

Clinical Profile of Covid Patient

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ABSTRACT

Coronaviruses are included in the subfamily Coronavirinae of the family Coronaviridae. Orthocoronavirinae or Coronavirinae are the scientific name of corona virus. The ongoing blazehappening due to the coronavirus SARS coV previously called 2019-nCOV ,started in city named Hubei province of the people's republic of china which subsequently unrolled to various other countries. The world health organisation emergency committee announced a global health emergency in January 2020 on the grounds of rapid increase in china as well as all the international locations .initially the infection caused high morbidity and mortality in china but the incidence in other nations were low. Coronavirus is characterised by positive single stranded large RNA viruses ,enveloped and can infect humans and also a wide range of animals. According to the reports SARS-coV-2 was transferred from animal to human on sea food in market of Wuhan, China .there is no enough information about the possibility of a intermediate host.

Pneumonia was the first clinical sign that ledto the recognition of SARS CoV 2 related disease COVID 19. Though several other symptom related to covid 19 has being defined, pneumonia is the most severe symptom. All the observations suggest that the range of incubation period is 0-24 days but the mean incubation period is 7days. symptomatic patients the clinical presentation is within 7days with complains of fever,cough,nasal congestion fatigue and other signs of upper respiratory infections which can further turn into symptoms of pneumonia in almost 75%of patients.Most corresponding signs of viral pneumonia include decrement in Oxygen saturation,chest x ray ,blood gas changes, and further imaging modality shows ground glass appearance,patchy consolidations alveoli filled with exudates and interlobular involvement pointing towards deterioration. other common blood picture is lymphopenia and increase in c reactive proteins and proinflammatory cytokines.

KEYWORD:Covid ,Clinical Features ,Mucormycosis ,Coronavirus

INTRODUCTION :

Coronaviruses member of family of Coronaviridae, order Nidovirales, and realm Ribavirin.

They are divided into-

Alpha corona virus

Beta corona virus

Gamma coronavirus

Delta corona virus

- first two types, beta and alpha coronaviruses infect mammals and delta coronaviruses and gamma corona viruses that predominantly infect birds.

•Genus:

Alphacoronavirus

Species: Human coronavirus 229E, Human coronavirus NL63, Miniopterusbat coronavirus 1, Miniopterusbat coronavirus HKU8, Porcineepidemic diarrhoea virus, Rhinolophusbat coronavirus HKU2, Scotophilusbat coronavirus

•Genus:

Betacoronavirus type species:

Murinecoronavirus

•Genus:

Gamma coronavirustypespecies :Infectious virus causing bronchitis

Species: Belugawhalecoronavirus SW1,
Infectious bronchitis virus

•Genus

Deltacoronavirus- type

species: Bulbulcoronavirus HKU11

Species:

Bulbulcoronavirus HKU11,

Porcinecoronavirus HKU15

Species: Betacoronavirus1 (Bovine
Coronavirus, Human coronavirus OC43),

Humancoronavirus HKU1,

Murinecoronavirus,

Pipistrellusbatcoronavirus HKU5,

Rousettusbatcoronavirus HKU9, coronavirus

causing Severe acute respiratory syndrome
(SARS-CoV, SARS-CoV-

2), Tylonycterisbatcoronavirus HKU4,

coronavirus causing Middle East
respiratory syndrome-

Hedgehogcoronavirus 1 (EriCoV)[1]

Human coronavirus can be traced back to 1965, when Bynoe and his partner Tyrrell found out that they could passage a virus named B-814, growing in human embryonic tracheal organ cultures taken from the respiratory tract of an adult with a common cold. The existence of an infectious Agent was demonstrated by inoculating the medium from The cultures intranasally in human volunteers. Tyrrell and Bynoe tried to growth agent in tissue culture with subjects in whom colds were Produced in a significant proportion but weren't successful. A group of virologists lead by Tyrrell in the late1960's were working with a number of animal viruses and human strains inclusive of infection causing bronchitis virus, mouse hepatitis virus and communicable gastroenteritis virus of swine, which were denoted to be Morphologically the same when seen through electron microscopy. Tyrrell and Bynoe tried to growth agent in tissue culture with subjects in whom colds were Produced in a significant proportion but weren't successful.

