

For the use only of a Registered Medical Practitioner or a Hospital or a Laboratory.

Human Normal Immunoglobulin for Intravenous use I.P.

GAMMA I.V.TM

0.5g / 2.5g / 5.0g

For I.V. Use

Description :

GAMMA I.V. - Human Normal Immunoglobulin for Intravenous use I.P. 5% - is a sterile - 4.5% - 5.5% solution of human protein in 9 - 11% maltose; it contains no preservatives. Each ml contains approximately 50mg of Protein, not less than 98% of which has the electrophoretic mobility of gammaglobulin. Not less than 90% of the gammaglobulin is monomer. Also present are traces of IgA and IgM. The distribution of IgG subclasses is similar to that found in normal human serum. **GAMMA I.V.** has a buffer capacity of 16.5 mEq. / Litre of solution (approximately equivalent to 0.3 mEq. / gm of protein) The calculated osmolality is 330 mosmol / kg of water. The calculated osmolarity is 299 mosmol / Litre of solution.

The protein has not been chemically modified other than in the adjustment of the pH of solution to 4 to 5. Isotonicity is achieved by the addition of maltose. The product is intended for intravenous administration.

Clinical Pharmacology :

Primary Humoral Immunodeficiency :

GAMMA I.V. supplies a broad spectrum of opsonic and neutralising IgG antibodies for the prevention or attenuation of wide variety of infectious diseases. As **GAMMA I.V.** is administered intravenously, essentially 100% of the infused IgG antibodies are immediately available in the recipient circulation. 30% of the infused IgG disappeared from the circulation in first 24 hours. A further decline to about 40% of the peak level is observed during first week. The in-vivo half-life of **GAMMA I.V.** equals or exceeds the three week half-life reported in the literature.

Idiopathic Thrombocytopenic Purpura : (ITP)

GAMMA I.V. has been shown to be effective in ITP. The mechanism of action has not been fully elucidated.

Bone Marrow Transplantation :

GAMMA I.V. has been shown to be effective in bone marrow transplant patients > 20 years of age in the first 100 days post - transplant for the prevention of systemic and local infections, interstitial pneumonia of infectious and idiopathic etiologies. In patients with limited or compromised acid-base compensatory mechanisms, consideration should be given to the effect of the additional acid load **GAMMA I.V.** may present.

Indications and Usage :

GAMMA I.V. is indicated in the treatment of primary immunodeficiency states in which severe impairment of antibody forming capacity has been shown. **GAMMA I.V.** is specially useful when high levels or rapid elevation of circulating antibodies are desired or when intramuscular injections are contraindicated.

GAMMA I.V. is indicated for following conditions :

1. Primary Immunodeficiency (PID).
2. Kawasaki syndrome.
3. Idiopathic Thrombocytopenic Purpura (ITP).
4. Bone Marrow Transplantation.
5. Chronic B-cell Lymphocytic Leukemia.
6. Pediatric HIV-1 Infection.
7. Neonatal Sepsis.

Contraindications :

GAMMA I.V. is contraindicated in individuals who are known to have an anaphylactic or severe systemic response to Human Normal Immunoglobulin.

Individuals with selective IgA deficiencies should not receive **GAMMA I.V.** since these individuals may experience severe reactions to the IgA which may be present.

Warnings :

GAMMA I.V. should be administered only intravenously as the intramuscular and subcutaneous routes have not been evaluated.

Precautions :

Product should not be used if it is turbid. Solutions which has been frozen should not be used. Partially used vials should be discarded.

Antibodies in **GAMMA I.V.** may interfere with the response to live viral vaccines such as measles, mumps and rubella. Therefore use of vaccines should be deferred until approximately six months after **GAMMA I.V.** administration.

Pregnancy :

Animal reproduction studies have not been conducted with **GAMMA I.V.** Hence it is not known whether **GAMMA I.V.** can cause fetal harm when administered to pregnant woman or can affect the reproduction capacity.

