Immune Globulin Intravenous (Human) Gammar®-P I.V.

ZLB Behring

℞ only

DESCRIPTION

Immune Globulin Intravenous (Human), Gammar®-P I.V., is a sterile, lyophilized preparation of intact, unmodified, immunoglobulin, primarily IgG, stabilized with Albumin (Human) and sucrose. The distribution of IgG subclasses is similar to that present in normal human plasma. It is prepared by cold alcohol fractionation of pooled plasma and is not chemically altered or enzymatically degraded.

The plasma used in the manufacture of this product has been tested and found negative for HBV, HCV, and HIV-1 by an investigatioal test procedure referred to as Nucleic Acid Testing (NAT) using Polymerase Chain Reaction (PCR) Technology. Investigational testing is being performed to determine the effectiveness of NAT to detect low levels of viral material. The significance of a negative result is unknown since the effectiveness of the test has not been established.

When reconstituted with the appropriate volume of Sterile Water for Injection, USP, Gammar®-P I.V. contains 5% IgG, 3% Albumin (Human), 5% sucrose, and 0.5% sodium chloride. The pH of the solution has been adjusted to 6.8 ± 0.4 with citric acid and/or sodium carbonate. Gammar®-P I.V. contains no preservative. This product is intended for intravenous administration.

The heat treatment step employed in the manufacture of Gammar®-P I.V., pasteurization at 60°C for 10 hours in aqueous solution form with stabilizers, has been validated in a series of *in vitro* experiments for its capacity to inactivate Human Immunodeficiency Virus (HIV) and the following model viruses: Sindbis, Vesicular Stomatitis (VSV), Bovine Viral Diarrhea Virus (BVDV), Vaccinia, Pseudorabies and Murine Encephalomyocarditis (EMC), a non-lipid enveloped model virus. HIV was reduced by 6.0 and 5.4 $\log_{10}$ to an undetectable level after 0.5 hours of heating in two independent experiments. For each of the model viruses studied, two independent experiments were also conducted with the following results: Sindbis was reduced by 7.5 and 7.9 $\log_{10}$ to an undetectable level after two hours of heating, VSV was reduced by 6.8 and 7.2 $\log_{10}$ to an undetectable level after 0.5 hours of heating, BVDV, a model for hepatitis C virus, was reduced by 6.4 and 6.5 $\log_{10}$ to an undetectable level after four hours of heating, Vaccinia was reduced by 5.6 and 5.6 $\log_{10}$ to an undetectable level after two hours of heating, Pseudorabies was reduced by 4.9 and 3.6 $\log_{10}$ to an undetectable level after six hours of heating and EMC, a non-lipid enveloped model virus, was reduced by 4.5 and 4.8 $\log_{10}$ after ten hours of heating.[1]

The viral reduction capacity of the purification procedures used in the manufacture of Gammar®-P I.V., exclusive of heat treatment, was also studied in a series of *in vitro* experiments using HIV and three model viruses: Murine Encephalomyocarditis (EMC), a non-lipid enveloped virus; Bovine Viral Diarrhea Virus (BVDV), a model for hepatitis C virus; and Pseudorabies (PrV), a large DNA virus. HIV was reduced by at least 6.7 $\log_{10}$ by the cold alcohol fractionation process used to isolate Cohn Fraction II from pooled plasma during the initial purification of Gammar®-P I.V. Additionally, an alcohol purification step performed subsequent to heat treatment was found to have the following $\log_{10}$ reduction capacities when challenged with HIV and the three model viruses in three replicate experiments each: HIV (3.4, 4.0, >4.6 $\log_{10}$), EMC (3.4, 1.0, 1.5 $\log_{10}$), BVDV (3.5, 3.6, 3.5 $\log_{10}$), and PrV (>5.3, >5.5, >5.4 $\log_{10}$).[1]

The results of these validation studies document an HIV viral reduction capacity of >15.5 $\log_{10}$ and a viral reduction capacity of >7.5 $\log_{10}$ for Sindbis, >6.8 $\log_{10}$ for VSV, >9.9 $\log_{10}$ for BVDV, >5.6 $\log_{10}$ for Vaccinia, >8.9 $\log_{10}$ for PrV, and 5.5 $\log_{10}$ for EMC.

These viral reduction data are summarized in Table 1 below.