This novel group of viruses was called coronavirus (corona denoting the crown-

like appearance of the surface projections) In 2002-2003 we saw for the first time the fear of SARS. Back then it started in china from the gaungdong province. it was traced in a hotel in Hongkong where international travellers stayed and the infection spread to the whole world and then we witnessed more than 8000 cases and more than 800 deaths .around 2012 there is another virus emerging called middle East respiratory syndrome virus also called MERS. This virus was first found in the saliva of bat then it transmitted to camels where it had mutated and transmitted to human host. Mortality rate is higher than current coronavirus

In a study conducted in S.M.S JAIPUR, information were acquired with information assortment structures from electronic clinical records and history given by 21 Covid-19 contaminated patients. Patients were tried for Covid-19 by continuous opposite record polymerase chain response (RT-PCR) examine of 2019-nCoV RNA.[2]

MATERIAL AND METHODS

To distinguish all contemporary explored articles giving an idea of the about the signs and symptoms related with COVID-19, Records recognized through the electronic data set were at first sorted by headings and conceptual substance. The articles which were full-text were evaluated for qualification and incorporation in the proof based survey. Audit or assessment articles that didn't give an account of unique patient cases, observational examinations, and those articles which were distributed preceding the primary COVID-19 case in December 2019 were avoided.

Study type incorporated the accompanying: overview depiction considers, which wrote about information gathered through patient-or doctor announced reviews; case reports, which

covered the introduction and the board of an individual patient; case arrangement, which investigated the introduction of numerous patients who introduced under comparable conditions; and observational imminent examinations, that supervene some of patients throughout some stretch of time and were consequently helpful in gathering information on illness predominance. Segment attributes, for example, quiet example sizes, ages, and genders was gathered. Coronavirus status and demonstrative methodology were likewise noted. Graphic attributes of the cutaneous signs were recorded, including: rash sort, area, length, related indications, connection to medicate admission, and relationship to the beginning of other COVID-19 manifestations.

CLINICAL SURVEY

Over the span of the investigation 21 Covid-19 positive patients were conceded in S.M.S Hospital, Jaipur. 66.66% of all out patients were male and majority share of the cases (80.90%) were under 60 years old. The vast majority of the patients (71.40%) were either outsiders or had a background marked by unfamiliar travel. Around 33.33% patients were totally asymptomatic and of the individuals who were having symptoms, presented with the most widely recognized complaints of fever in almost 78.57% patients, myalgia in 64.28%, difficulty in breathing in 28.57% patients and migraine in 28.57% patients. Three among 21 patients (14.28%) had basic morbidities like hypertension, diabetes mellitus, hypothyroidism, constant kidney illness or coronary vascular sickness. Hemogram of 110 patients showed lymphopenia over the span of study. The lab results revealed that 4 patients (19.04%) had thrombocytosis whereas, 3 patients (14.28%) revealed leucocytosis. Each of the 4 patients in the serious class illustrated increased levels of FDP, D-Dimer levels and they needed oxygen

uphold as treatment. A few of the patients showed abnormal liver function tests and had excessively high values of calcitonin levels, serum ferritin levels and LDH levels. One out of four patients eventually landed into ARDS (Acute Respiratory Distress Syndrome) during the course of the treatment. Ten of these patients tested negative for Covid-19 virus infection. The average time span from admission to receiving the first Covid-19 reports as negative was approximately 8.3 days. Eighteen patients (85.71%) are currently undergoing treatment.[3]

Laboratory investigations and clinical examinations in Covid-19 infected patients in the India show a hemogram revealing lymphopenia as the major finding. Patients who are elderly and have related comorbid medical conditions such as chronic obstructive pulmonary disease (COPD) and diabetes mellitus appear to have more serious danger for lung injury and accordingly require oxygen supplementation over the duration of their illness. It was interesting to note that these patients also showed greater abnormalities in their biochemical profiles in comparison to other stable patients.

