

Gangrene Caused by Delta Variant

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ABSTRACT

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INTRODUCTION

A new wave of COVID 19 has started in many countries of the world due to the most infectious variant of SARS –COV-2 which is Delta Variant .It was first identified in December 2020 in India According to World Health organization Delta variant is the fastest & the fittest variant so far Loss of smell & cough are observed in patient affected by delta variant virus which are not similar with the common symptoms of COVID 19 Delta Variant virus shows rapid growth & effects the respiratory tract of the patient to much greater level Hearing disability severe gastric problem & blood clots(micro thrombi) linked with delta variant virus serve as leading cause of gangrene . It shows transmits 60% more quickly as compared to alpha variant & increases risk of hospitalization & further complications reduction is observed in immunization developed in patient due to previous infection & vaccination against delta variant virus booster doses are being developed to provide action against the variants.

Viruses continuously adapt changes for their survival & when strain undergoes one or more. Mutations that differ from each other it gives rise to variants, Delta variant has already.

Spread to 163 countries across the globe & it was given name in May 2021.

Delta virus is said to be delta variant due to its ability of spreading faster and causing more severe problems to the individuals, because of its faster spreading ability this delta variant undergoes mutation and becomes more stronger that's why this delta variant is said to be more contagious then the previous variant of COVID-19.

WHO world health organization has introduced vaccines for prevention against these viruses and to reduce the chances of transmissions. Although these vaccines have mild symptoms but can be reduce with passage of time.

Gangrene is a serious disease in which the death of tissue occurs because of lack of blood supply and bacterial infections. It mostly affects arms and legs and also your internal organs. The risk of gangrene increases if you have and underlying disease like diabetes etc. gangrene virus can affect your skin due to which discoloration and swelling like symptoms occur, if this virus penetrates your skin it can affect your tissue and can cause high body temperature, if it spreads to all parts of your body you will face decrease in blood pressure, increased heart rate, confusion and breathlessness like symptoms which is due to septic shock.

Gangrene disease is of many types: dry gangrene; in this type of gangrene the patient skin color changes to purple and it mostly develops due to an underlying disease condition like diabetes and blood vessel disease but it develops slowly.

Wet gangrene; this type of gangrene is life threatening and it needs to be treated quickly as it develops very fast and causes death. It usually develops when a diabetic patient injures its toe or foot and the appearance of this type of gangrene is wet.

Gas gangrene; in this type of gangrene the patient's condition looks normal in the start but as soon as it spreads deep into the muscle tissues a bubble like appearance will develop on to your skin and it will make a cracking sound upon touching it due to the gas, like wet gangrene gas gangrene is also life threatening.

Internal gangrene; this type of gangrene develops when the gangrene spreads in your internal organ and the supply of blood to that organ is blocked, it spread in more than one organ at a time and it is also deadly and left untreated.

Fournier's gangrene; this type of gangrene disease develops in the genital organs of men and women, mostly it develops in man but women can also be affected to this type of gangrene related condition.

Meleney's gangrene; this is a very rare type of gangrene condition it usually occurs after operational surgery and people develop painful skin lesions.

Risk factors of this disease may be due to some underlying diseases that may be diabetes, vessels disease like atherosclerosis in which the arteries becomes hardened and narrowed mostly it is due to diabetic condition.

If you have been through a surgical procedure which have affected your tissues or supply of blood towards them decreases this may also develop the chances of gangrene, smoking due to presence of increase content of tobacco in it.

Obesity which leads to development of many other disease diabetes and vascular disease are also included in it. Extra weight gain can reduce blood flow and decrease chance of wound healing.

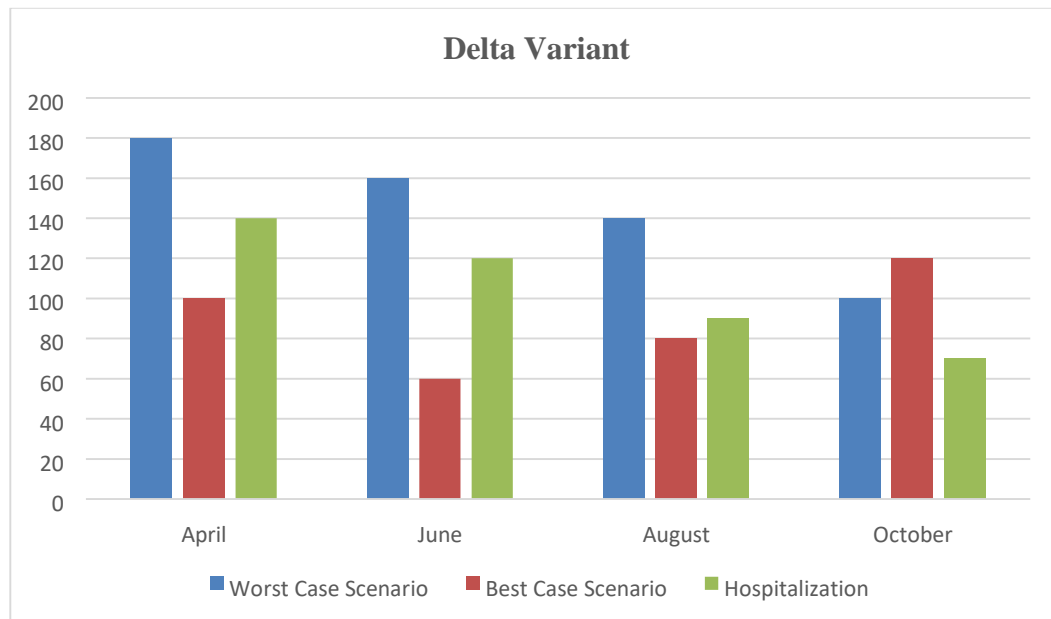
Gangrene can also develop if the ability of the immune system to fight against the disease is suppressed. This usually develops if the patient is undergoing chemotherapy or radiation therapy.

