Journal of Obstetrics and Gynecological Problems

Clinical Study

Noor N, et al. J Obstet Gynecol Probl: JOGP 100010

Global Havoc of Covid-19:An Overview

Noor N[1*], Ashraf U[2], Parveen S[1] and Ali SR[3]

[1]Department of Obstetrics and Gynecology, Jawaharlal Nehru Medical College, A.M.U, India

[2]Department of Medicine, Jawaharlal Nehru Medical College, A.M.U, India

[3]Department of Civil Engineering, Jawaharlal Nehru Medical College, A.M.U, India

[*]**Corresponding Author:** Nasreen Noor, Department of Obstetrics and Gynecology, Jawaharlal Nehru Medical College, A.M.U, India, Tel: 9837117853; Email: nasreen_71@rediffmail.com

Citation: Noor N, Ashraf U, Parveen S and Ali SR (2020) Global Havoc of Covid-19: An Overview. J Obstet Gynecol Probl: JOGP 100010

Received date: 08 May, 2020; **Accepted date:** 21 May, 2020; **Published date:** 28 May, 2020

Introduction

The coronavirus outbreak came to light on December 31, 2019 when China informed the World Health Organization of a cluster of cases of pneumonia of an unknown cause in Wuhan City in Hubei Province [1]. Till 05/03/2020 around 96,000 cases of coronavirus disease 2019 (COVID-19) and 3300 deaths have been reported [2]. Subsequently the disease spread to more Provinces in China, and to the rest of the world. The WHO has now declared it a pandemic.

Etiopathogenesis

Studies have shown higher viral loads in the nasal cavity as compared to the throat with no difference in viral burden between symptomatic and asymptomatic people [3]. Patients can be infectious for as long as the symptoms last and even on clinical recovery. Studies have identified angiotensin receptor 2 (ACE2) as the receptor through which the virus enters the respiratory mucosa [4]. The basic case reproduction rate (BCR) is estimated to range from 2 to 6.47 in various modelling studies [4]. In comparison, the BCR of SARS was 2 and 1.3 for pandemic flu H1N1 2009 [2].

Spread of COVID-19

All ages are susceptible. Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered virus named SARS-CoV-2 and the disease is now called COVID-19. The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes [5].These droplets are relatively heavy, do not travel far and quickly sink to the ground. People can catch COVID-19 if they breathe in these droplets from a person infected with the virus.This is why it is important to stay at least 1 meter) away from others. These droplets can land on objects and surfaces around the person such as tables, doorknobs and handrails.These infected droplets can spread 1-2 m and deposit on surfaces. The virus can remain viable on surfaces for days in favorable atmospheric conditions but are destroyed in less than a minute by common disinfectants like sodium hypochlorite, hydrogen peroxide etc [6]. Infection is acquired either by inhalation of these droplets or touching surfaces contaminated by them and then touching the nose, mouth and eyes. As per current information, trans placental transmission from pregnant women to their fetus has not been described [7]. However, neonatal disease due to postnatal transmission is described [7]. The incubation period varies from 2 to 14 d [median 5 d] [8]. Coronavirus on surfaces can easily be cleaned with common household disinfectants that will kill the virus. Studies have shown that the COVID-19 virus can survive for up to 72 hours on plastic and stainless steel, less than 4 hours on copper and less than 24 hours on cardboard.People can become infected by touching these objects or surfaces, then touching their eyes, nose or mouth.This is why it is important to wash your hands regularly with soap and Some reports have indicated that people with no symptoms can transmit the virus. It is not yet known how often it happens water or clean with alcohol-based hand rub.It is difficult to say that pregnant woman with COVID-19 can pass the virus to her fetus or newborn during pregnancy or delivery. To date, the virus has not been found in samples of amniotic fluid or breastmilk.

Clinical Features

The time between exposure to COVID-19 and the moment when symptoms start is commonly around five to six days but

can range from 1-14 days [8]. The most common symptoms of COVID-19 are fever [9] dry cough, and tiredness. Other symptoms that are less common and may affect some patients include aches and pains, nasal congestion, headache, conjunctivitis, sore throat, diarrhea, loss of taste or smell or a rash on skin or discoloration of fingers or toes. These symptoms are usually mild and begin gradually. Most people (about 80%) recover from the disease without needing hospital treatment. Around 1 out of every 5 people who gets COVID-19 becomes seriously ill and develops difficulty breathing. Some people become infected but only have very mild symptoms [10]. Adverse outcomes and death are more common in the elderly and those with underlying co-morbidities (50-75% of fatal cases). Fatality rate in hospitalized adult patients ranged from 4 to 11%. The interestingly, disease in patients outside Hubei province has been reported to be milder than those from Wuhan [11]. Similarly, the severity and case fatality rate in patients outside China has been reported to be milder [12]. This may either be due to selection bias wherein the cases reporting from Wuhan included only the severe cases or due to predisposition of the Asian population to the virus due to higher expression of ACE2 receptors on the respiratory mucosa [13]. Overall case fatality rate is estimated to range between 2 and 3% [2].