OCULAR SYMPTOMS

Even mild cases of COVID 19 infected patients showed the presence of a conjunctival clog which manifested as mild conjunctivitis, this is a significant ocular finding in COVID-19 positive patients. The segment information and fundamental history of the patients conceded on various dates were gathered from medical clinic records. An aggregate of 127 patients were taken for this examination. The median age of COVID 19 virus infected patients was 38.8 years (range: 5–73 years); 113 (88.98%) patients were male and 14 (11.02%) were females. Greater part (99 out of 127 patients) of them were recorded in the third seven day stretch of confirmation and few patients (13 patients in first week and 15 patients in second

week) were in the underlying fourteen days. A large portion of the patients conceded were from a strict social event in New Delhi (102 patients: 80.31%). Many were screened for COVID-19 at an asymptomatic stage due to high-hazard contact history. Thirteen patients (10.24%) had a contact from positive nonfamily part, six patients (4.72%) had contact from positive relatives, one patient had history of worldwide travel (London) and five patients (3.94%) had no known contact history. History recorded with respect to fundamental indications of COVID-19 was noted to report the appearance of COVID-19 and its relationship with visual side effects. 79 (62.20%) patients had no fundamental side effects, 40 (31.49%) patients had hack, 10 (7.87%) had sore throat, and 6 (4.72%) had fever. Data in regards to other fundamental sickness of these patients was gathered for its relationship with visual manifestations. 107 patients (84.25%) had no foundational ailment, 11 patients (8.66%) had diabetes mellitus, eight (6.29%) had hypertension, two patients had thyroid problems, one patient had pneumonic tuberculosis, one patient had parkinsonism, one patient had bronchial asthma, and one patient with cardiovascular disorder. Mild conjunctivitis showing as conjunctival blockage is normal, with a predominance of 6.29%. [3]

Ocular abnormality manifesting as mild conjunctivitis is one of the significant visual indications in COVID-19 positive patients even with gentle infection. In our investigation, three out of the eight patients who created conjunctivitis had beginning of visual protests even before the sign of clear COVID-19 side effects at the hour of study. Consequently, one ought to have a high list of COVID-19 doubt in all patients with conjunctivitis and require an exhaustive visual assessment to preclude other [4]

CUTANEOUS MANIFESTATIONS

Lesions resembling pseudo-chilblains were visible on toes and fingers and the most incessant injury recognized (40.4% of patients), showing up in youthful grown-ups (mean age of 23.2 years) following the origin of extracutaneous COVID-19 side effects (55/100 patients). Erythematous maculopapular rashes influenced 21.3% of cases, usually affecting moderately aged grown-ups (mean age, 53.2 years) and happening simultaneously as side effects not involving skin (110/187 patients). Vesicular rashes were visible in 13% of patients, showing up in middle aged population (mean age of 48.3 years) after the beginning of different indications (52/84 patients). Urticarial rashes are seen in 10.9% of patients, visible in grown-ups (mean age of 38.3 years) and happening simultaneously as extra cutaneous manifestations (46/78 patients). Vascular rashes manifesting in the form of livedo or purpura were observed in 4% of patients, especially in the elderly population (mean age of 77.5 years) and occurring simultaneously as extra-cutaneous COVID-19 manifestations in 18/29 patients. Erythema multiforme-like emissions, albeit rare were seen in 3.7% of cases and generally impacted kids (mean age of 12.2 years).

Even though not all the investigations covered the mean period of these cutaneous appearances, most investigations illustrated signs and manifestations that settled in 2–15 days. One examination detailed industrious acral sores that took approximately 2 months duration to resolve completely [5]

The dermatologic discoveries which were indicative, a large number were pruritic in nature (n = 295), trailed by excruciating (n = 68) or copying (n = 24). Majority patients had no new medication consumption in the fourteen days going before the rash beginning.

COVID 19 RELATED MUCORMYCOSIS

An unexpected interchange of components, including prior illnesses like utilisation of immunosuppressive treatment, past respiratory related illnesses, diabetes mellitus, the danger of clinic obtained contaminations, and fundamental resistant adjustments of COVID-19 disease itself may prompt secondary diseases, which are progressively being perceived taking into account their effect on grimness and mortality [6]. In a new study, 62 out of 806 (8%) patients had auxiliary bacterial or contagious contaminations whilst undergoing medical clinic affirmation. There was boundless utilization of expansive range anti-microbials, with the same number of 1450/2010 (72%) of patients accepting these medications, frequently with no fundamental proof of disease.

