The American Perspective: New Drugs for an "Old" Disease
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I and more than 30,000 other doctors and researchers from around the world have all just returned from the 61st Annual Meeting of the American Society of Hematology in Orlando, Florida. This meeting brings together everyone in hematology annually to present research, discuss how this research might change the care of patients with malignant and non-malignant hematologic diseases, and to discuss and plan for future research studies. This year's meeting was as busy and exciting as previous meetings, with several interesting studies relevant to patients with ITP.

One of the newest treatment approaches for ITP is one that attempts to increase the break down of the IgG autoantibodies that increase platelet clearance from the blood and are at the center of the cause of ITP. In this study, the drug efgartigimod was given as a weekly infusion over 3 weeks to patients with long-standing ITP who have had insufficient responses to prior ITP treatments or failed splenectomies. The study showed that the drug did, indeed, lower the IgG levels and result in meaningful increases of the platelet count in treated patients. There were also no significant side effects in treated patients although longer studies of this drug and the safety of lowered levels of IgG are needed. These results pave the way for future studies of efgartigimod in patients with ITP.

Another medication with a similar mechanism of action that attempts to decrease the levels of the IgG autoantibodies in patients with chronic ITP is called rozanolixizumab. In contrast to the previous study, the medication was administered subcutaneously over 30 to 90 minutes in single dose or as multiple doses each week. Similar to the previous study, reductions of the IgG levels and improvements in the platelet count were seen in treated patients. Mild to moderate headaches were the most common side effect, but they did not lead anyone to discontinue the study. These encouraging results will be studied further in the upcoming phase III study that, if positive and with a continued reassuring safety information, could lead to this medication being available to patients with ITP.

In what is a very different approach to the treatment of ITP, the drug sutimlimab was studied in patients with chronic ITP. Sutimlimab is an antibody that blocks part of the immune system called the complement system. It does so by interacting with a very specific part of the complement system called the classical pathway. The complement system is a part of our immune system that helps to clear infections and damaged tissues among other roles. The complement system can become unchecked and this lead to certain conditions such as another rare blood disorder that you may have heard of before, atypical hemolytic uremic syndrome or aHUS. Previous studies in patients with ITP have shown that activation of the complement system occurs on the surface of platelets and

may contribute to the destruction of platelets. Therefore, being able to block this pathway may increase the platelet count.

Sutimlimab (given subcutaneously) has been shown to be able to block the activation of the classical pathway of complement activation. The early results of this study showed a rapid increase in the platelet count (<24 hours) after the drug was given that was sustained with ongoing treatment with sutimlimab. As a part of the study, 4 patients stopped the medication with a plan to restart it if needed for a recurrent drop in the platelet count. Interestingly, in these 4 patients stopping the drug resulted in a recurrence of their low platelet count, and then again the recovery of the platelet count after the drug was restarted. This aspect of the study helps to truly confirm that the increase in the platelet count is a result of the drug as opposed to a spontaneous recovery of the platelet count which can be seen in patients with ITP. Migraine-type headaches were the most common side effect noted in this trial among patients treated with sutimlimab.

While these data are encouraging, initial results from all of these studies will need to be confirmed in larger studies to ensure that the drugs are safe and effective in patients with ITP. Despite the remarkable progress in the development of treatments for ITP over the past several years, there is promise for the development of even more novel treatments that may someday benefit patients with ITP around the world.