Table 1[1]

	HIV	Sindbis	VSV	BVDV	Vacc	PrV	EMC
Cohn Plasma Fractionation	>6.7	*	*	*	*	*	*
Heat Treatment	>5.4	>7.5	>6.8	>6.4	>5.6	>3.6	4.5
Post-Heat Treatment Purification	3.4	*	*	3.5	*	>5.3	1.0
Total $\log_{10}$ Reduction	>15.5	>7.5	>6.8	>9.9	>5.6	>8.9	5.5

*Not studied

CLINICAL PHARMACOLOGY

The half-life of Gammar®-P I.V., was evaluated in a double blind clinical study in which it was compared to Gammar® I.V. The mean half-life of Gammar®-P I.V. in nine patients was determined to be approximately 40 days and was not statistically different from the mean half-life of 34 days found for Gammar® I.V. in seven patients. Furthermore, there do not appear to be any clinically relevant differences between children, adolescents, and adults with respect to the mean half-life of IgG. The half-life of IgG, however, can vary considerably from patient to patient.[1]

Gammar®-P I.V., is a native, non-chemically modified IgG fractionated from pooled human donor plasma. The distribution of IgG subclasses (IgG_1, IgG_2, IgG_3, IgG_4) is similar to that present in Cohn Fraction II. Since the IgG concentrate is prepared from a large pool of at least 1000 donors, it represents the expected diversity of antibodies in that population. In a study of an unheated version of this product, Gammar® I.V., it was found that Gammar® I.V. provided a broad range of antibodies, capable of opsonization and neutralization of microbes and toxins, against bacterial and viral antigens for prevention or attenuation of infectious diseases.[2] In *in vitro* testing, Gammar®-P I.V. has been shown to provide equivalent levels of a broad range of antibodies when compared to Gammar® I.V.[1]

Albumin (Human) and sucrose are added to the formulation in order to provide adequate stabilization of the IgG molecules and the reconstituted product. Because sucrose, when given intravenously, is excreted unchanged in the urine, Gammar®-P I.V., may be given to diabetics without compensatory changes in insulin dosage regimen.[3] [See **BOXED WARNING**.]

INDICATIONS AND USAGE

Gammar®-P I.V. is indicated for adults, children and adolescents with primary defective antibody synthesis such as agammaglobulinemia or hypogammaglobulinemia, who are at increased risk of infection. When high levels or rapid elevation of circulating gamma globulins are desired, intravenous administration is more desirable than intramuscular therapy. The safety and efficacy of Gammar®-P I.V. in neonates and infants with primary defective antibody synthesis has not been established.

CONTRAINDICATIONS

Gammar®-P I.V. is contraindicated in individuals with a history of anaphylactic or severe systemic response to immune globulin intramuscular or intravenous preparations or in individuals with a history of allergic reactions to human albumin.

Gammar®-P I.V., should not be given to persons with isolated immunoglobulin A (IgA) deficiency. Such persons have the potential for developing antibodies to IgA and could have anaphylactic reactions to subsequent administration of blood products that contain IgA.[4]

WARNINGS

Immune Globulin Intravenous (Human) products have been reported to be associated with renal dysfunction, acute renal failure, osmotic nephrosis, and death.[5] Patients predisposed to acute renal failure include patients with any degree of pre-existing renal insufficiency, diabetes mellitus, age greater than 65, volume depletion, sepsis, paraproteinemia, or patients receiving known nephrotoxic drugs. Especially in such patients, IGIV products should be administered at the minimum concentration available and the minimum rate of infusion practicable. While these reports of renal dysfunction and acute renal failure have been associated with the use of many of the licensed IGIV products, those containing sucrose as a stabilizer accounted for a disproportionate share of the total number.

See PRECAUTIONS and DOSAGE AND ADMINISTRATION sections for important information intended to reduce the risk of acute renal failure.

If anaphylactic or severe anaphylactoid reactions occur, discontinue infusion immediately. Epinephrine should be available for the treatment of any acute anaphylactoid reactions.

Patients with agammaglobulinemia or extreme hypogammaglobulinemia who have never received immunoglobulin substitution therapy before or who have not received immunoglobulin therapy within the preceding 8 weeks may be at risk of developing inflammatory reactions upon the infusion of human immunoglobulins. These reactions are manifested by a rise in temperature, chills, nausea and vomiting, and appear to be related to the rate of infusion.

Infusion rates and the patient's clinical state should be monitored closely during infusion. (See **Administration** section under **DOSAGE AND ADMINISTRATION**.)

