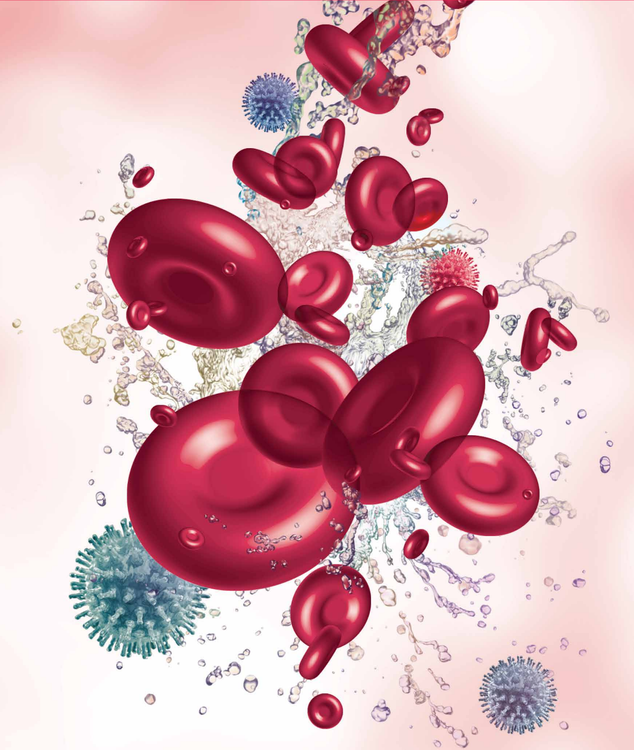

Human Normal Immunoglobulin
for Intravenous Administration

I.V.-Globulin SN inj. Human Normal Immunoglobulin for Intravenous Administration

[DESCRIPTION]
I.V.-Globulin SN inj. (Human Normal Immunoglobulin in maltose, pH 4.25)' is a biological product, manufactured with plasma from individual donors. Manufacturing processes include thawing, cold ethanol fractionation, and virus inactivation, such as S/D treatment and nano-filtration. The following manufacturing processes are applied in order to produce a finished product. Firstly, fraction II which comes from fractionated plasma is purified with chromatography, and S/D treatment is applied for the virus inactivation. Additional purification processes include dia-filtration, and is performed accordingly.

[QUANTITATIVE COMPOSITION]
1 mL contains,
Human Immunoglobulin-G (active ingredient) ---------- 50 mg
Maltose (stabilizer) ---------- 100 mg
Water for Injection (solvent) ---------- q.s.

[CLINICAL PARTICULARS]
1. Therapeutic indications
1) A-Hypogammaglobulinemia
2) Combined therapy with antibiotics in severe bacterial or viral infections
3) Idiopathic Thrombocytopenic Purpura (In the case where other medicinal products are not effective or patients show apparent hemorrhage or patients need temporary control of hemostasis such as surgeon treatments or childbirth etc.)
4) Guillain-Barre Syndrome (Subacute febrile polyneuritis)
5) Kawasaki Syndrome (To prevent the disease of coronary artery complication)

2. Posology and method of administration
1) For combined therapy with antibiotics in severe bacterial or viral infections and A-Hypogammaglobulinemia, the usual dosage for adults and children is 2,500~5,000 mg and 50~150 mg/kg respectively(as a single dose) by intravenous drip infusion or direct intravenous infusion. In case of intravenous injection, it should be injected very slowly.
2) Idiopathic Thrombocytopenic Purpura (ITP); The usual dosage for the treatment of acute or chronic ITP is 200-400 mg/kg daily given for 5 consecutive days. The additional doses are discontinued if an adequate response does not occur.
3) Guillain-Barre Syndrome: The usual dosage is 400 mg/kg daily given for 5 consecutive days.
4) Kawasaki Syndrome: The usual dosage is 400 mg/kg daily given for 5 consecutive days (approximately), or 2,000mg daily by intravenous drip infusion. It is recommended that the administration of I.V.-Globulin SN inj. start after 7 days from the onset of Kawasaki Syndrome.

3. Contraindications
1) Patients with history of anaphylaxis to ingredients of I.V.-Globulin SN inj.
2) Patients with history of shock to ingredients of I.V.-Globulin SN inj.

