

No transfusion transmitted risk of SARS-CoV-2 virus during the Delta, and Omicron Waves of the Coronavirus Disease 2019 Pandemic in Evros. Retrospective analysis.

Theocharis Konstantinidis¹, Eftychia G. Kontekaki¹, Leonidas Lazidis¹, Ioanna Nanousi¹, Stavroula Zisaki¹, Kalliopi Parisi¹, Aikaterini Linardou¹, Athanasia Kazaki¹, Georgios Martinis¹, Panagiota Chalkia²

1. Blood Transfusion Department, University General Hospital of Alexandroupolis, Greece
2. Hippocrates General Hospital, Thessaloniki, Greece

Background:

Coronavirus disease 2019 (COVID-19) is an acute inflammatory respiratory disease. It was previously reported that clinical manifestations of COVID-19 disease are heterogeneous, including non-severe forms. Previous studies report that RNAemia of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) to be detectable in blood from infected individuals, the presence of viral RNA in blood potentially poses a transmission risk during blood transfusion. The aim of the present study was retrospective analysis of transmission risk during blood transfusion.

Methods:

Records were retrieved from blood donors during the different waves of COVID-19 pandemic, 2021, 2022 and 2023 years, and including both delta and omicron variants.

Results:

The median age (range) was 54 (17-65) years. The total blood units collected during the period of COVID-19 pandemic were: 7609 units 2021, 7695 units 2022 and 7884 units in 2023. Only two patients received blood components from donors with presymptomatic Covid-19. The first donor was a 48-year-old man who donated blood in August 2020, at the Hippokration Blood Institute in Thessaloniki, and the platelet unit was transfused in Alexandroupolis with no adverse reactions. The second donor was a 56-year-old man who donated blood in October 2020, at the blood donation campaign in Tycherio, Evros. At the time of donation, both donors had no symptoms of an infectious illness.

Patient 1, who received the platelet unit from a donor with presymptomatic Covid-19, was a 61-year-old man who had been diagnosed with myelodysplastic syndrome in February 2017. In August 2020 patient was transfused with PRP unit.

Patient 2, who received the red-cells from a donor with presymptomatic Covid-19, was a 76-year-old man admitted to the hospital with diagnosis anemia. In October 2020 patient was transfused with red-cell unit.

First and second nasopharyngeal tests 7 days later were negative in both patients. Testing for anti-SARS-CoV-2 antibody at week 4 was also negative.

Conclusion:

This study supports that transfusion from presymptomatic donors did not result in transmission, even in severely immunocompromised patients.

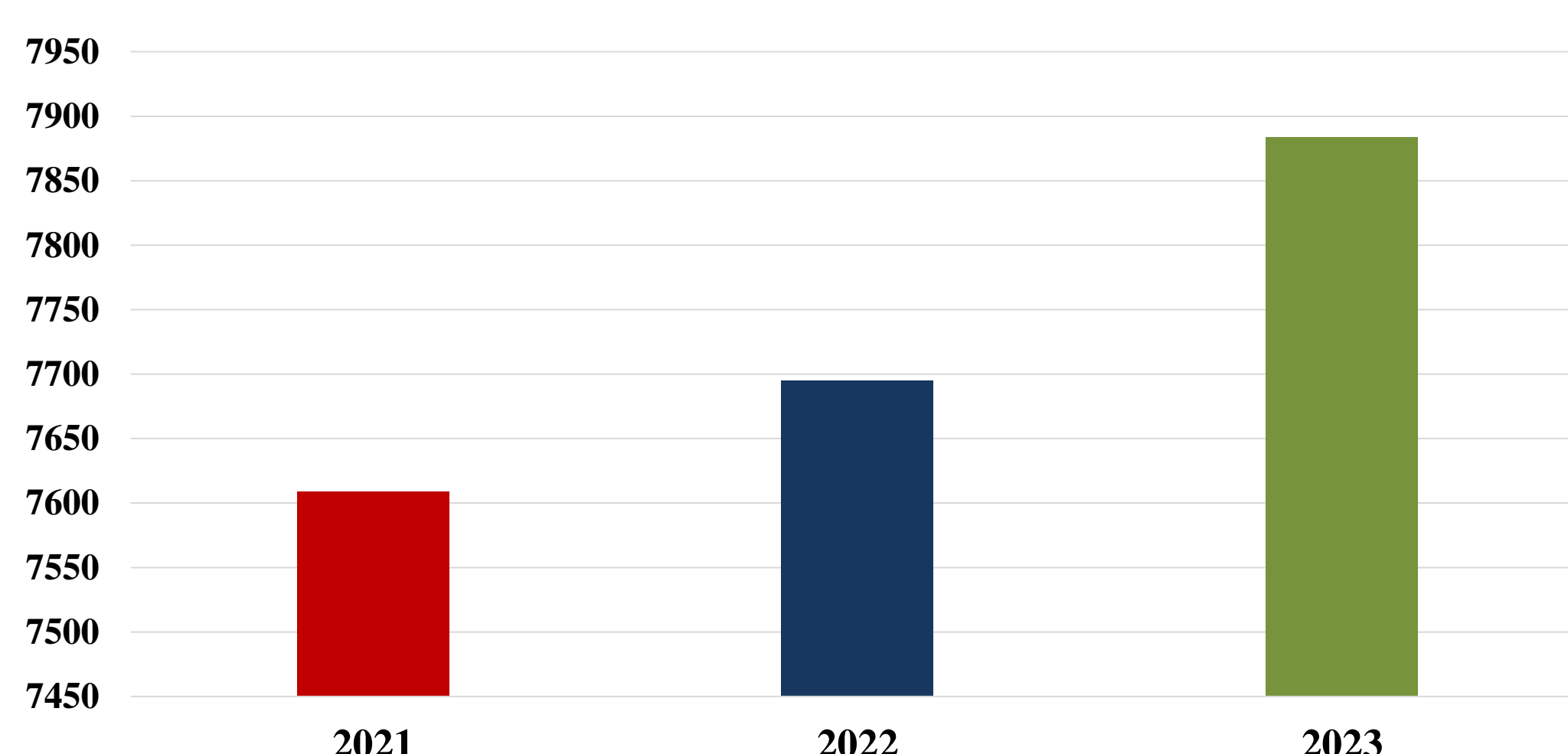


Figure 1:
Blood donation per years