Diagnosis

A suspect case is defined as one with fever, sore throat and cough who has history of travel to China or other areas of persistent local transmission or contact with patients with similar travel history or those with confirmed COVID-19 infection.A confirmed case is a suspect case with a positive molecular test [8]. Specific diagnosis is by specific molecular tests on respiratory samples (throat swab/ nasopharyngeal swab/ sputum/ endotracheal aspirates and Broncho alveolar lavage). Virus may also be detected in the stool and in severe cases, the blood.

Other laboratory investigations are usually nonspecific. The white cell count is usually normal or low. There may be lymphopenia; a lymphocyte count <1000 has been associated with severe disease. The platelet count is usually normal or mildly low. The CRP and ESR are generally elevated but procalcitonin levels are usually normal. A high procalcitonin level may indicate a bacterial co-infection. The ALT/AST, prothrombin time, creatinine, D-dimer, CPK and LDH may be elevated and high levels are associated with severe disease.

The chest X-ray (CXR) usually shows bilateral infiltrates but may be normal in early disease. The CT is more sensitive and specific. CT imaging generally shows infiltrates, ground glass opacities and sub segmental consolidation.In fact, abnormal CT scans have been used to diagnose COVID-19 in suspect cases with negative molecular diagnosis; many of these patients had positive molecular tests on repeat testing [14].

Differential Diagnosis

The differential diagnosis includes all types of respiratory viral infections [influenza, parainfluenza, respiratory syncytial virus (RSV), adenovirus, human metapneumovirus, non COVID-19 coronavirus], atypical organisms (mycoplasma, chlamydia) and bacterial infections.

COVID 19 and Pregnancy

Research is currently underway to understand the impacts of COVID 19 infection on pregnant women.At present there is no evidence that they are at higher risk of severe illness than the general population due to limited data.However, due to changes in their bodies and immune systems, we know that pregnant women can be badly affected by some respiratory infections. However, WHO recommendations are that pregnant women with symptoms of COVID-19 should be prioritized for testing [12]. If they have COVID-19, they may need specialized care. Pregnant women should take the same precautions to avoid COVID-19 infection as other people. If COVID-19 is suspected or confirmed, health workers should take all appropriate precautions to reduce risks of infection to themselves and others, including hand hygiene, and appropriate use of protective clothing like gloves, gown and medical mask.

Mode of Delivery for COVID-19 Suspected/Confirmed women

WHO does not recommend caesarean section for COVID-19 suspected or confirmed but it should only be performed when medically justified. The mode of birth should be individualized and based on a woman's preferences alongside obstetric indications [12].

COVID-19 and Breastfeeding: Breastfeeding is particularly effective against infectious diseases because it strengthens the immune system by directly transferring antibodies from the mother. As with all confirmed or suspected COVID-19 cases, mothers with any symptoms who are breastfeeding or practicing skin-to-skin contact should take precautions.

Treatment: Treatment is essentially supportive and symptomatic. The first step is to ensure adequate isolation to prevent transmission to other contacts, patients and healthcare workers. Mild illness should be managed at home with counseling about danger signs. The usual principles are maintaining hydration and nutrition and controlling fever and cough. In hypoxic patients, provision of oxygen through nasal prongs, face mask, high flow nasal cannula (HFNC) or non-invasive ventilation is indicated. Mechanical ventilation and even extra corporeal membrane oxygen support may be needed.Routine use of antibiotics and antivirals such as oseltamivir should be avoided in confirmed cases. Antibiotics and antifungals are required if co-infections are suspected or proven. Chinese guidelines do recommend short term therapy with low-to-moderate dose corticosteroids in COVID-19 ARDS [15,16]. Detailed guidelines for critical care management for COVID-19 have been published by the WHO [17]. There is, as of now, no approved treatment for COVID-19.In a historical control study in patients with SARS, patients treated with lopinavir-ritonavirwith ribavirin had better outcomes as compared to those given ribavirin

alone [17]. Drugs proposed for therapy are arbidol (an antiviral drug available in Russia and China), intravenous immunoglobulin, interferons, chloroquine and plasma of patients recovered from COVID-19 [18].