Current protocol in India suggest methylprednisolone at a dose of 0.5-1 mg/kg/day intravenous infusion for a duration of three days in moderate cases of COVID 19 infection and dosage regime of 1-2 mg/kg/day in serious cases of COVID 19. Organisations such as the National Institute of Health suggests that the use of dexamethasone (6 mg for every day for a maximum period of 10 days) should be administered in patients who are undergoing ventilation or require supplemental oxygen however not in less severe cases []. The rules explicitly take into consideration the danger of building up a secondary contamination [7].

There are explicit pathophysiological highlights of COVID-19 viral infection that may allow auxiliary parasitic contaminations, including a penchant to cause broad pneumonic illness and the pathology involving alveolo-interstitial system may excessively increase the danger of intrusive contagious diseases. Secondly, the resistant dysregulation related with coronavirus, with diminished quantities of T lymphocytes, CD8+T

cells, and also the CD4+ T cells can adjust intrinsic invulnerability [7].

In a study conducted in a set of 15 patients in New Delhi in India, with COVID-19 infections showed circulation system candida diseases. 10 out of the 15 patients presented with Candida auris contamination, out of which six kicked the bucket (60%) [8]. White et al. Did the screening of 135 grown-ups infected with the COVID-19 disease and detailed a rate of obtrusive contagious contaminations of 26.7% (normally yeast, typically candida among 12.6% or aspergillosis among 14.1%, Patients who had obtrusive parasitic infections had more mortality (53% in infected versus 31% in non infected), which was essentially diminished by suitable treatment. treatment with cotecosteroids and a past history of pneumonic sickness was related with a higher risk of obtrusive parasitic infection [9]. Likewise, high rates were found in Pakistan (23/147, 15.6%) and Italy (30/108, 27.7%), with the researchers strongly believing in the fact that the improvement of intrusive contagious contaminations modifies the characteristic history of the illness [10-11]. Tune et al. recommended a calculation for the early finding and the board of basic intrusive parasitic contaminations (aspergillus, candidiasis, cryptococcosis, and mucormycosis) [8]

Just a predetermined value of instances of auxiliary mucormycosis were recently revealed. (Hanley et al.) have revealed an instance of a 22-year-old patients suffering with COVID-19 pneumonia and a central cerebral corridor infarct presented with scattered mucormycosis in the lungs and presence in the cerebral tissue was by chance found during a posthumous report [9].

Werthman-Ehrenreich announced the instance of a 33-year-old patient who gave history of ptosis and proptosis of left side with modified sensorium. Examinations uncovered diabetic ketoacidosis with

coronavirus contamination. Imaging investigation of face revealed huge ethmoidal and maxillary sinus thickening. A MRI of the mind demonstrated numerous zones of localized necrosis and ischemia showing intrusive contagious illness. Mucor was shown by means of a nasal biopsy and ensuing society. The creator recommends that early recognizable proof of parasitic co-diseases may altogether decrease grimness and mortality [10].

The patient we depict with serious COVID-19 infection had a long-established diabetes as confirmed by his diabetic ulcers in the foot. The indications of orbital contamination were seen exclusively following 10 days of affirmation for COVID-19 disease during this time he was being treated for both wide range anti-microbials and steroids were given. Every one of these elements will in general encourage parasitic coinfection, alongside any conceivable COVID-19 pathophysiological systems. For our situation, either a formerly undiscovered fungal disease could have been irritated or it might have accordingly evolved

EFFECT OF COVID IN PREGNANCY

Most of the patients are asymptomatic. cardiac injury markers may be raised, liver functions can be deranged. Normally respiratory infections in pregnancy has increased mortality and morbidity due to decreased lung capacity and due to decreased immune response.

