is the one of the most common place where patients with upper respiratory symptoms of cough, cold, fever, throat pain or allergy presents. These patients are often more worried about the COVID 19 infection then their presenting symptoms. The patient and/or their relatives present to ENT OPD for treatment and also to rule out COVID 19 infection [1, 2].

ENT specialist is then faced by one of the most common question in current pandemic in OPD practice, i.e., is it COVID 19 disease? This article is an attempt to answer this question.

As we all are well aware of the fact that currently without Covid 19 testing it is not possible to accurately diagnose Covid 19 disease [2–4]. Thus this article is also an attempt to raise this grey area about Covid 19 disease for further research, so that a classification, system or guidelines can be made, which can act as a guide for the clinicians to treat these patients with upper respiratory tract infections.

Materials & Methods

107 patients presenting to ENT OPD/Teleconsultation from 01.04.2021 to 30.04.2021 over a period of 1 months were evaluated. All patients presented with upper respiratory tract symptoms.

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Inclusion Criteria

1. Patients presenting in ENT Out Patient Department (OPD)/Teleconsultation
2. Patients with upper respiratory tract symptoms with dyspnoea or difficulty in breathing but with SPO₂ > 90%
3. Patients with upper respiratory tract symptoms without pulmonary complications like pneumonia
4. Patients with new presenting symptoms with no recent medication
5. Follow up till asymptomatic or cured.

Exclusion Criteria

1. Asymptomatic patients in OPD
2. Asymptomatic COVID 19 Positive patients
3. Patients presenting in Emergency or admitted in ward
4. Patients with upper respiratory tract symptoms with dyspnoea or difficulty in breathing with SPO₂ < 90%
5. Patients with upper respiratory tract symptoms with pulmonary complications like pneumonia
6. Patients with history of recent medication or treatment history for presenting symptoms
7. Patients lost to follow up before becoming asymptomatic.

A detailed history as per Proforma (Tables 1 and 2) was taken:

Special emphasis was put to extract past medical history, allergic history, seasonal variations, family history and history of contact or travel (Tables 1 and 2).

Patients were then divided into two group based on their presenting symptoms:

Group I = High suspicion group (Table 3).

Group II= Low Suspicion group (Table 4)

All patients in high suspicion group I, underwent the Covid 19 RT PCR/Covid Antigen test. In group II only cases which deteriorated or those not improving with treatment underwent the test. Data was then analyzed.

Results

Out of total 107 cases included in this study, 71 were males and 36 females.

Maximum number of 41 patients belong to age group of 36–55 years (Table 5).

Patients were divided into 2 groups based on their presenting symptoms:

Group I = High suspicion group: 43 cases

Group II= Low Suspicion group: 64 cases

Group I = High Suspicion Group

Patients included in this group seems to be at highest suspicion of COVID 19 infection clinically. All the 43 cases were tested for COVID 19 infection using Covid RT PCR/Covid Rapid Antigen test. Out of these 43 cases 29 (67.44%) tested positive for COVID infection and rest was negative. All the patients were started on Tab Doxycycline, Tab Ivermectin, Tab Limcee, Tab Zinc, Tab Paracetamol SOS, Tab Ranitidine for 5 days. All cases which tested positive for Covid 19 were advised home isolation and

Table 1 Patient Proforma for history taking

Symptoms	Present/not present (±)
Throat pain—continuous or intermittent, unilateral or bilateral	
Fever—with or without chills	
Cough—dry or productive, recent or not, any variation in day or night	
Sneezing—throughout the day or only in morning	
Nasal obstruction- continuous or intermittent, unilateral or bilateral, any variation in day or night	
Running nose/nasal discharge: continuous or intermittent, unilateral or bilateral, any variation in day or night	
Watering of eyes: continuous or intermittent, unilateral or bilateral, any variation in day or night	
Body aches/weakness/headache	
Shortness of breath/difficulty in breathing: recent or old, SPO ₂ value	
Loss of taste—recent or not, associated with other nasal complaints or not	
Loss of smell—recent or not, associated with other nasal complaints or not	
Irritation in throat	
Itching in eyes, nose, throat and ears	
Other relevant history if any:	

Table 2 Patient proforma for relevant past and medical history

Past history	Yes/no
1. History of contact with COVID 19 positive patient	
2. History of international travel or travel from COVID red zone	
3. History to exposure to allergens with history of allergic episodes in past during season / weather change	
4. History of similar recurrent episodes in past, like recurrent tonsillitis, recurrent pharyngitis, allergic rhinitis, sinusitis etc	
5. History of exposure to cold, outside food or other precipitating factors	
6. History of death in near ones or society due to COVID 19 infection	
7. Negative/no relevant past history	

Table 3 Group I: high suspicion group

Chief symptoms	Number of cases
1. Recent and sudden loss of taste without any other neurological deficit	43 Cases
2. Recent and sudden loss of smell mostly without nasal discharge or nasal obstruction	
3. Fever with or without chills	
4. Cough usually dry	
5. Recent difficulty in breathing or shortness of breath	
6. Tiredness or myalgia	
7. Throat pain	
<i>Associated history</i>	
1. History of contact with COVID 19 positive patient	
2. History of international travel or travel from COVID red zone	

