

Intravenous Immunoglobulin (IVIg)

Intravenous immunoglobulin G (IVIg) is a monomeric IgG preparation from thousands of blood donors that has been used for a variety of immunological disorders since 1980. There are 30 FDA approved label indications and over fifty-five non-label listed disorders for which there is science to underpin its therapeutic effectiveness. Recent data has suggested its use to improve reproductive outcome in women with recurrent pregnancy losses and in women with IVF-ET failures.

There are five categories of immune problems that can lead to reproductive failure including IVF-ET failures. Among these are:

1. HLA DQ A1 compatibility between the couple, which prevents alloimmune recognition of pregnancy;
2. The formation of antiphospholipid antibodies;
3. The formation of antibodies to DNA, polynucleotides and histones;
4. Multiorgan autoimmune disorder and
5. Activation of two cell types that produce effectors that interfere with ovum development, ovulation, cleavage and implantation. These are CD56+ Natural Killer cells that produce cytokines cytotoxic to the early embryo and deciduas and CD 19+5+B-1 cells that produce antibodies to hormones and neurotransmitters.

Intravenous gamma globulin may be recommended because....

1. It significantly down regulates the production of antiphospholipid antibodies in women with reproductive failure.
2. It can replace prednisone therapy in women who are anti-DNA, polynucleotide histone antibody positive.
3. It dramatically improves reproductive performance in women with activated Natural Killer cells. The live birth rate in these women with preconception therapy is in the 80 percentile.

A DESCRIPTION OF IVIG

Intravenous Immunoglobulin (IVIG) is a sterile protein preparation derived from human blood. According to the suppliers, every effort has been made to ensure that IVIG is free of bacterial and viral contamination. IVIG consists of 98% immunoglobulin (Ig), with trace amounts of IgA and IgM. The benefit of IVIG infusion lies in its ability to provide a broad spectrum of antibodies that may be therapeutic in a variety of conditions such as immunodeficiencies and situations where regulation of the immune system is beneficial.

There are basically two ways in which IVIG can help promote and sustain implantation. The first is by supplying a variety of blocking antibodies which will protect the pregnancy from rejection. Secondly, IVIG may act as a sponge, absorbing and neutralizing antibodies as well as certain Natural Killer Cells which may attack the implanting placenta and destroy its root system.

In summary, then the therapeutic benefits of IVIG include the replacement of certain "friendly" blocking antibodies and regulation of the immune system by damping down and neutralizing certain factors that are hostile to the implanting embryo.

IVIG is an intravenous infusion and will take one to three hours to administer. It is performed a few days prior to the embryo transfer and should you conceive, it may be necessary for treatment to be administered every 3 to 4 weeks for a period of time, usually until 12 weeks of pregnancy, but occasionally longer, depending upon the indication for treatment and the severity of the immunologic disorder.

The side effects associated with IVIG therapy are usually relatively mild and transient in nature and subside spontaneously without having to discontinue the infusion. The following are some of the symptoms which may occur: dizziness, headaches, nausea, muscle and joint pains, allergic skin reactions, chills, flushing, a temporary rise in body temperature, itching, backache, local reactions at the site of the infusion, a rise in heart rate and alterations in blood pressure. Isolated cases of a severe and dangerous generalized allergic response have been reported. However, this is virtually confined to women with low blood immunoglobulin A (IgA) levels which we routinely test for prior to commencing treatment. Because of the above, we strongly recommend that IVIG infusions be confined to settings where competent medical supervision is available at all times.

The manufacturers of Gamma Globulin assure us that the risk of viral transmission is remote. However as this is a blood product there may some potential risk – and this risk would need to be acceptable to you - our patient.