Immune Globulin Intravenous (Human), Gammar®-P I.V. is made from human plasma. Products made from human plasma may contain infectious agents, such as viruses, that can cause disease. The risk that such products will transmit an infectious agent has been reduced by screening plasma donors for prior exposure to certain viruses, by testing for the presence of certain current virus infections, and by inactivating and/or removing certain viruses during manufacture (see **DESCRIPTION** section for viral reduction measures). The manufacturing procedure for Gammar®-P I.V. includes processing steps designed to reduce further the risk of viral transmission. Stringent procedures utilized at plasma collection centers, plasma testing laboratories, and fractionation facilities are designed to reduce the risk of viral transmission. The primary viral reduction step of the Gammar®-P I.V. manufacturing process is the heat treatment of the purified, stabilized aqueous solution at 60°C for 10 hours. In addition, the purification procedures used in the manufacture of Gammar®-P I.V. also provide viral reduction capacity. Despite these measures, such products may still potentially contain human pathogenic agents, including those not yet known or identified. Thus, the risk of transmission of infectious agents cannot be totally eliminated. Any infections thought by a physician possibly to have been transmitted by this product should be reported by the physician or other healthcare provider to ZLB Behring at 800-504-5434. The physician should discuss the risks and benefits of this product with the patient.

Because Gammar®-P I.V. is made from human blood, it may carry a risk of transmitting infectious agents, e.g., viruses, and theoretically, the Creutzfeldt-Jakob disease (CJD) agent.

PRECAUTIONS

General - Assure that patients are not volume depleted prior to the initiation of the infusion of IGIV.

Periodic monitoring of renal function tests and urine output is particularly important in patients judged to have a potential increased risk for developing acute renal failure. Renal function, including measurement of blood urea nitrogen (BUN)/serum creatinine, should be assessed prior to the initial infusion of Gammar®-P I.V. and again at appropriate intervals thereafter. If renal function deteriorates, discontinuation of the product should be considered.

For patients judged to be at risk for developing renal dysfunction, it may be prudent to reduce the amount of product (and sucrose stabilizer) infused per unit time by infusing Gammar®-P I.V. at a rate less than 3.0 mg IG/kg/min (0.06 mL/kg/min).

Epinephrine should be available for treatment of acute allergic reactions. See **DOSAGE AND ADMINISTRATION** section for product compatibility information.

Information For Patients - Patients should be instructed to immediately report symptoms of decreased urine output, sudden weight gain, fluid retention/edema, and/or shortness of breath (which may suggest kidney damage) to their physicians.

Laboratory Tests - If signs and/or symptoms of hemolysis are present after IGIV infusion, appropriate confirmatory laboratory testing should be done (see **PRECAUTIONS**).

If TRALI is suspected, appropriate tests should be performed for the presence of anti-neutrophil antibodies in both the product and patient serum (see **PRECAUTIONS**).

Because of the potentially increased risk of thrombosis, baseline assessment of blood viscosity should be considered in patients at risk for hyperviscosity, including those with cryoglobulins, fasting chylomicronemia/markedly high triacylglycerols (trigylcerides), or monoclonal gammopathies (see **PRECAUTIONS**).

Drug Interactions - It is reported that antibodies in immune globulin preparations may interfere with the response to live viral vaccines such as measles, mumps and rubella. Immunizing physicians should be informed of recent therapy with Immune Globulin Intravenous (Human) so that appropriate precautions may be taken.

Pregnancy Category C - Animal reproduction studies have not been performed with Gammar®-P I.V. It is also not known whether Gammar®-P I.V., can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Gammar®-P I.V. should be given to a pregnant woman only if clearly needed.

Drug/Laboratory Test Interactions - After injection of Immune Globulin Intravenous (Human), the transitory rise of the various passively transferred antibodies in the patient's blood may result in misleading positive results in serological testing.

Pediatric Use - The safety and efficacy of Gammar®-P I.V. has not been established in neonates and infants with primary defective antibody synthesis.

Geriatric Use - Clinical studies of Gammar®-P I.V. did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. However, as patients greater than 65 years of age are predisposed to acute renal failure, IGIV products should be administered at the minimum concentration available and the minimum rate of infusion practicable. As for all patients, dosing for geriatric patients should be appropriate to their overall situation.

