Clinical Study Results

CSL Behring

Research Sponsor: CSL Behring
Treatment Studied: IgPro20
Study Purpose: A study to learn about different ways of infusing IgPro20, including infusion speeds, infusion volumes, and alternative infusion methods, in participants with primary immunodeficiency

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Thank you!

Thank you for taking part in the clinical study for IgPro20, also called Hizentra® or human normal immunoglobulin. You and all of the participants helped study doctors learn more about IgPro20 to help people with primary immunodeficiency.

CSL Behring sponsored this study and thinks it is important to share the results of the study with you and the public. We hope it helps you understand and feel proud of your important role in medical research.

If you have any questions about the results, please speak with the doctor or staff at your study site.

What is happening with the study now?

Participants were in the study for up to 22 weeks. The entire study took almost 2 years to finish. The study started in February 2017 and ended in December 2018. It included 49 participants in the United States and Canada.

CSL Behring reviewed the data collected when the study ended and created a report of the results. This is a summary of the main results of that report.

Why was the research needed?

Researchers are looking for a better way to treat people with primary immunodeficiency. Before a treatment can be approved for patients to take, researchers do clinical studies to find out how it works and how safe it is.

IgPro20 is already approved to use in people with primary immunodeficiency. In this study, researchers wanted to find out more about different ways of giving IgPro20 to people with primary immunodeficiency.

In people with primary immunodeficiency, their immune system is not working properly. This means their immune system cannot properly defend the body against disease or infection.

Current treatment for people with primary immunodeficiency is called “immunoglobulin replacement therapy”. It helps to prevent infections and other medical problems by replacing missing proteins, called antibodies, in the immune system.

IgPro20 is used as an immunoglobulin replacement therapy for treating people with primary immunodeficiency. It is taken through a needle under the skin, also called an injection or infusion. In this study, the researchers wanted to learn about different ways of taking IgPro20 through different types of infusion methods. This included finding out more about different infusion speeds (rates), volumes, and ways of infusing IgPro20.

The main questions the researchers wanted to answer in this study were:

- How many participants were able to give their IgPro20 infusion using different ways of infusing?
- Did any participants experience any medical problems during the study?

What kind of study was this?

To answer the questions in this study, the researchers asked for the help of people with primary immunodeficiency who were already on a steady dose of IgPro20 therapy. The participants in this study were males and females between 2 and 75 years old.

This was an “open-label” study. This means the researchers and the participant knew which treatment group the participant was in.

There were 3 treatment groups in this study (Group A, B, or C). The participants were in Group A, B, or C based on the type of infusions they had taken in the past. All of the participants got IgPro20 through an infusion. In Groups A and B, a pump was used to help give the infusions. In Group C, participants used a “manual push” method, where IgPro20 is infused without a pump, by using a needle and a syringe.

The total amount of IgPro20 the participants got during each week of the study was the same as the total amount they were already taking before they joined the study. What changed during the study was the volume or speed of each infusion per infusion site.

What happened during the study?

Before the participants got any study treatment, the doctors checked their overall health to make sure they could join the study. The doctors checked the participants’ blood pressure, height and weight, and took blood samples. They also asked about the participants’ medical history.

When the participants joined the study, they were in 1 of 3 treatment groups. Infusion volumes of IgPro20 were measured in milliliters, or mL. Infusion speeds were measured in milliliters per hour, or mL/h.

The researchers planned for all of the participants to get their dose of IgPro20 infused at a certain volume or speed in each of their treatment groups. The participants received their infusions for 4 weeks before switching to the next higher volume or speed level.

Group A. Pump-assisted volume: 15 participants

- Infusions of IgPro20 were given using a pump that delivers specific amounts of IgPro20.
- The participants got IgPro20 once a week.
- The infusion volumes of IgPro20 were 25 mL, 40mL, and 50 mL for at least one infusion site.

Group B. Pump-assisted flow speed: 18 participants

- Infusions of IgPro20 were given using a pump that delivers IgPro20 at a specific speed.
- The participants got IgPro20 once a week.
- The infusion speeds of IgPro20 were 25 mL/h, 50 mL/h, 75 mL/h, and 100 mL/h for at least one infusion site.