Table 4 Group II: low suspicion group

Chief symptoms	Number of cases
1. Itching in eyes, nose, throat and ears	64 Cases
2. Sneezing	
3. Nasal discharge	
4. Nasal obstruction	
5. Watering of eyes	
6. Irritation in throat	
7. Cold	
<i>Associated history</i>	
1. History to exposure to allergens with history of similar allergic episodes in past especially during season/weather change	
2. History of recurrent similar episodes in past, like recurrent tonsillitis, recurrent pharyngitis, allergic rhinitis, sinusitis etc	
3. History of exposure to cold, outside food or other precipitating factors	
4. History of death in near ones or society due to COVID 19 infection	

were also started on Tab Ecosprin 1 OD for 28 days. Patients were further directed to monitor their temperatures and SPO2 levels daily and report in case of any abnormality. 2 cases required hospitalization due to fall in oxygen level. All the patients were treated and cured.

Group II = Low Suspicion Group

Patients included in this group seems to be at lowest suspicion of COVID 19 infection clinically.

Each case was treated on its merit. General protocol followed was to give medication (as per individual

Table 5 Age distribution of cases

Age group	No of cases
0–15 years	8
16–35 years	23
36–55 years	41
> 55 years	35
Total	107

symptoms like antihistamines, decongestants, nasal drops, gargles etc.) for 3 days and re-evaluate the case. In case of no improvement in 3 days or deterioration in symptoms at any time, patient was immediately investigated and evaluated for COVID 19 infection. Those patients which showed improvement with treatment was continued as per individual needs and treatment was stopped once patient becomes symptom free. Out of 64 cases in this group 56 cases responded to primary treatment and 8 cases required Covid RT PCR/Covid Rapid Antigen test. Out of these 8 cases, 3 (4.6%) were positive and rest were negative.

Discussion

COVID 19 disease came as a sudden unexpected global event which has affected the entire human population either directly or indirectly. Patient's main presenting symptoms mimic upper respiratory tract symptoms¹. Before pandemic these upper respiratory tract symptoms were considered as normal part of life and were treated mostly with home remedies or over the counter prescription. But once this pandemic hit us, over the counter medication was not freely available and patients also became highly aware and suspicious of these symptoms of upper respiratory tract infection [1–3]. All these factors including the fear of COVID 19 disease led to more patients visiting the hospital OPD for treatment and also to rule out any COVID19 disease. This led to a new dilemma In ENT OPD practice where otolaryngologists were faced with a common query: Is it COVID 19 infection?

In such situation the responsibility of Otolaryngologists towards their patients have increased because not all patients presenting with upper respiratory symptoms in 2021 require COVID 19 testing but at the same time it is prudent to make sure that not even a single case of COVID 19 infection is missed. Thus a balance has to be maintained for rational treatment of upper respiratory tract symptoms and COVID 19 disease diagnosis.

This paper is an attempt to find an answer to this dilemma because literature gives a vast information regarding various aspects of COVID 19 disease, symptoms,

its investigations, prevention, and cure and especially how to restart ENT and medical practise using adequate personal protective equipment in current pandemic [4, 5]. This information is very useful for prevention and treatment of COVID 19 positive cases or cases presenting to emergency. But no specific criteria, guidelines or instructions are available on how to distinguish whether upper respiratory symptoms are due to COVID 19 or not based solely on symptoms especially in day to day OPD which can act as a guide and help us clinicians in our routine OPD practice in patient treatment and can also save us from a potential litigation.

Literature shows a lot of tabular comparison of symptoms of Covid 19 disease, cold, flu and allergy but different studies include different and overlapping symptoms [6–9]. To summarize this information, upper respiratory symptoms are broadly caused due to COVID 19 disease, common cold, seasonal flu or allergy [6–9].

In the beginning, this information and distinction was tried in OPD practice to differentiate upper respiratory symptoms into Covid 19 disease or common cold or seasonal flu or allergic [6–9]. But it was difficult to clearly label a patient with upper respiratory symptoms into any one particular disease with certainty without error. There was difficulty in assigning cases into proper category. Moreover our main aim of differentiating these symptoms into Covid 19 disease or not, which patient requires immediate Covid 19 testing or not, was getting cumbersome and difficult.

Thus in an attempt to ease this dilemma patients presenting with upper respiratory tract symptoms are divided into 2 groups: Group I and II.

Group I is high suspicion group. In this group all patients with strong history of contact or travel to red zones with symptoms of loss of smell/taste/fever/dry cough/difficulty in breathing and/or myalgia were included. Patients in this group had highest/maximum chance of having COVID 19 disease and were immediately tested with COVID 19 RT PCR test. In group I, 67.44% cases were Covid 19 positive. Close contacts were also counselled and kept under observation depending on the patients test results. Despite a negative test, due to strong clinical suspicion if patient did not improve then a second test must be advised to patients in this group due to chances of false negative results.

