September Patient Education Call Intravenous Immunoglobulin featuring Dr. Sergei Grando, Dermatologist, UC Irvine
Sponsored by BioFusion

Dr. Sergei Grando: IVIG stands for intravenous immunoglobulin. IVIG are antibodies from healthy people that were processed to make it safe to inject into patients with certain conditions. This product is used for patients who don't have antibodies to fight their own infection. This product can be used to control any autoimmune disease; it is also is used to fight infections.

It is safe to use during pregnancy. You may think of IVIG as a natural product from donors rather than a drug. There are no synthetic molecules, and it has a very low level of IgA. People with low levels of IgA may not be very good candidates for this product. That is why we always test IgA levels before administering. This is the safest drug that is used for autoimmune blistering diseases, because again it is a product not a drug.

The side effects are related to how the patients' immune system responds to the product. The most common side effects are nausea, headaches, flashing, chills, sweating, hypertension, and tightness in the chest. The side effects usually occur from either the batch itself (so another batch should not have the same problem) or the infusion specifics (i.e. how fast it is administered). Pre-medication is important. You may receive antihistamines or Tylenol. It is critical that people with history of migraine report this to their medical professionals. Doctors can prescribe anti-migraine treatments if that occurs. Other side effects that occur usually happen due to other pre-existing conditions. If you have a severe reaction, do not continue with infusions until the cause of the reaction is discovered by your doctor.

In California we enjoy the ability to be able to administer IVIG at the patients' bedside at home. In some states you can only get them at infusion centers or in hospitals. There are several brands of IVIG, and they vary in concentration of IgA.

One of the most frequent questions asked is how much IVIG do I need, and how frequently? In my experience, it is about two and a half years total. In the literature, it says on average it is anywhere from 20 to 60 cycles. The product is usually used once a month. The average dose is usually two gram per kilogram per month, which is divided into three, four, or five days. Most patients who receive the scheduled infusions will become in remission from pemphigus or pemphigoid.

Question: Can you drive after receiving the infusions? Are you able to function at full capacity following the infusions?
Answer: Usually no limitations are expected. You may be drowsy because of the Benadryl. If you do have a side effect like the ones I mentioned before then you should take it easy, but if you don't then you should be fine to continue with your normal routine.

Question: If you become in remission from IVIG, and it were for some reason to come back. Are the same triggers going to bring it back?

Answer: The disease may come back, but it is very unlikely that it will. This is why it is important to have regular monthly infusions, so that you keep the good antibodies in your system until remission is reached.

Question: Can you explain how IVIG works as a prophylaxis to guard off secondary infection, and why is IVIG recommended in conjunction with other therapies?

Answer: IVIG in pemphigus and pemphigoid has two very important functions. In addition to correcting the immune problem with autoantibody production IVIG provides a donor's antibodies, which contain microorganisms that help to defend the body from infection. So, you are getting these healthy antibodies to now help ward off any secondary infection. This is why I always use IVIG as a back-up protection for patients who also receive Rituximab. Rituximab wipes out good and bad antibodies. It takes about 6-8 months for those B-cells to grow back, and during that time you are more susceptible to infection. IVIG allows activation of natural mechanisms. The good antibodies are replaced by donor's antibodies, but the bad antibodies are not. This triggers a feedback mechanism. It triggers a new antibody synthesis, or rebound affect. Combining IVIG with immunosuppressive drugs provides the patient with a win-win situation.

Question: Is there a difference between receiving a treatment at home rather than at a hospital or infusion center?

Answer: At the infusion center they may get the infusion in three days rather than 5 days. At home they would be treated less "aggressively" and at a hospital they would be treated most likely a little more "aggressively". Other than that, there is really no difference. It is important to know that if you receive an infusion at a center or hospital, and you have a side effect someone is usually there to assist you. When you receive

at home infusions you are trained to contact someone for a medical emergency.

Question: How do you know when you are in remission, and what is the success rate of IVIG? Should I use IVIG at the same time as using Rituximab?

Answer: Remission is defined as the disappearance of old lesions and no occurrence of new lesions. The success rate is 100%. I usually start my patients on Prednisone, and this is what
gets them into remission. Then I use the IVIG, and this is used as the maintenance therapy as you discontinue the Predinsone. The timing is not critical, because the Rituximab does not occur immediately. You should recommend using IVIG to your physician so you can prevent infection, and have maintenance of your antibody control.

Question: What is the shortest amount of time that someone has used IVIG successfully?

Answer: A couple of
months.

Question: Why is there a difference of opinion amongst doctors in regards to the use of IVIG?

Answer: I cannot think of any reason why there would be doubt of IVIG especially since there was a double-blind randomized control study in the *Central Journal of American Academy of Dermatology*. In the U.S. there was not enough support for multi-central trials. So, doctors and insurance companies had to make the decision on their own about whether or not to use IVIG. The problems with accepting IVIG in the US is subjective rather than objective. In other countries it is widely accepted. What is important is that IVIG does not allow for improvement on its own. After use of immunosuppressive to receive the remission then you use IVIG to remain in remission. I see 100% rate of remission when patients' receive regular and consistent infusions.

Question: My mom was taking CellCept and Prednisone, and would get weaned off, but then would get a flare. Does she need to continue to take the CellCept and Prednisone while using IVIG?

Answer: The goal of the CellCept and Prednisone is to bring your mother into remission. If she is using IVIG and has a flare that is okay. Her physician needs to give her a burst of Prednisone and CellCept to attempt to bring her into the state of

remission.

Question: With paraneoplastic pemphigus do you believe there is a cure for it (or remission)?

Answer: Paraneoplastic pemphigus is usually very difficult to treat. It is a very rare disease. There is not enough clinical data to recommend a particular regimen. The general suggestion is to increase the frequency of infusion to possibly once a week.

Question: Do you think using IVIG with an immunosuppressive drug will be effective?

Answer: It will be effective if you use an immunosuppressive with IVIG. It will be about 50% more efficient than using IVIG alone. However, it is not required to use an immunosuppressive drug.