Earlier reports showed that pregnant females don't show higher susceptibility to COVID-19 compared with general population. If a pregnant woman acquires a coronavirus infection then she is at higher risk of

- 1) Admission in ICU
- 2) Mechanical ventilation
- 3) Perinatal depression and anxiety

Pregnant woman with co-morbidities like obesity or diabetes or hypertension, the

risk is consistent with non-pregnant female with same comorbidities. Covid 19 infection should not be considered as an indication for delivery. The infection will resolve spontaneously in most of the patients

EFFECT ON FETUS

There are chances of vertical transmission of virus to the fetus through placenta which is less common or it can be transmitted during labour called intrapartum transmission. The baby can also get infected after delivery that is postpartum transmission.

To confirm if it is a vertical transmission, sample of amniotic fluid before rupture of membrane can be tested for the virus or the virus found in the cord blood or neonatal blood within 12 hrs of delivery. Though the nasopharyngeal swab of mother shows Covid infection, the virus is absent in vaginal secretion, breast milk and amniotic fluid. Covid 19 is known to cause hyperthermia and if it occurs in the first trimester then it may disturb organogenesis that can lead to congenital anomalies [11]. In the third trimester, COVID-19 can cause premature rupture of membranes, premature labour and fetal distress. [13]. Fetuses and newborns of pregnant female infected with COVID-19 should be given more protection to avoid any chances of happening of an adverse event. [12]

DISCUSSION:

Science of infection:

The most important thing to learn is how this virus transmits

The question is-

1. how does it travel from one human to another?
2. when the infected person will transmit the virus?
3. in what conditions the virus spreads?

As we know that covid 19 is a respiratory virus and majority of individuals infected with SARS COV-2 VIRUS will have

respiratory symptoms. The virus spreads by – droplets coming out of your nose or your mouth when you talk, when you cough or when you are in close proximity to someone. Droplets can be of different sizes -, Large droplets- drop quickly. Smaller droplets- remain suspended in the environment. When these droplet gets to the other person's nose. Or mouth, or the eyes the virus is transferred. The second way is through the contaminated surfaces- if someone touches the taint surface and then touch his eyes nose or mouth without washing hands, the virus gets transmitted. When it transmit, both symptomatic and asymptomatic person can transmit the virus but it is believed that the person is more infectious when he has symptoms or a few days before developing symptoms. [14,15,16].

Site of transmission-

It depends on

1. The intensity of exposure
2. Duration of exposure
3. location (crowded places)

How human body fights with the virus?

Immune system may take 1-2 weeks to develop antibodies against the virus. There is no data on how long these antibodies are protective against the virus. Several cases of reinfection have been reported which shows that the antibodies reduce with time. Most common presentation among the patients- fever, cough, loss of taste and smell [17-20]. A number of studies on coronavirus pathophysiology are available [21-24].

Treatment – according to the symptoms. Few hospitals are also giving antibacterial drugs like Azithromycin, hydroxychloroquine along with the antiviral drugs in the symptomatic patients. Studies on therapeutic options for Covid were reported by Recheet. al. [25] and Thakareet. al [26]. Darwateet. al and Deogade et. al. reported Ayurvedic remedies [27,28]. Jameel et. al reported on drugs and therapies for children [29]. Joseph et. al. described on palliative care

of Covid patients [30]. Afaque reported about treatment of diabetes in patients affected by covid-19 [31]. Some interesting studies were reported by Agrawal et. al [32], Dhole et. al. [33] and Gulhane et. al. [34].

CONCLUSION

Since the first case of Covid, there has been varied presentation of symptoms in the patient. With time we noticed that the virus not only affected respiratory system but also presented with ocular symptoms in the form of conjunctivitis and various cutaneous symptoms which were known as covid toes or chilblain like acral pattern. It also presented with papular rashes in some patients. The cutaneous symptoms were not very common. Most of the patients who had symptoms showed respiratory problems which were ranging from mild to moderate like loss of smell, dry cough to pneumonia or ARDS. While most of the patients recovered in 14 days some of them required ventilator support. In many patients it was found that Covid was associated with bacterial and fungal infections. Mucormycosis can cause loss of eyesight. The infection presented black crust in the nose and swelling in eyes or cheeks. There were no evidences of increased susceptibility of Covid in pregnant female but special care has to be taken if a pregnant female acquires Covid infection as it can cause congenital anomalies or premature rupture of membranes or even fetal demise though the chances are very low.

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