Group C. Manual push flow speed: 16 participants

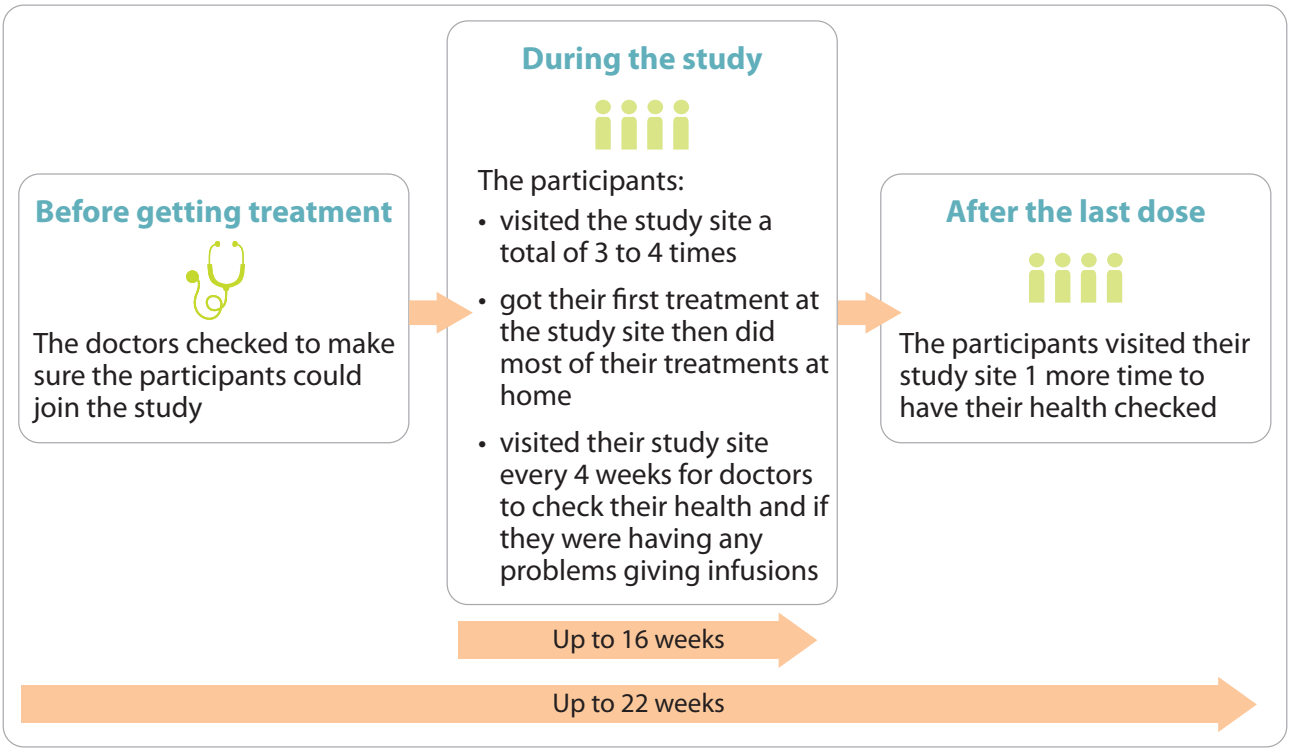
- Infusions of IgPro20 were given without a pump, by a method known as “manual push”.
- The participants got 2 to 7 treatments of IgPro20 each week.
- The infusion speeds of IgPro20 were 30 mL/h, 60 mL/h, and 120 mL/h.

During the study, the study staff gave the participants their first infusion at the study site. At this visit, they showed the participants how to give their own infusion. They also checked the participants’ health and took blood samples.

After this, the participants visited the study site every 4 weeks, which was about 3 to 4 more times. At these visits, doctors checked if the participants were having any problems giving their IgPro20 using different methods of infusing, or if they were having any problems with their health.

After the last dose, the participants visited the study site 1 more time, 1 week after the last dose, so that the doctors could check their health.

The chart below shows how the study was done.



What were the results of the study?

