

CSSC004: Convalescent Plasma for Treatment

1. What?

Researchers were trying to determine if **antibodies*** from those recovered from infection could treat infection and prevent hospitalization in people who were recently infected, but who were not yet hospitalized. 1181 infected research volunteers received “**Convalescent Plasma**” *, or they received **placebo*** samples. The plasma used in this study was “**high titer**”*, which indicates the presence of high levels of antibodies in the blood samples. (See figure)

2. Why?

The study was interested in preventing severe complications in people recently **infected*** with COVID-19. There were limited proven and FDA-approved treatment options at the time, and they were only for patients who were hospitalized with severe COVID-19. The approach used in this study is known as “passive immunotherapy” – it has been used to treat many other infections and chronic diseases, and it has been shown to be very safe.



Key Terms*

Titer: The number of antibodies a person may have. High titer can be tested for in a lab.

Antibody: An immune system protein produced when foreign substances, called antigens, are detected. **Antigens:** are produced by microorganisms (bacteria, fungi, parasites, and viruses), and react with an antibody in the body as they are perceived as foreign to the body. This produces a protective response.

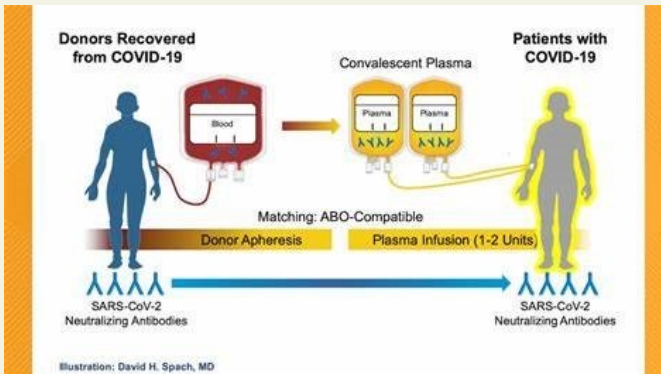
Convalescent Plasma: Blood plasma that individuals who have recently recovered from a specific illness and have **donated** with the goal of providing passive immunity to another individual with that specific illness.

Infection vs. Exposure: **Infection** occurs when an individual is *exposed* to a pathogen and actually becomes sick, whereas **exposure** signifies has contact with that pathogen. Exposure does not always lead to infection.

Placebo: Any substance or procedure resembling an actual treatment, without acting on a disease or medical condition in an affected individual.

Symptomatic vs. Asymptomatic:

Asymptomatic carriers of disease or infection do not exhibit any observable symptoms, whereas symptomatic patients exhibit symptoms of infection.



3. Results?

Hospital admissions were reduced by *more than 50%* in patients who received convalescent plasma. Of 1181 participants who were given plasma samples, 592 received the high-titer convalescent plasma, while 589 received placebo plasma. Those experiencing **symptoms*** within eight days of infection were enrolled in this study. After 28 days of study, only 3% of people who received the high-titer plasma were hospitalized, while 6% of those who received placebo were.

4. Why Should YOU Care?

Individuals who want to gather more information about treating COVID-19, as well as volunteers from the study may be interested in the results of this research study. The results of this study indicated that the high antibody convalescent plasma given to outpatients within eight days of infection reduced hospitalizations in outpatients by half.