Aseptic Meningitis Syndrome - An aseptic meningitis syndrome (AMS) has been reported to occur infrequently in association with Immune Globulin Intravenous (Human) (IGIV) treatment. The syndrome usually begins within several hours to two days following IGIV treatment. It is characterized by symptoms and signs including severe headache, nuchal rigidity, drowsiness, fever, photophobia, painful eye movements, and nausea and vomiting. Cerebrospinal fluid (CSF) studies are frequently positive with pleocytosis up to several thousand cells per cubic millimeter, predominantly from the granulocytic series, and elevated protein levels up to several hundred mg/dL. Patients exhibiting such symptoms and signs should receive a thorough neurological examination, including CSF studies, to rule out other causes of meningitis. AMS may occur more frequently in association with high dose (2 g/kg) IGIV treatment. Discontinuation of IGIV treatment has resulted in remission of AMS within several days without sequelae.[6-9]

Hemolysis - Immune Globulin Intravenous (Human) (IGIV) products can contain blood group antibodies which may act as hemolysins and induce *in vivo* coating of red blood cells with immunoglobulin, causing a positive direct antiglobulin reaction and, rarely, hemolysis.[10-12] Hemolytic anemia can develop subsequent to IGIV therapy due to enhanced RBC sequestration (see **ADVERSE REACTIONS**).[13] IGIV recipients should be monitored for clinical signs and symptoms of hemolysis (see **PRECAUTIONS: Laboratory Tests**).

Transfusion-Related Acute Lung Injury (TRALI) - There have been reports of noncardiogenic pulmonary edema [Transfusion-Related Acute Lung Injury (TRALI)] in patients administered IGIV.[14] TRALI is characterized by severe respiratory distress, pulmonary edema, hypoxemia, normal left ventricular function, and fever and typically occurs within 1-6 hours after transfusion. Patients with TRALI may be managed using oxygen therapy with adequate ventilatory support.

IGIV recipients should be monitored for pulmonary adverse reactions. If TRALI is suspected, appropriate tests should be performed for the presence of anti-neutrophil antibodies in both the product and patient serum (see **PRECAUTIONS: Laboratory Tests**).

Thrombotic Events - Thrombotic events have been reported in association with IGIV (see **ADVERSE REACTIONS**).[15-18] Patients at risk may include those with a history of atherosclerosis, multiple cardiovascular risk factors, advanced age, impaired cardiac output, hypercoaguable disorders and prolonged periods of immobilization and/or known or suspected hyperviscosity. The potential risks and benefits of IGIV should be weighed against those of alternative therapies for all patients for whom IGIV administration is being considered. Baseline assessment of blood viscosity should be considered in patients at risk for hyperviscosity, including those with cryoglobulins, fasting chylomicronemia/markedly high triacylglycerols (triglycerides), or monoclonal gammopathies (see **PRECAUTIONS: Laboratory Tests**).

ADVERSE REACTIONS

Increases in creatinine and blood urea nitrogen (BUN) have been observed as soon as one to two days following infusion. Progression to oliguria and anuria requiring dialysis has been observed, although some patients have improved spontaneously following cessation of treatment.[19] Types of severe renal adverse reactions that have been seen following IGIV therapy include: acute renal failure, acute tubular necrosis[20], proximal tubular nephropathy, and osmotic nephrosis.[5,21-23]

Potential reactions for all Immune Globulin Intravenous (Human) products are often related to infusion rate and may include: nausea, vomiting, abdominal pain, chills, pyrexia, chest tightness, palpitations, tachycardia, hypotension, edema, flushing, diaphoresis, rash, erythema, pruritus, cyanosis, dizziness, headache, back pain or other body aches, anxiety, bronchospasm, dyspnea (and other respiratory events), myalgia, tremors, rigors, fatigue, malaise and arthralgia, usually beginning within one hour of the start of the infusion.

A double blind study comparing Gammar® I.V. and Gammar®-P I.V. as replacement therapy was conducted in 19 patients (108 infusions) with primary defective antibody synthesis, such as common variable or X-linked hypogam-

maglobulinemia. The types of infusion related adverse reactions noted were similar in frequency and nature. For the ten patients receiving only Immune Globulin Intravenous (Human), Gammar®-P I.V. (56 infusions), all of the infusion related adverse reactions were characterized as mild and of short duration. These included the following most frequent reactions: Chills 8.9% (5/56), Headache 5.4% (3/56), and Pain: Back/Neck 3.6% (2/56). The overall incidence of infusions associated with an adverse reaction was 16% (9/56 infusions) for Gammar®-P I.V. which compared favorably to the overall incidence of infusions associated with an adverse reaction for Gammar® I.V. (25%; 13/52 infusions).[1]

True anaphylactic reactions may occur in patients with a history of prior systemic allergic reactions or seizure following administration of human immunoglobulin preparations. Very rarely an anaphylactoid reaction may occur in patients with no prior history of severe allergic reactions to human immunoglobulin preparations. Patients previously sensitized to certain antigens, including IgA, may be at risk of immediate anaphylactoid and hypersensitivity reactions.[4] Epinephrine should be available for the treatment of any acute anaphylactoid reaction. (See **WARNINGS** and **CONTRAINDICATIONS**.)