This is a summary of the main results from this study overall. The results each participant had might be different from the overall summary results. A full list of questions researchers wanted to answer can be found on the websites listed at the end of this summary. Once a full report of the study results is available, it may also be found on these websites.

It takes many studies to decide which treatments work best and are safest. Other studies may provide new information or different results.

How many participants were able to give their IgPro20 infusion using different ways of infusing?

The researchers wanted to know the percentage of participants in each treatment group who could complete their infusions of IgPro20 using different ways of infusing.

To answer this question, the researchers calculated the percentage of "responders" in each treatment group, at each infusion volume or infusion speed. A participant was considered a responder if they were able to:

- give themselves the planned weekly amount of IgPro20 and
- give themselves the infusion at the right volume per infusion site in Group A or at the right speed in Group B and C, without interruptions for any reason

For Groups A and B, the participants who had completed at least 3 out of 4 infusions of IgPro20 without interruption for each of the different infusion volumes or speeds were considered to be responders.

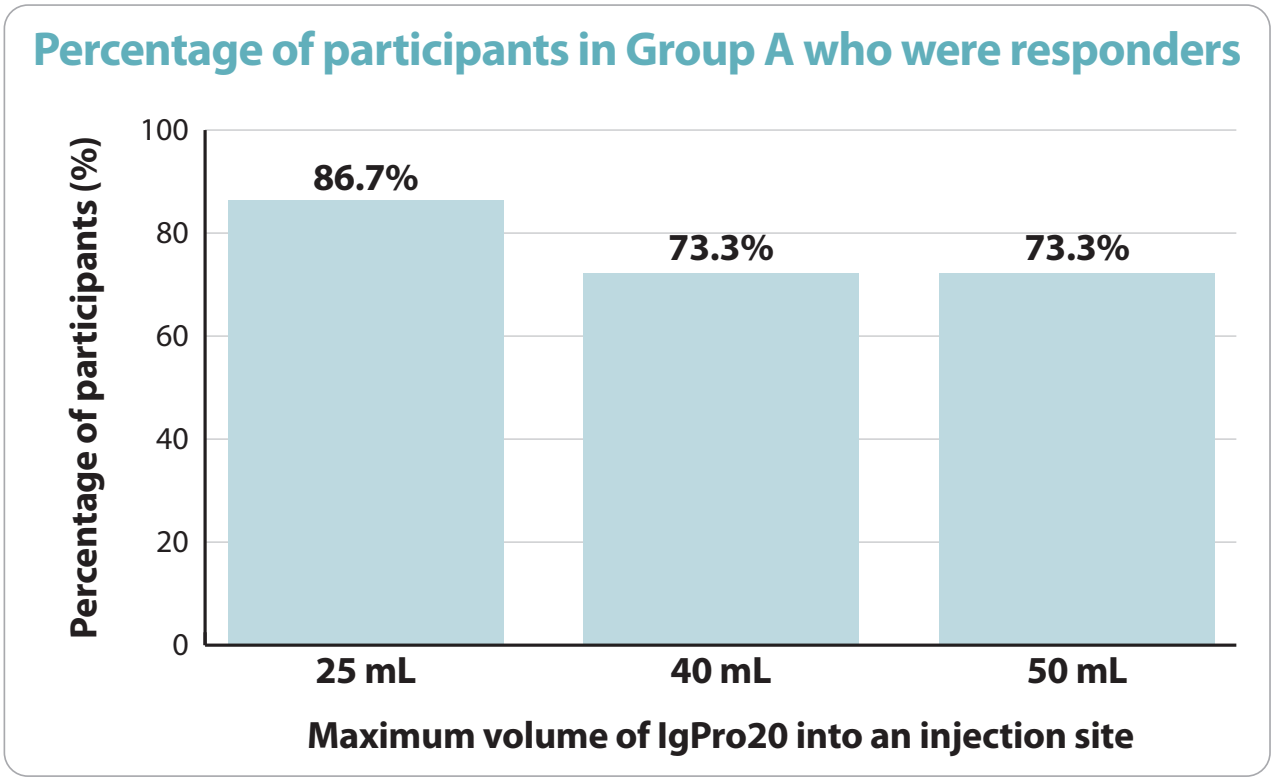
For Group C, where participants had 2 to 7 infusions per week, the participants who had completed about 60% or more of the infusions of IgPro20 at the different infusion speeds were considered to be responders.