Adverse Reactions :**Primary Humoral Immunodeficiency :**

In patients with immunodeficiency syndrome receiving **GAMMA I.V.** at a monthly dose of 400mg/kg body weight, the reactions reported have been malaise, feeling of faintness, fever, chills, headache, nausea, vomiting, chest tightness, dyspnea and chest, back or hip pain. Mild erythema at the infusion site has also been reported in some cases.

Idiopathic Thrombocytopenic Purpura : (ITP)

In the treatment of adult and paediatric patients with ITP at a dose of 400mg/kg body weight, the systemic reactions were observed only in less than 3% of the patients. The other symptoms which were all mild and transient include chest tightness, a sense of tachycardia and a burning sensation in the head.

At a dose of 1000mg/kg body weight either as a single dose or as two doses on consecutive days in the treatment of adult and paediatric patients with ITP. Adverse reactions have been noted only in less than 10% of the patients.

Bone Marrow Transplantation :

At a dose of 500mg/kg body weight 7 days and two days before transplant and weekly through 90 days of post-transplant, adverse reactions were reported in less than 7% of the patients. All reactions were classified as mild which include headache, flushing, fever and slight back discomfort.

General :

Reactions to **GAMMA I.V.** is related to the rate of infusion. Very rarely an anaphylactoid reactions may occur in patients with no prior history of severe allergic reactions to either intramuscular or intravenous immunoglobulin.

Dosage and Administration :

In general it is recommended that **GAMMA I.V.** be administered by itself on an initial rate of 0.01 to 0.02 ml/kg body weight/ minute for 30 minutes, if well tolerated the rate may be gradually increased to a maximum of 0.08 ml/kg body weight/minute.

GAMMA I.V. is recommended to be given by a separate line, by itself without mixing with other intravenous fluids or medications the patients might be receiving. **GAMMA I.V.** is not compatible with saline. The dilution if required, **GAMMA I.V.** may be diluted with 5% Dextrose in water. The recommended dosage for the specific indications are as follows :

Primary Immunodeficiency - for Prophylaxis -

100 to 200mg/kg body weight (2 - 4 ml/kg) approximately once a month. The dosage may be given more frequently or increased to as high as 400mg/kg body weight if the clinical response is inadequate.

Kawasaki syndrome - Dose of 400mg/kg body weight daily for 4 days or alternatively a single dose of 2gm/kg.

Idiopathic Thrombocytopenic Purpura - (ITP) -

400mg/kg body weight daily for 5 days. Alternatively 1000mg/kg body weight daily for one day or two consecutive days. Subsequently maintenance dose of 400mg -1000mg/kg weight as single infusion intermittently.

Bone Marrow Transplantation -

500mg/kg (10 ml/kg) body weight beginning on - 7 and 2 pretransplant and then weekly through 90 days of post-transplant.

Chronic B-cell Lymphocytic Leukemia - 400mg/kg every 3 weeks.

Pediatric HIV-1 Infection - 400mg/kg every 28 days.

Guillain - Barre Syndrome - 400mg/kg per day for 5 days.

Presentation :

GAMMA I.V. - Human Normal Immunoglobulin for Intravenous use I.P. is supplied as single dose containers in following pack sizes.

Pack Size	Protein (gm)
10ml	0.5g
50ml	2.5g
100ml	5.0g

Storage :

Store at 2⁰ - 8⁰C. Protect from light. Do not freeze.

References :

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2. JAMA, 268(4); 483 - 488, 1992.
3. Ann Intern Med, 126(9); 721-730, 1997.
4. Transfusion Medicine Reviews (X-3), 203 - 221, 1996.
5. Curr Opin Pediatr 7(6); 688 - 694, 1995.
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7. N. Engl. J. Med, 34(23); 1633-1639, 1991.
8. JAMA, 264(24); 3189 - 3193, 1990.

Manufactured in India by :

BHARAT SERUMS AND VACCINES LIMITED

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