Infusion rates and clinical state should be monitored closely during infusion. If an adverse reaction occurs, the infusion rate should be reduced or the infusion stopped until the symptoms have subsided. (See **DOSAGE AND ADMINISTRATION**.)

Postmarketing
The following adverse reactions have been identified and reported during the post-approval use of IGIV products:

Respiratory: apnea, Acute Respiratory Distress Syndrome (ARDS), Transfusion Associated Lung Injury (TRALI), cyanosis, hypoxemia, pulmonary edema, dyspnea, bronchospasm
Cardiovascular: cardiac arrest, thromboembolism, vascular collapse, hypotension
Neurological: coma, loss of consciousness, seizures, tremor
Integumentary: Stevens-Johnson syndrome, epidermolysis, erythema multiforme, bullous dermatitis
Hematologic: pancytopenia, leukopenia, hemolysis, positive direct antiglobulin (Coombs) test
General/Body as a Whole: pyrexia, rigors
Musculoskeletal: back pain
Gastrointestinal: hepatic dysfunction, abdominal pain

Rare and uncommon adverse events:

Respiratory: apnea, Acute Respiratory Distress Syndrome (ARDS), Transfusion Associated Lung Injury (TRALI)
Cardiovascular: cardiac arrest, vascular collapse
Neurological: coma, loss of consciousness
Integumentary: Stevens-Johnson syndrome, epidermolysis, erythema, multiforme, bullous dermatitis
Hematologic: pancytopenia, leukopenia

Because postmarketing reporting of these reactions is voluntary and the at-risk populations are of uncertain size, it is not always possible to reliably estimate the frequency of the reaction or establish a causal relationship to exposure to the product. Such is also the case with literature reports authored independently.

DOSAGE AND ADMINISTRATION
For treatment of primary defective antibody synthesis in adults, adolescents and children, Gammar®-P I.V., is administered to restore the patient's circulating IgG level to near-normal levels. Starting doses of 200 mg/kg body weight every three to four weeks are recommended in children and adolescents. Slightly higher doses of 200 mg/kg to 400 mg/kg body weight given every three to four weeks are recommended in adults. The clinical management of adult, children and adolescent patients is optimized by adjusting doses to maintain desired IgG blood levels and clinical results.

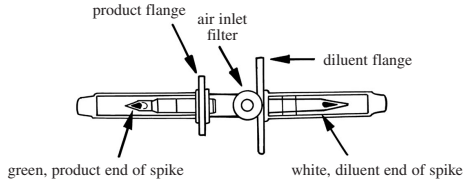
PRODUCT COMPATIBILITY - It is recommended that Gammar®-P I.V., be administered by a separate infusion line without admixture with other drugs or medications which the patient may be receiving. However, based upon compatibility studies, Gammar®-P I.V. may be infused sequentially into a primary i.v. line containing either 0.9% sodium chloride injection or 5% dextrose injection or flushed with 0.9% sodium chloride injection or 5% dextrose injection. Do not mix Immune Globulin Intravenous (Human) products of differing formulations. If several doses of Gammar®-P I.V., are to be administered, several reconstituted vials of identical formulation and diluent may be pooled, using proper aseptic technique. As described under **Reconstitution**, below, do not shake or cause excessive foaming. Swirl gently to mix. Filtration is acceptable but not required; pore sizes of greater than or equal to 15 microns will be less likely to slow infusion.

Reconstitution

CAUTION: Reconstitution instructions must be followed exactly. Please read the following instructions in their entirety before attempting to reconstitute product.

1. Bring both product vial and diluent vial to room temperature prior to reconstitution.
2. Examine product vial to ensure no product powder or cake is wedged in the neck of the vial. If so, gently tap the vial to dislodge the product.
3. Remove plastic flip-off caps from both vials.
4. Treat rubber stoppers with antiseptic solution and allow to dry.