There were 4 participants who stopped taking part in the study before it ended.

Group A - Pump-assisted volume

Overall, the percentage of responders was highest when the participants got 25 mL of IgPro20 into an injection site.

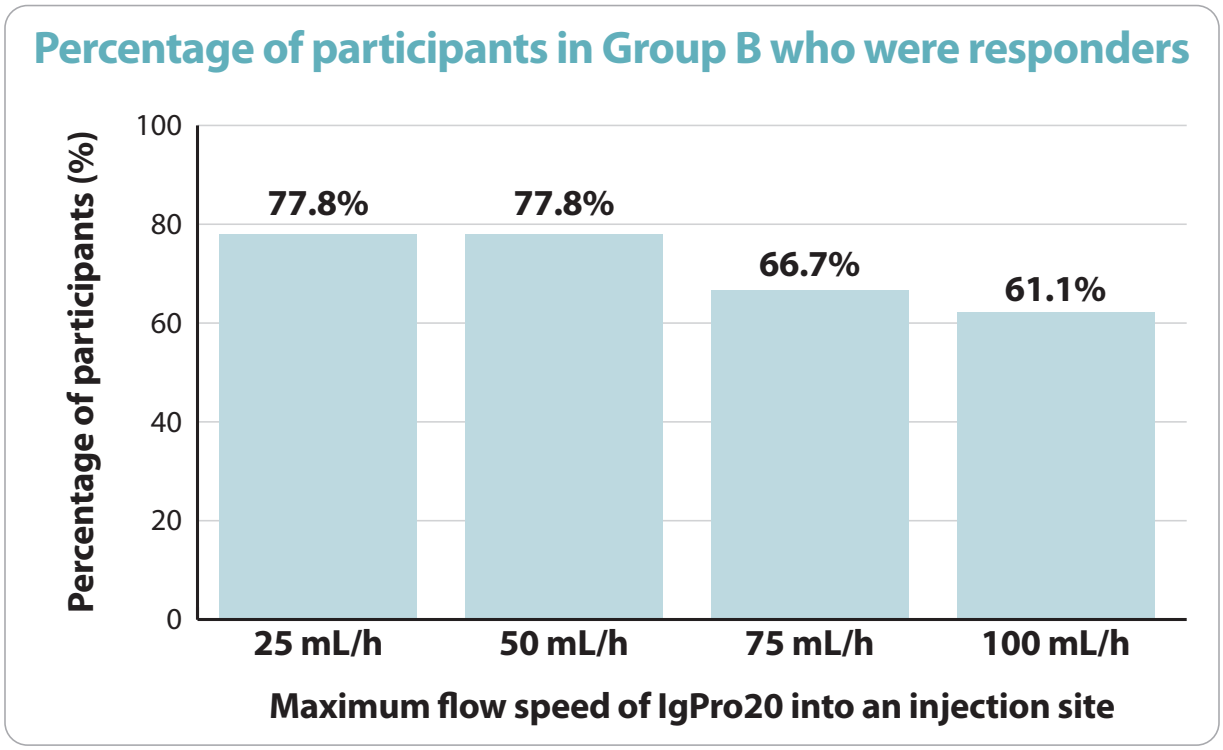
- 86.7% of participants were responders when they got 25 mL into an injection site. This was 13 out of 15 participants.
- 73.3% of participants were responders when they got 40 mL into an injection site. This was 11 out of 15 participants.
- 73.3% of participants were responders when they got 50 mL into an injection site. This was 11 out of 15 participants.



Group B - Pump-assisted flow speed

Overall, the percentage of responders was highest when the participants got IgPro20 at a speed of 25 mL/h or 50 mL/h into an injection site.