Gangrene can also develop due to HIV human immunodeficiency virus due to usage of unsterilized syringes, contact with HIV individual or by blood, semen or vaginal fluids. This virus affects the human immune system which decreases the ability to fight against infections.

Some illegal drugs usage can also leads towards the development of gangrene by causing complications with the bacteria.

Most common gangrene that develops in covid-19 patients is dry gangrene in their fingers and toes due to blood clotting related problems which develops in Covid conditions which can lead towards serious conditions and sometimes death.

Preventive measures to protect yourself from this virus is to keep yourself clean, avoid tobacco intake, if your body weight is increase then reduce it and if you have an underlying disease then firstly you have to treat that disease to prevent yourself from gangrene virus. Smoking habit to be stop and try to keep you clean and sterile the area after having small wounds or infections with alcohol or water. If the color of your skin changes due to coldness or may be due to decrease in temperature of your body below normal limits and your skin color changes to pale or purple, you must consult a doctor.



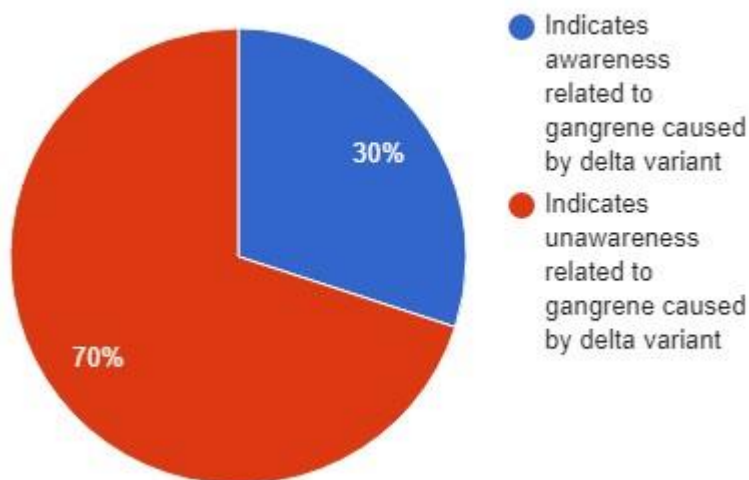
OBJECTIVES

The objective of this study is to know that how much people are aware about the delta variant and how many of them know that delta variant can lead towards the development of gangrene disease which is a serious condition leading towards the death of the body tissues due to inadequate supply of blood.

METHODOLOGY

We conducted a survey based research & for this purpose we collected information from the website of UC Davis Medical Centre, Yale Medicine, The Daily Guardian, World Health Organization, BBC News & From UNICEF & to know how much our public is aware about the gangrene associated with delta variant virus, Questionnaire was prepared a & circulated it on social media & derived our result from the information collected through this.

Survey based



CONCLUSION

We have conducted a survey based study by circulating it among the students, family and to other people. The study concluded that up to how many of them are aware about this terminology, do they know about the signs and symptoms, what is its precautions and is it life threatening or can be treated with medications.

We found that out of 100 (20-25%) people have heard about the terminology of gangrene, 30% people know that gangrene can lead towards serious complications in delta variant patients, 35% know that gangrene itself is a disease caused by bacterium called *Clostridium perfringens*.

We have found that out of 100 only 30-40% people are aware about gangrene and delta variant relation and rest of the 60-70% people are lacking awareness.

REFERENCES

1. Bian, Lianlian, et al. "Impact of the Delta variant on vaccine efficacy and response strategies." *Expert Review of Vaccines* 20.10 (2021): 1201-1209.
2. Nielsen, Claus, and Tobias Bollerup Henriksen. "Delta Variant of COVID-19 May Cause Hearing Loss." <https://www.unicef.org/coronavirus/what-you-need-know-about-delta-variant>
<https://www.cdc.gov/coronavirus/2019-ncov/variants/delta-variant.html>
3. <https://www.bloomberg.com/news/articles/2021-06-07/gangrene-hearing-loss-point-to-deltavariant-being-more-severe>
4. Varshney, Rahul, et al. "Colonic Gangrene: A Sequela of Coronavirus Disease 2019." *Cureus* 13.4 (2021).
5. Agarwal, A., et al. "Severe acute acrocyanosis and digital gangrene as a sign of catastrophic COVID-19 infection." *Journal of Clinical and Diagnostic Research* (2021): OD12-OD15.