CAUTION: The double ended vented transfer spike (see diagram below), provided in the package is comprised of a white (diluent) end, which has a double orifice, and a green (product) end, which has a single orifice. Incorrect use of the transfer spike will result in loss of vacuum, and prevent transfer of diluent thereby preventing reconstitution of the product.



The transfer spike is sterile. Do not touch the exposed ends of the spike after removing the guards.

5. Remove the guard from the white (diluent) end of the transfer spike. Insert the white end of the transfer spike into the center of the stopper of the upright diluent vial first.
6. Remove the guard from the green (product) end of the transfer spike. Invert the diluent vial with the attached transfer spike and, using minimum force, insert the green end into the center of the stopper of the upright product vial. The flange of the transfer spike should rest on the surface of the stopper and the diluent will begin to transfer into the product vial.
7. Allow the vacuum in the product vial to pull the diluent into the product vial.
8. During diluent transfer, wet the lyophilized cake completely by gently tilting the product vial. Do not allow the air inlet filter to face downward. Care should be taken not to lose the vacuum, as this will prolong reconstitution of the product.
9. After diluent transfer is complete, the transfer spike will allow filtered air into the product vial through the air filter. Additional venting of the product vial after diluent transfer is complete, is not required. When diluent transfer is complete, withdraw and properly discard transfer spike and diluent bottle.
10. Allow the product vial to remain undisturbed for 5 minutes after diluent addition. Do not touch or mix during this time.
11. After 5 minutes, mix the product vial by gently swirling the vial without creating excessive foam. Never shake the product vial.

    Note: A syrup-like layer may remain on the bottom of the vial following reconstitution. Swirl gently to disperse this layer until a homogenous solution is obtained.
12. Examine solution. All unreconstituted product should dissolve with gentle swirling and the solution should be clear and ready to administer in 20 minutes or less.
13. Product contains no preservative. Infusion must be initiated within 3 hours of reconstitution. If not used within this time frame, it should be properly disposed of and not administered.
14. Reconstituted product does not need to be filtered. If a filter is used, it should be a 15 micron filter or larger.
15. If several doses of Gammar®-P I.V., are to be pooled aseptically for administration, avoid excessive formation of foam in the pooling container and gently swirl the pooling container to mix. **DO NOT SHAKE THE POOLING CONTAINER.**

Administration

CAUTION: When entering the product stopper with an IV set spike for administration, care should be taken to follow the path made by the transfer spike (see **Reconstitution**).

Immune Globulin Intravenous (Human), Gammar®-P I.V., is to be administered by intravenous infusion. The infusion should begin at a rate of 0.01 mL/kg/min, increasing to 0.02 mL/kg/min after 15 to 30 minutes. Most patients tolerate a gradual increase to 0.03-0.06 mL/kg/min. For the average 70 kg person this is equivalent to 2 to 4 mL/min. If adverse reactions develop, slowing the infusion rate will usually eliminate the reaction. Discard any unused solution.

For patients judged to be at increased risk for developing renal dysfunction, it may be prudent to reduce the amount of product (and sucrose stabilizer) infused per unit time by infusing Gammar®-P I.V. at a rate less than 3.0 mg IG/kg/min (= 3.0 mg sucrose/kg/min) (0.06 mL/kg/min).

No prospective data are presently available to identify a maximum safe dose, concentration, and rate of infusion in patients determined to be at increased risk of acute renal failure. In the absence of prospective data, recommended doses should not be exceeded and the concentration and infusion rate selected should be the minimum level practicable. Reduction in dose, concentration, and/or rate of administration in patients at risk of acute renal failure has been proposed in the literature in order to reduce the risk of acute renal failure.[24]

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration whenever solution and container permit.

HOW SUPPLIED
Individual Vial Packages
Gammar®-P I.V., is supplied in single dose vials, with diluent and sterile, vented transfer spike for reconstitution. The 10 g dosage form package also contains an administration set. The following dosage forms are available:

	Product	Diluent
NDC 0053-7486-05	5 g immune globulin/vial	100 mL
NDC 0053-7486-10	10 g immune globulin/vial	200 mL

Bulk Package
Gammar®-P I.V., 5 g immune globulin/vial is supplied in a bulk pack (NDC 0053-7486-06) of six (6) single dose vials. Each single dose vial should be reconstituted with 100 mL Sterile Water for Injection, USP (not supplied).

STORAGE
When stored at temperatures not exceeding 25°C (77°F), Gammar®-P I.V., is stable for the period indicated by the expiration date on its label. Avoid freezing which may damage container for the diluent.

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