

COVID-19 Vaccination: What you Need to Know by Cindy Neunert MD

In a previous issue of the American Perspective, we discussed the risks of the COVID-19 virus in patients with ITP. In just a short time since that article, we have learned so much more about COVID-19 and now are entering into a new time when vaccines are becoming available. It is exciting to think that we may be able to protect ourselves against the virus but at the same time it can be overwhelming to keep up with all the new information that is coming out. In this article we will provide an overview of the different vaccines, their safety and considerations for patients with ITP.

There are currently 3 vaccines available in the UK: Moderna, Pfizer, and AstraZeneca. The Moderna vaccine and Pfizer vaccines require 2 doses, given 4 and 3 weeks (*ED note: In the UK this interval has been extended to 10-12 weeks*) apart respectively. They are mRNA vaccines. We have been working to develop mRNA vaccines for decades even though they seem very new. Most other vaccines work by placing a small amount of the weakened or inactivated germ into our bodies. mRNA vaccines, however, do something a little bit different. These vaccines teach our bodies how to make a specific protein, causing our bodies to react and form an immune response to that protein. This results in us making antibodies and protects us from getting sick if the real virus enters our bodies. In the case of the COVID-19 mRNA vaccines these are giving our bodies the instructions needed to make a harmless piece of the surface of the COVID-19 virus called the “spike protein.” After it makes this protein our bodies eventually break down the instructions and get rid of them. However, our cells now have this protein and the immune system will recognize it as a “foreign” protein and begin to make antibodies. These antibodies are what will protect us if the real COVID-19 virus enters our system. The AstraZeneca vaccine works a little different and the doses are given further apart (up to 12 weeks). This vaccine uses a version of the common cold virus that is harmless to humans and has been changed so that it has the “spike protein” on its surface. Once this enters the body this triggers the immune system to begin to make antibodies against the spike protein so that if we get COVID-19 the immune system will recognize it and fight it. Regardless of which vaccine you receive, they all result in the immune system making antibodies which will protect you against the COVID-19 virus.

After receiving the vaccine it takes several weeks for the body to begin making antibodies. Following the second dose about 80-95% of people will have antibodies. The safety of the vaccines is being tracked. Mild side effects are common including discomfort at the site of the vaccine, mild fever or chills, and feeling achy. These may be slightly worse after the second dose of the vaccine. These side effects actually tell us that the vaccine is working and the body is responding to the vaccine. A few people have had an allergic reaction to the vaccine and so this is why you should be watched for a few minutes after getting the vaccine. Even after getting the vaccine it is important to still continue to practice safety measures with masks, hand washing, and social distancing.

Of particular interest, are the reports of ITP which developed after the vaccine. We still do not have evidence that the vaccine and ITP are linked for a few reasons. First, we don't have enough information on all the patients who developed thrombocytopenia to ensure that they are all truly cases of ITP. Second, ITP is fairly common, about 6 cases per 100,000 adults per year. Here in the US about 33 million adults have received at least one dose of the COVID-19 vaccination. We would therefore naturally expect that over the 2 month period that the vaccine has been given about 330 of

these 33 million adults would be diagnosed with ITP. So it is possible that the 36 patients reported to have gotten ITP following the vaccine were going to do so even in the absence of the vaccine. The timing of their ITP diagnosis to COVID vaccination therefore maybe coincidence and we cannot yet say that the vaccine caused their ITP. Lastly, ITP caused by a drug or vaccine usually happens a few weeks after the patient is treated, because as mentioned above it takes several weeks to develop the antibodies that would cause ITP. For some of the cases the timing was too soon to be due to vaccine antibody production. The risk of getting very sick from COVID-19 far outweighs the potential risk of ITP and these small number of cases of ITP should, in no way, be a deterrent to vaccination.

There are some other considerations for patients with ITP. Patients should seek medical attention immediately if they notice increased bleeding or bruising following vaccination and in some cases it may be appropriate to obtain baseline and post vaccination platelet counts if you have ongoing thrombocytopenia, a history of unstable platelet counts, or history of significant bleeding. Some patients with ITP may be on treatment that makes their immune system less responsive to vaccines. You can ask your doctor if you are on one of these types of medications. We still recommend that patients on these medications receive the vaccine but it may be good to check for the COVID-19 antibodies afterwards to know if the immune system was strong enough to respond. If you are planning on undergoing splenectomy or starting a new medication that would reduce your immune system, it is recommended that you receive the vaccination at least 2-4 weeks before.

We are hopeful that having a vaccine available will slow the spread of the virus and begin to protect us all. Getting the vaccine is an important way to protect yourself and others against the serious disease of COVID-19 and we support all patients with ITP receiving the vaccine after discussion with their ITP physician.