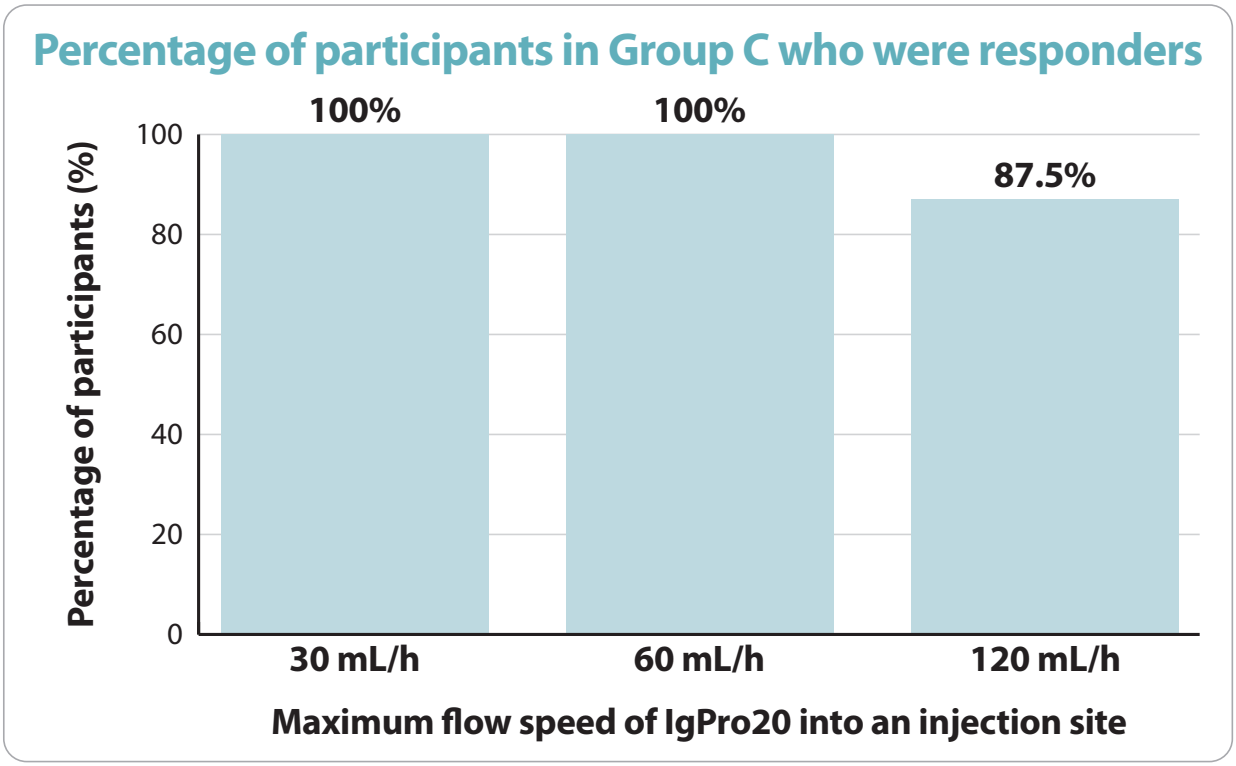
- 77.8% of participants were responders when they got a speed of 25 mL/h into an injection site. This was 14 out of 18 participants.
- 77.8% of participants were responders when they got a speed of 50 mL/h into an injection site. This was 14 out of 18 participants.
- 66.7% of participants were responders when they got a speed of 75 mL/h into an injection site. This was 12 out of 18 participants.
- 61.1% of participants were responders when they got a speed of 100 mL/h into an injection site. This was 11 out of 18 participants.



Group C - Manual push flow speed

Overall, the percentage of responders was highest when the participants got IgPro20 at a speed of 30 mL/h and 60 mL/h into an injection site.

- 100.0% of participants were responders when they got a speed of 30 mL/h into an injection site. This was 16 out of 16 participants.
- 100.0% of participants were responders when they got a speed of 60 mL/h into an injection site. This was 16 out of 16 participants.
- 87.5% of participants were responders when they got a speed of 120 mL/h into an injection site. This was 14 out of 16 participants.



What medical problems did participants have?