Group II is low suspicion group. In this group patients are at low risk of Covid 19 disease. Patients usually have seasonal allergies or cold. These patients usually have strong history of similar past episodes. Patients are started on treatment based on most probable diagnosis but still cautioned to follow social distancing and use of mask till cured. Patients showed surge in this group usually with change of season and/or weather. Only 8 patients which did

not improve with treatment underwent Covid testing. In Group II 4.6% cases were Covid 19 positive.

In Covid 19 disease [2, 3] common presenting symptoms which should raise our concern are.

1. Recent and sudden loss of taste or smell mostly without nasal discharge or nasal obstruction
2. Fever with or without chills-new onset
3. Cough usually dry- new onset
4. Recent difficulty in breathing or shortness of breath
5. Tiredness or myalgia
6. Throat pain

Uncommon symptoms are sneezing, watering from eyes, nasal discharge, itching in eyes, nose, throat and ears. Usual history of contact or travel is not very helpful in second wave. This contact/travel history held true during early phase of pandemic and now it is very rare to have this history as Covid 19 disease has spread all over. The symptoms of COVID 19 disease are varied with each case presenting differently involving many different systems [2, 3]. Here in this article an attempt is being made to discuss only upper respiratory symptoms based solely for OPD purpose. In case there is doubt about COVID 19 infection, immediate testing should be done so as to have an early diagnosis and contain the disease early. In this study also same protocol was followed. Cases who were not tested for Covid 19 had other more suspicious or strong history clinically for other disease. Even then all the cases in this study were counselled and advised to wear and use mask at all the times, repeated hand washings, regular SPO2 & temperature monitoring and adequate social distancing till they are fully cured.

Seasonal Flu [10] is caused by Influenza virus A & B. Common presenting symptoms are fever with or without chills, cough usually dry, tiredness or myalgia, nasal discharge and throat pain. Less usual symptoms are nasal obstruction, recent difficulty in breathing or shortness of breath, recent loss of smell or taste, itching in eyes, nose, throat and ears. The symptoms of seasonal flu closely mimics Covid 19 infection clinically and often makes the life of clinician difficult. Such cases have to be included in group I because it is better to over diagnose then to miss even a single case of Covid 19 disease.

Common cold [11] is caused by Rhinovirus. Patient can or cannot have history of exposure to cold or contact with infected person. Common presenting symptoms are nasal discharge, sneezing, watering from eyes and/ or throat pain. Less usual symptoms are cough which is usually mild, tiredness or myalgia and fever usually without chills. Uncommon symptoms are headache and itching in eyes, nose, throat and ears. Patients usually give history suggestive of common cold and thus can be included in either group I and II depending on doctors opinion. When in

dilemma it is again advisable to include such case in group I so as not to miss any single case of Covid 19 disease.

Seasonal allergy [12] is an immune response triggered by exposure to allergan. Patient mostly has history of exposure to allergens with similar history of past episodes especially during season/weather change. Common presenting symptoms are itching in eyes, nose, throat and ears, sneezing, nasal discharge, watering of eyes. Less usual symptoms are weakness/fatigue and fever. This clinical entity is easy to diagnose based on clear cut history and is usually self-limiting as soon as the allergan is removed. Such cases were categorized in group II mostly.

This classification of patients into two groups is an attempt to create a system if possible for early detection of Covid 19 disease and prevent undue burden of testing on both infrastructure and patient. This classification can help us in our day to day OPD and act as a guide in treatment of patients of upper respiratory tract symptoms. This is also an attempt to try and reduce error and develop reflexes in treatment of patients with upper respiratory tract infections, especially in places with high OPD load where chances to miss such patients can be more.

This is more important for future as when things will normalize but still Covid 19 will stay amongst us causing infection on and off like other viruses. For such a long term goal this article is a tiny attempt to raise a common OPD dilemma, a domain which needs further study and long term follow up before reaching any conclusions.

Conclusion

- Upper respiratory tract symptoms in patients can be caused by many diseases like Covid 19 disease, common cold, seasonal flu or allergic symptoms.
- It is the responsibility of the treating clinician to just fully prescribe testing for Covid 19 disease and at the same time does not miss out any Covid 19 positive case.
- Thus a criteria/guidelines/classification system is required which can help clinicians in taking this decision in OPD and make the chances of error less.
- By dividing the patients of upper respiratory tract infection into two groups, I & II as discussed above, a system can be tried for proper treatment of such cases.
- Suspected cases can be provided with early testing for Covid 19 disease and treatment whereas patients with low suspicious can be kept under observation and treatment first.
- Precious resources can be best utilized and unnecessary testing can be avoided by this method.

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Data Availability The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Conflict of interest Dr Chetan Bansal declares that there is no conflict of interest.

Human and/or Animals Participants No data, images or videos is displayed which can disclose the identity of any patient or subject involved. Informed consent and ethical permission taken.

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