4. Special warnings and precautions for use
(1) Special warnings
1) I.V.-Globulin SN inj., manufactured from human plasma, has the potential to transmit hepatitis viruses or other viruses which can cause infection. The risk of virus infection cannot be entirely eliminated. Accordingly, patients with hemophilia or immunodeficiency are recommended to be appropriately vaccinated (Hepatitis A vaccine, etc.), and the attending physician should monitor patients regularly to check any sign of virus infection. Since I.V.-Globulin SN inj. has potential risks as described above, the product must be carefully used. If the product is prescribed, only the necessary amount should be administered.
2) The risk of thrombosis by administration of this product cannot be entirely eliminated. Thrombosis may occur regardless of the route of administration and in the absence of known risk factors (advanced age, prolonged immobilization, hypercoagulable conditions, history of venous or arterial thrombosis, use of estrogens, indwelling central vascular catheters, hyperviscosity and cardiovascular risk factors). For patients at risk of thrombosis, administer at the minimum concentration possible and at the minimum rate of infusion practicable. Also ensure adequate hydration in patients before administration. Monitor for signs and symptoms of thrombosis and assess blood viscosity in patients at risk for hyperviscosity.
(2) Special precautions
1) Patients with IgA deficiency (I.V.-Globulin SN inj. may cause anaphylaxis to patients who have anti-IgA)
2) Patients with renal disorder (Renal function may deteriorate.)
3) Patients with hemolytic anemia or anemia from blood loss (Human parvovirus B19 infection may occur. In case of B19 infection, acute systemic symptoms with fever and severe anemia may occur.)
4) Patients with immunological incompetence or immunodeficiency (Human parvovirus B19 infection may occur. In case of infection, continuous anemia may occur.)
5) Patients with cerebrovascular and cardiovascular disorders or case history thereof for example, elderly patients with ischemic disease, cardiovascular disorder, cerebrovascular disorder. (A large bolus administration can cause thrombus or embolism such as cerebral infraction, a myocardial infraction, etc due to blood viscosity increase.)
6) Patients with high risk of thrombus or embolism (Thrombus or embolism may occur due to an increase of blood viscosity due to large bolus administration.)
7) Patients with low heart function (A large bolus administration may cause heart failure or deterioration of heart condition)
(3) General cautions
1) In case of successive or interval administration, shock or severe abnormal reactions may occur. Accordingly, administration should be done with caution, and catamnesis also should be carefully observed. Especially for children, special caution should be taken for the rate of administration and catamnesis.
2) Administration of I.V.-Globulin SN inj. for the treatment of Idiopathic Thrombocytopenic Purpura is for symptomatic therapy, not causal treatment.
3) In case of Idiopathic Thrombocytopenic Purpura for children, spontaneous remission should be considered.
4) In present plasma fractionation process, it is difficult to inactivate or remove human parvovirus B19, etc. completely. Accordingly, possibilities of infection cannot be disregarded, and special caution should be taken for catamnesis.
5) Even though a safety plan for the prevention of the spread of infection is prepared, the risk of infection cannot be entirely disregarded since I.V.-Globulin SN inj. originates from human blood. This risk should be explained to patients.
6) Since I.V.-Globulin SN inj. contains anti-A and anti-B, hemolytic anemia may occur when a large bolus is administered to patients with blood type A, B or AB.
7) Additional administration to patients with Kawasaki Syndrome should be conducted when the effectiveness of I.V.-Globulin SN inj. is insufficient (e.g. symptomatic remission) or additional administration is clearly necessary. (Safety and efficacy for additional administration has not been established)
8) In the case of combined therapy with antibiotics in severe infections, I.V.-Globulin SN inj. should be used for patients who show insufficient response to proper antimicrobial chemotherapy.
9) There have been published reports that immune globulin intravenous injection is related to disorders of renal function, osmotic renal diseases including death, etc.
10) Patients should be aware of the risk and discuss with their healthcare professionals and contact them if any signs or symptoms of thrombosis during or after receiving this product develop. Signs or symptoms of thrombosis may include pain and/or swelling of an arm or leg with warmth over the affected area, discoloration of an arm or leg, unexplained shortness of breath, chest pain or discomfort that worsens on deep breathing, unexplained rapid pulse, chest pain and numbness or weakness on one side of the body.
11) Healthcare professionals should be aware of the risk for thrombosis with human normal immunoglobulin products and discuss with their patients the risk of thrombosis associated with this product. Monitor patients carefully for signs and symptoms of thrombosis both at the time of infusion and after infusion and encourage patients to report any signs or symptoms.

