



## Omicron; New COVID-19 Strain

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### Commentary

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### Abstract

After the few years of COVID -19, Omicron has reported as a new variant found in the Botswana. Some studies have reported that it is much milder than COVID-19. Symptoms include cough, fatigue, loss of smell, runny nose etc. It is not clear that Omicron can transfer from one person to another. Treatment is not clear. This short view is my best collection of published scientific data on Omicron till now. It also includes the origin, epidemiological data, and treatment etc. of new variant.

**Keywords:** Omicron; COVID -19; Symptom; Treatment

**Abbreviations:** CoV: Corona Viruses; MERS-CoV: Middle East Respiratory Syndrome; SARS-CoV: Severe Acute Respiratory Syndrome; TAG-VE: Technical Advisory Group; ACE-2: Angiotensin-Converting Enzyme 2.

### Introduction

Corona viruses (CoV) are a massive family of viruses that responsible for the common cold to more dangerous diseases (Middle East Respiratory Syndrome (MERS-CoV) and severe acute respiratory syndrome (SARS-CoV). COVID-19 is a new strain that was identified in 2019 and has not been before reported in humans. Corona viruses can be easily transmitted between animals and people. It was seen that SARS-CoV was easily transmitted from civet cats to humans and MERS-CoV from dromedary camels to humans after detailed investigation. Corona viruses are circulating in animals that have not yet infected humans [1-7]. Omicron was reported as a new SARS-CoV-2 variant which emerged in a COVID-19-weary world in which anger and frustration with the pandemic are rife amid widespread negative impacts on social, mental, and economic wellbeing [8]. The first case was reported from Botswana (November 2021) then Hong Kong

(travel from South Africa) [9]. After identification, it was found that new variant was associated with S-gene [10,11]. The name Omicron selected according to WHO's Technical Advisory Group (TAG-VE) on Virus Evolution which was based on evidence presented [12]. TAG-VE is an expert group that regularly monitor virus SARS-CoV-2: B.1.1.529 [13]. The first known confirmed B.1.1.529 infection was from a specimen collected on 9 November 2021 [13].

### Spreading of Infection

A researcher from China confirmed the receptor binding domain of omicron variant with the human host receptor angiotensin-converting enzyme 2 (ACE-2). There are 15 mutations on the RBD and over 30 mutations on the spike protein. About ten mutations are at the RBD binding interface to the receptor protein, the ACE2. Omicron variant tightly bind to ACE2 and lead to infection [14].

### Transmissibility and Epidemiology

Till now it is not clear that Omicron can transfer from person to person. The replacement of Delta by Omicron as the predominant variant in South Africa raises concerns that

the Omicron variant may be more transmissible than Delta. Analysis of the changes in the spike protein indicate that the Omicron variant is likely to have increased transmission compared to the original SARS-CoV-2 virus, but it is difficult to infer if it is more transmissible than Delta. It is also unclear that Omicron is associated with other diseases. Data from South Africa indicate that there is no symptom with this variant and some patients found to be asymptomatic [15]. The epidemiological data is given in Table 1.

S.No	Country	Date	No. of cases found
1	South Africa	26-Nov-21	2,828
2	South Africa	03-Dec-21	16,055
3	United Kingdom	20-Dec-21	4773
4	Denmark	20-Dec-21	267
5	Norway	20-Dec-21	179
6	Canada	20-Dec-21	58
7	Australia	20-Dec-21	296
8	India	20-Dec-21	17
9	Switzerland	20-Dec-21	158
10	Germany	20-Dec-21	237

**Table 1:** Omicron epidemiology data [16-19].

Note: The obtained epidemiological data are based on Phylogenetic Assignment of Named Global Outbreak Lineages (PANGOLIN) software.

### Testing of Omicron

Like COVID, Omicron also tested by the help of polymerase chain reaction test which are sent to the lab for analysis [20].

### Treatment

A researcher from Columbia University found that Omicron marked to be neutralizing by the help of antibody in the blood of people who's taken the vaccine from various companies like Pfizer, Moderna, Johnson & Johnson etc. Same study also reported by European researcher that Omicron was partially or totally resistant to neutralization [20].

### Conclusion

Omicron was reported as a new SARS-CoV-2 variant associated with S-gene. The receptor binding domain of omicron variant with the human host receptor angiotensin-converting enzyme 2. It was found that omicron neutralized by the help of antibody in the blood of people who's taken the vaccine. The omicron variant of corona virus is spreading

faster than the delta variant. Till now it is not clear that omicron can transfer from person to person. It was also found that there is no symptom with this variant. The researchers needs to think and focus about this upcoming pandemic situation of corona virus new variant SARS-CoV-2 (Omicron).

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