San Francisco Department of Public Health

Guidance

Interim Guidance:
Blood Type Screening as Risk Factor for Severity of COVID-19 Illness

December 8, 2020

AUDIENCE: Medical staff working in outpatient clinics who are caring for potential or infected COVID-19 patients

PURPOSE: To give guidance on the utility and cost effectiveness of checking blood type to predict severity of potential COVID-19 infection and if it should be used for risk stratification.

BACKGROUND: A preliminary (not peer-reviewed) study from China compared ABO blood group distribution in ~2000 COVID-infected patients in 3 hospitals with that of the general population. They found that type O blood was associated with a lower risk while type A blood was associated with a higher risk for COVID-19.[1] This suggested further investigation would be helpful. There has been an increase in request of blood typing for patients to be used as a marker of disease severity.

Blood Type Screening

There is currently no strong evidence that shows certain blood type is associated with higher severity of COVID-19 symptoms, defined by intubation or death. The data coming out so far has been mixed[2]. There is some data that suggests Rh positive people might be more likely to test positive than those who were Rh negative[3]. At this point, blood type may not be a useful marker to identify patients at risk for severe COVID-19 disease manifestation.

Per CDC, having a certain blood type is not considered as a condition at increased risk of severe illness. The two blood disorders that are include sickle cell disease (at increased risk) and thalassemia (might be at increased risk)[4]

Resources

[1] Zhao J, Yang Y, Huang H, Li D, Gu D, Lu X, Zhang Z, Liu L, Liu T, Liu Y, He Y, Sun B, Wei M, Yang G, Wang X, Zhang L, Zhou X, Xing M, Wang PG. Relationship between the ABO Blood Group and the COVID-19 Susceptibility. Clin Infect Dis. 2020 Aug 4:ciaa1150. doi: 10.1093/cid/ciaa1150. Epub ahead of print. PMID: 32750119; PMCID: PMC7454371.

[2] Zietz M, Tatonetti NP. Testing the association between blood type and COVID-19 infection, intubation, and death. medRxiv [Preprint]. 2020 Apr 11:2020.04.08.20058073. doi: 10.1101/2020.04.08.20058073. PMID: 32511586; PMCID: PMC7276013.

Mendy A, Keller JL, Apewokin S, Morrow AL. Is Blood Type Associated with COVID-19 Severity? medRxiv [Preprint]. 2020 Aug 14:2020.08.11.20172676. doi: 10.1101/2020.08.11.20172676. PMID: 32817977; PMCID: PMC7430622;

[3] Latz CA, DeCarlo C, Boitano L, Png CYM, Patell R, Conrad MF, Eagleton M, Dua A. Blood type and outcomes in patients with COVID-19. Ann Hematol. 2020 Sep;99(9):2113-2118. doi: 10.1007/s00277-020-04169-1. Epub 2020 Jul 12. PMID: 32656591; PMCID: PMC7354354.

[4] CDC, People at Increased Risk, People with Certain Medical Conditions