Convalescent plasma has emerged as a treatment that merits consideration for COVID-19–positive patients requiring hospitalization. With millions of cases of COVID-19 being reported worldwide, nurses across specialties are caring for infected patients and are often the primary patient educators about convalescent plasma treatment. Keeping abreast of current clinical guidelines and evidence-based practice allows nurses to identify patients who should be considered for treatment, understand the administration guidelines, and be aware of the toxicity profile to provide safe and high-quality care to patients. The purpose of this article is to provide information on convalescent plasma as a treatment for COVID-19.

AT A GLANCE

- Nurses can assist with early identification of patients who may be candidates to receive convalescent plasma.
- Convalescent plasma is not standard fresh frozen plasma; ABO typing is required, and nurses need to follow administration guidelines when the product is given.
- Nurses must review and provide to patients and caregivers the U.S. Food and Drug Administration's fact sheet on convalescent plasma, as well as serve as a patient education resource.

KEYWORDS
convalescent plasma; COVID-19; pandemic; passive immunization; antibodies

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Convalescent Plasma

Education and administration implications

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The SARS-CoV-2 virus was first noted in December 2019 with an outbreak in China. The disease caused by the virus, COVID-19, quickly went from being a Public Health Emergency of International Concern to a pandemic, as declared by the World Health Organization on March 11, 2020 (Lango, 2020). With more than 20 million cases in the United States and about 85 million cases worldwide as of this writing (Centers for Disease Control and Prevention, 2021), nurses across specialties play a key role in the response to the crisis, providing care for infected patients.

Various interventions are being evaluated as potential treatment regimens for COVID-19, and numerous clinical trials are underway. These include studies of antiviral drugs such as remdesivir, the antimalarial agent hydroxychloroquine in combination with azithromycin, and monoclonal antibodies such as tocilizumab (Psaltopoulou et al., 2020). In addition to drug therapy, convalescent plasma has emerged as a possible treatment. This article will provide education for nurses directed at understanding the historical evidence for the use of convalescent plasma, as well as its mechanism of action, safety profile, and administration guidelines.

Background

Passive immunization, the transfer of antibodies to an unprotected individual, has been successfully used to treat infectious diseases (Slifka & Amanna, 2017). High specific antibody titers and early timing of antibody transfer in relation to disease onset are two important factors in the efficacy of the treatment. Convalescent plasma has long been investigated as a means of providing passive immunity and has been used in viral outbreaks for more than 100 years. The Spanish influenza pandemic of 1918–1919 is often reported as the first use of convalescent plasma (Marson et al., 2020). The outbreaks of influenza A (H1N1) in 2009, Ebola virus in 2014, Middle East Respiratory Syndrome (MERS) in 2015, and avian influenza A (H5N1) in 2019 led to further use of convalescent plasma as treatment for some infected individuals (Hassan et al., 2020).

Previous studies of convalescent plasma have shown a positive impact on patient outcomes, including shortened hospital stay and decreased mortality (Wooding & Bach, 2020; Zeng et al., 2020). Despite promising results of past studies and early data on the use of convalescent plasma for COVID-19 treatment, there are limitations, including the lack of large randomized clinical trials with control groups. In addition, in some studies, convalescent plasma was administered concurrently with antiviral drugs or corticosteroids (Roback & Guarner, 2020). The transfusion of convalescent plasma remains an empiric treatment based on observation and experience. It is not routinely available or licensed as an approved product by the U.S. Food and Drug Administration (FDA).

The number of confirmed cases of COVID-19 and the disease fatality rates in the United States exceed those of any