This section is a summary of the "adverse events" that happened during the study. An adverse event is any sign or symptom that participants have. An adverse event is considered "serious" when it is life-threatening, causes lasting problems, is medically significant, requires hospital care, or results in death.

Adverse events may or may not be caused by the treatments in this study. A lot of research is needed to know whether a treatment causes an adverse event. Doctors keep track of all the adverse events that happen in studies, even if they do not think the adverse events might be related to the treatment.

How many participants had adverse events?

Overall, 65.3% of participants had adverse events during the study. This was 32 out of 49 participants.

- In Group A, 53.3% of participants had adverse events during the study. This was 8 out of 15 participants.
- In Group B, 66.7% of participants had adverse events during the study. This was 12 out of 18 participants.
- In Group C, 75.0% of participants had adverse events during the study. This was 12 out of 16 participants.

Overall, 4.1% of participants stopped taking study treatment because of adverse events during the study. This was 2 out of 49 participants. 1 participant in Group A had injection site pain, and 1 participant in Group C attempted suicide.

How many participants had serious adverse events?

Overall, 2.0% of participants had serious adverse events during the study. This was 1 out of 49 participants. This participant was in Group C and had the serious adverse event of attempted suicide. Researchers think this was related to the participant's medical history of depression rather than the study treatment.

None of the participants died due to serious adverse events during the study.

What adverse events did the participants have?

The most common adverse event during this study was injection site pain.

The table below shows the adverse events that happened during the study in 5% or more of participants. Some participants may have had more than 1 adverse event. There were other adverse events, but these happened in fewer participants.

Adverse events that happened during the study

	Group A (15 participants)	Group B (18 participants)	Group C (16 participants)
Injection site pain	6.7% (1)	27.8% (5)	12.5% (2)
Injection site redness	13.3% (2)	16.7% (3)	6.3% (1)
Injection site swelling	6.7% (1)	11.1% (2)	12.5% (2)
Injection site bleeding	6.7% (1)	5.6% (1)	6.3% (1)
Injection site bruising	0.0% (0)	5.6% (1)	12.5% (2)
Injection site itching	0.0% (0)	16.7% (3)	6.3% (1)
Flu	6.7% (1)	11.1% (2)	0.0% (0)
Headache	0.0% (0)	16.7% (3)	0.0% (0)

How has this study helped patients and researchers?

This study helped researchers learn more about different ways of infusing IgPro20 in participants with primary immunodeficiency.

Researchers look at the results of many studies to decide which treatments work best and are safest for patients. This summary shows only the main results from one study. Other studies may provide new information or different results. Always talk to a doctor before making any treatment changes.

Further clinical studies with IgPro20 are currently planned.

Where can I learn more about this study?

This summary can be viewed online at www.TrialSummaries.com.

You can find more information about this study by searching on the websites listed below. Once a full report of the study results is available, it may also be found there.

- www.clinicaltrials.gov Once you are on the website, type **"NCT03033745"** into the search box and click **"Search"**.
- www.clinicaltrialsregister.eu Once you are on the website, click **"Home and Search"**. Then, type **"2016-003799-33"** in the search box and click **"Search"**.

Full study title: An Open-Label Multicenter Study to Evaluate the Safety and Tolerability of Higher Infusion Parameters of Immune Globulin Subcutaneous (Human), 20% Liquid (Hizentra®) in Subjects with Primary Immunodeficiency

National Clinical Trials number: NCT03033745

CSL Behring protocol number: IgPro20_4004

CSL Behring sponsored this study and has its headquarters at 1020 First Avenue, King of Prussia, PA 19406 USA.

The phone number for the CSL Behring Information Center is 610-878-4000

The email address for CSL Behring Clinical Trial information is clinicaltrials@cslbehring.com.

Thank you

Clinical study participants belong to a large community of people who take part in clinical research around the world. They help researchers answer important health questions and find medical treatments for patients.

CISCRP

The Center for Information & Study on Clinical Research Participation (CISCRP) is a non-profit organization focused on educating and informing the public about clinical research participation. CISCRP is not involved in recruiting participants for clinical studies, nor is it involved in conducting clinical studies.

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