



Do Patients With the Omicron Variant of SARS-CoV-2 Need Prophylaxis for Bacterial Infections?

Amin Sadeghi Dousari¹, Seyed Soheil Hosseininasab², Hossein Hosseini Nave³, Naghmeh Satarzadeh⁴

¹Department of Microbiology, School of Medicine, Jiroft University of Medical Sciences, Jiroft, Iran

²Faculty of Pharmacy, Kerman University of Medical Sciences, Kerman, Iran

³Department of Microbiology and Virology, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran

⁴Department of Pharmaceutical Biotechnology, Faculty of Pharmacy, Kerman University of Medical Sciences, Kerman, Iran

*Correspondence to: Naghmeh Satarzadeh, Email: n.satarzadeh@kmu.ac.ir



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Dear Editor,

In the past years, the world has been involved in a pandemic caused by the disease called coronavirus disease 19 (COVID-19), a situation that has become a global challenge (1). The clinical presentations of COVID-19 can vary from mild symptoms to severe lung involvement (2, 3). COVID-19 has endangered the lives of many people in all its forms, ranging from the original Wuhan virus to the most recent Omicron variant (4). Recently, the emergence of recent severe acute respiratory syndrome *coronavirus 2* (SARS-CoV-2) variants associated with the evasion of antibody responses and increased transmissibility, or both, are of worldwide interest, with several variants found since September 2022. One of the most current is the type Omicron (B.1.1.529), imported from South Africa, which includes subtypes such as 21L or BA.2, which was first highly spread in Denmark, then throughout Europe (5). Various studies have reported that the Omicron variant of SARS-CoV-2 has milder symptoms than other variants, including sore throat, cough, headache, fatigue, and runny nose. The Omicron variant is found to primarily affect the upper airways and induce laryngitis, without olfactory dysfunction (6). It is well known that despite many new and potential antiviral drugs that are capable of inhibiting the replication or attachment of the virus after the sore throat caused by COVID-19, one of the main consequences of disease progression in patients in the later stages of infection is secondary bacterial infections facilitated by the inflammation of the throat. Many infectious diseases that colonize the throat can penetrate the respiratory system and cause severe lung infections in some people. It has been reported that at least one in seven patients with COVID-19 contract a

secondary bacterial infection, with 50% of deaths during the pandemic resulting from untreated or untreatable secondary bacterial infections that occur in the lungs in most cases (7). Secondary bacterial infections with pulmonary involvement in people with COVID-19-related disorders can be dangerous to many patients around the world (8). On the other hand, prophylaxis in susceptible patients is one of the recommended ways to prevent people from contracting secondary diseases (9).

Although COVID-19 is a viral disease, the prescription of various antibiotics occurred for its treatment. Antibiotics have been prescribed by doctors to patients with COVID-19 for three main reasons, the first one was the similarity of the infection of COVID-19 with bacterial pneumonia. The second reason was the lack of detailed treatment guidelines for the management of this disease which led to the overuse of antibiotics, and the third one was the possibility or presence of bacterial co-infections in these patients (10, 11).

Physicians play the most important role in improving the health of those suffering from COVID-19 by correctly treating patients during an outbreak. We suggested that physicians start prophylaxis in patients with the Omicron variant with mild symptoms such as cough and inflammation in the throat and tonsils and take into account the age of patients, especially patients with underlying diseases and malignancies, to prevent bacterial infections and threats to the lives of patients. Because due to the weakness of the immune system of these patients and their vulnerability in dealing with infectious diseases, perhaps the use of antibiotics can be a life-saving solution for them. On the other hand, to prevent resistance to antibiotics, physicians should be careful in selecting antibiotics according to the standard

guidelines, and prophylaxis should be performed according to the doctor's opinion and patient's condition.

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Writing—original draft: Amin Sadeghi Dousari.

Writing—review & editing: Seyed Soheil Hosseininassab, Hossein Hosseini Nave, Naghmeh Satarzadeh.

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