Prevention: Practicing hand and respiratory hygiene is important at ALL times and is the best way to protect others and yourself. These measures can reduce your chances of being infected or spreading COVID-19 by taking some simple precautions:

- Regularly and thoroughly clean your hands with an alcohol-based hand rub or wash them with soap and water.
- Maintain at least 1-meter distance between yourself and others.
- Avoid going to crowded places
- Avoid touching eyes, nose and mouth.
- Make sure you, and the people around you, follow good respiratory hygiene.By following good respiratory hygiene, you protect the people around you from viruses such as cold, flu and COVID-19.
- Stay home and self-isolate even with minor symptoms such as cough, headache, mild fever, until you recover.
- If you have a fever, cough and difficulty breathing, seek medical advice and follow the directions of your local health authority.
- Avoiding unneeded visits to medical facilities allows healthcare systems to operate more effectively, therefore protecting you and others.
- Keep up to date on the latest information from trusted sources,

At this time, there are no specific vaccines or treatments for COVID-19. A candidate vaccine is under development. However, there are many ongoing clinical trials evaluating potential treatments.

Conclusion

The current COVID-19 pandemic is clearly an international public health problem. Covid -19 outbreak has challenged globallythe economic, medical and public health infrastructure.Due to rapid transmission, countries around the world should increase attention into disease surveillance systems and scale up country readiness and response operations including establishing rapid response teams and improving the capacity of the national laboratory system.

References

1. Wang C, Horby PW, Hayden FG, Gao GF (2020) A novel coronavirus outbreak of global health concern. The Lancet 395: 470-473.
2. https://www.worldometers.info/coronavirus/.
3. Zou L, Ruan F, Huang M, Liang L, Huang H, et al. (2020) SARS-CoV-2 viral load in upper respiratory specimens of infected patients. N Engl J Med 382: 1177-1179.
4. Cheng ZJ and Shan J (2020) 2019 novel coronavirus: where we are and what we know. Infection 48:155-163.
5. Camilla R, Mirjam S, Peter S, Gisela B, Guenter F, et al. (2020) Transmission of 2019-nCoV Infection from an Asymptomatic Contact in Germany. New England Journal of Medicine 382: 970-971.
6. Kampf G, Todt D, Pfaender S, Steinmann E (2020) Persistence of coronaviruses on inanimate surfaces and its inactivation with biocidal agents. J Hosp Infect 104: 246-251.
7. Huijun C, Juanjuan G, Chen W, Fan L, Xuechen Y, et al. (2020) Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. The Lancet 395: 809-815.
8. SinghalT(2020) A Review of Coronavirus Disease-2019 (COVID-19). Indian J Pediatr87: 281-286.
9. Chen F, Liu ZS, Zhang FR, Xiong RH, Chen Y, et al. (2020) First case of severe childhood novel coronavirus pneumonia in China. ZhonghuaErKeZaZhi58:E005.
10. Zeng LK, Tao XW, Yuan WH, Wang J, Liu X, et al. (2020) First case of neonate infected with novel coronavirus pneumonia in China. ZhonghuaErKeZaZhi58:E009.
11. Xu XW, Wu XX, Jiang XG, Xu KJ, Ying LJ, et al. (2020) Clinical findings in a group of patients infected with the 2019 novel coronavirus (SARS-Cov-2) outside of Wuhan, China: Retrospective case series. BMJ 368:m606.
12. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/
13. Huang P, Liu T, Huang L, Liu H, Lei M, et al. (2020) Use of Chest CT in Combination with Negative RT-PCR Assay for the 2019 Novel Coronavirus but High Clinical Suspicion. Radiology 295: 22-23.
14. Russell CD, Millar JE, Baillie JK (2020) Clinical evidence does not support corticosteroid treatment for 2019-nCoV lung injury. Lancet 395: 473-475.
15. Zhao JP, Hu Y, Du RH, Chen ZS, Jin Y, et al. (2020) Expert consensus on the use of corticosteroid in patients with 2019-nCoV pneumonia. ZhonghuaJie He He Hu Xi ZaZhi43:E007.
16. https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novelcoronavirus-[ncov]-infection-is-suspected.
17. Zhang L and Liu Y (2020) Potential interventions for novel coronavirus in China: A systematic review. J Med Virol 92: 479-490.
18. Multicenter Collaboration Group of Department of Science and Technology of Guangdong Province and Health Commission of Guangdong Province for Chloroquine in the Treatment of Novel Coronavirus Pneumonia. (2020) [Expert consensus on chloroquine phosphate for the treatment of novel coronavirus pneumonia]. [Article in Chinese] ZhonghuaJie He He Hu Xi ZaZhi43:E019.