5. Interaction with other medicinal products and other forms of interaction
There is a possibility that live vaccines (Measles, Mumps, Rubella, Varicella vaccine, etc.) do not work for the patients who were treated with I.V.-Globulin SN inj.. Therefore, vaccination should be delayed for 3 months after administration. If I.V.-Globulin SN inj. is administered within 14 days after vaccination, re-vaccination should be taken after more than 3 months post I.V.-Globulin SN inj. administration. After a large bolus (more than 200mg/kg) administration for the ITP and Kawasaki disease, use of live vaccines should be delayed more than 6 months (In case of low risk of measles infection, measles vaccination can be delayed more than 11 months).

6. Pregnancy and lactation
Safety for a pregnant woman has not been established. The possibility of parvovirus B-19 infection cannot be excluded from the administration of I.V.-Globulin SN inj. In case of parvovirus B-19 infection, fetal disturbances (abortion, hydrops fetalis, fetal death) may occur. I.V.-Globulin SN inj. should be given to a pregnant woman only if the expected benefit justifies the possible risk.

7. Pediatric use
Safety for low birth weight infants and neonates has not been established.

8. Geriatric use
Since elderly patients generally have low physiological function, I.V.-Globulin SN inj. should be administered with special care.

9. Influences to clinical examination results
I.V.-Globulin SN inj. contains pathogens or antibodies against the pathogens. Therefore, antibodies can be occasionally detected in blood after administration. Clinical diagnosis should be taken with special cautions and confirmed.

10. Effects on ability to drive and use machines
Some of the effects mentioned under section 11 "Undesirable Effects" may affect the ability to drive or use machines.

11. Undesirable Effects
1) Shock: Symptoms of shock may occur. If dyspnea, wheeze, chest pain, hypotension or weak pulse are watched, administration should be discontinued, and 0.1~0.5 mL epinephrine (1:1,000) or the administration of cortisone should be considered.
2) Circulatory: Rapid administration can cause hypotension. (Caution should be taken to patients with A-Hypogammaglobulinemia.)
3) Liver: Liver function disorders or jaundice accompanying and increase in ALT or AST may occur. Caution should be taken, and proper treatment should be followed if needed.
4) Kidney: It has been reported in the literature that acute renal failure may occur with the use of immune globulin (human) products. If dehydration, hypouresis, increase of creatinine or increase of BUN, etc. are observed, administration should be discontinued, and proper treatment should be taken.The administration dosage and rate should be lowered (as low as possible) for patients at high risk patients for acute renal failure.
5) Central Nervous System: Aseptic meningitis from a large volume of I.V.-Globulin SN inj. administration (Nuchal rigidity, fever, headache, nausea, vomiting, mental fog, etc.) may occur. In these cases, administration should be discontinued and proper treatment taken.
6) Blood: Because a decrease in platelets may occur with the administration of I.V.-Globulin SN inj., caution should be taken. If this symptom occurs, proper treatment should be taken.
7) Other possible undesirable effects: Drowsiness, chill, chest pain, abdominal pain, gluteal pain and anxiety may occur in rare cases.

12. Incompatibilities
In the absence of compatibility studies, this medical product must not be mixed with other medicinal products.

[SPECIAL PRECAUTIONS FOR DISPOSAL AND OTHER HANDLING]
1. Precautions for administration
1) Avoid mixing with other medicinal products except for 5%-Glucose. (Do not mix with normal saline)
2) Rapid administration may cause hypotension. Drip infusion intravenous injection is recommendable. If direct intravenous injection is needed, it should be administered very slowly. (Caution should be taken with A-Hypogammaglobulinemia patients.)
3) If particulate matter is observed, or color is not clear, the product should be discarded.
4) I.V.-Globulin SN inj. should be used within 1 hour after the container is opened. Do not use the remaining solution due to the possibility of microbial contamination. (I.V.-Globulin SN inj. is protein and does not contain preservatives.)
5) Do not use if I.V.-Globulin SN inj. was ever frozen.

2. Precautions for handling
When a needle is inserted through the rubber stopper, the needle should be inserted vertically and slowly. If a needle is inserted in a tilted or twisted direction, rubber fragments may be mixed with medicinal product. If there are any rubber fragments, discard the product.

[SHELF-LIFE] 30 months from the manufacturing date.
[STORAGE] Store at 2~8°C in hermetic container. Store in a dark place.
[HOW SUPPLIED] 10 ml (500 mg) / 20 ml (1,000 mg) / 50 ml (2,500 mg) / 100 ml (5,000 mg) / 200 ml (10,000 mg)

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I.V.-Globulin SN inj.

Immune Globulin Intravenous (Human)

S/D treatment and Nano-Filtration Technique

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