# Normoglobin

Human Normal Immunoglobulin BP

## Presentation

Normoglobin : Each vial contains 10 ml human normal immunoglobulin BP containing ≥ 500 mg of human immunoglobulin-G (IgG).

## Description

Normoglobin is a ready to use, sterile, clear or slightly opalescent and colorless to pale yellow, liquid preparation of purified immunoglobulin-G (IgG) obtained from human plasma pools. The purification processes include thawing, cold ethanol fractionation, chromatography, virus inactivation with S/D fractionation and nano-filtration and dia-filtration. The final bulk is manufactured by adding maltose (as stabilizer) to bulk product and passing through sterile filter, after this the final bulk is filled into vials.

## Indications and uses

Treatment of primary immunodeficiency

For combined therapy with antibiotics in severe bacterial or viral infections

A-/Hypogammaglobulinemia

Idiopathic Thrombocytopenic Purpura

Guillain-Barre Syndrome

Kawasaki Syndrome

Dosage and administration

1. Neonates and infants:

5 ml (250 mg)/kg body weight daily on 3 consecutive days. Further infusion may be required depending on the clinical course.

2. Children and adults:

For combined therapy with antibiotics in severe bacterial or viral infections and A-/Hypogammaglobulinemia:

The usual dosage for adults and children is 2500-5000 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.

For Idiopathic Thrombocytopenic Purpura:

The usual dose is 200-400 mg/kg daily given for 5 consecutive days. The additional doses are discontinued if an adequate response does not occur.

For Guillain-Barre Syndrome:

The usual dosage is 400 mg/kg daily given for 5 consecutive days.

For Kawasaki Syndrome:

The usual dosage is 400 mg/kg daily given for 5 consecutive days (approximately) or 2000 mg daily by intravenous drip infusion. It is recommended that the administration start within 7 days from the onset of Kawasaki Syndrome.

Method of administration

The human normal immunoglobulin is for intravenous use only. The product should be warmed to room or body temperature before use. The human normal immunoglobulin should be infused intravenously at the following rates:

0.01~0.02ml/kg/min for first 30 minutes and then infusion rate can be gradually increased maximum 0.06ml/kg/min, if no abnormal sign appears from patients.

This infusion can be recalculated by hourly basis; it is 0.6~1.2ml/kg/hr and 3.6ml/kg/hr (maximum).

General cautions:

The human normal immunoglobulin is for intravenous use only.

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.

The vial should be inspected for visible particulate matter and color prior to administration. Do not use the vial if particles are detected. Do not use if turbid.

Several vials may be pooled into an empty sterile solution container by using aseptic technique, if large doses are to be administered.

The human normal immunoglobulin cannot be diluted with intravenous fluids. Other medications cannot be injected into the intravenous tubing being used for the human normal immunoglobulin.

Contraindications

Contraindicated in patients who have had a history of anaphylactic or severe systemic hypersensitivity reactions to the administration of human normal immunoglobulin.

This product is also contraindicated in IgA deficient patients with antibodies to IgA and a history of hypersensitivity.

Co-administration

There is a possibility that live vaccines (measles, mumps, rubella and varicella vaccine etc.) do not work for the patients who were treated with human normal immunoglobulin. Therefore vaccination should be delayed for 3 months after administration. If human normal immunoglobulin is administered within 14 days after vaccination, re-vaccination should be taken after more than 3 months post administration.

After a large bolus (more than 200 mg/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.

Pregnancy and lactation

Pregnancy: Safety for a pregnant woman has not been established. The possibility of parvovirus B-19 infection cannot be excluded from the administration of human normal immunoglobulin. In case of parvovirus B-19 infection, fetal disturbances (Abortion, Hydrops fetalis, fetal death) may occur. Human normal immunoglobulin should be given to a pregnant woman only if the expected benefit justifies the possible risk.

Lactation: Use of this product has not been evaluated in nursing mothers.

Side effects

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 (1:1000) or the administration of cortisone should be considered.

Rapid administration can cause hypotension.

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.

Renal failure may occur with the use of human normal immunoglobulin. If dehydration, hypouresis, increase of creatinine or increase of BUN etc is observed, administration should be discontinued and proper treatment should be taken.

Aseptic meningitis from a large volume of IVIG administration may occur.

Decrease in platelets may occur

Other possible undesirable effects include drowsiness, chill, chest pain, abdominal pain, gluteal pain and anxiety etc.

Precautions

Human normal immunoglobulin, manufactured from human plasma, has the potential to transmit hepatitis viruses or other viruses. 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.

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.

Severe hypersensitivity reactions and anaphylactic reactions with a fall in blood pressure may occur. Patients with antibodies to IgA have a greater risk of developing potentially severe hypersensitivity and anaphylactic reactions.

Patients with renal disorder (Renal function may deteriorate), Acute renal dysfunction/failure, acute tubular necrosis, proximal tubular nephropathy, osmotic nephrosis and death have been reported in patients receiving IVIG. It should be ensured that patients are not volume-depleted before administration of the IVIG. For patients judged to be at risk for developing renal dysfunction, including 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, IVIG should be administered at the minimum dose and rate of infusion practicable.

Patients with hemolytic anemia or anemia from blood loss (Human parvovirus B19 infection may occur. In case of infection, continuous anemia may occur.)

Patients with cerebrovascular and cardiovascular disorders or case history thereof for example, (Elderly patients with ischemic disease, cardiovascular disorder, cerebrovascular disorders or case of history thereof: a large bolus administration can cause thrombus or embolism such as cerebral infarction, a myocardial infarction, etc, due to blood viscosity increase.)

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.)

Patients with low heart function.

Aseptic Meningitis Syndrome (AMS) has been reported to occur following high dose (e.g. over 1.0 g per kg body weight) of IVIG treatment or rapid infusion of IVIG. The symptoms of AMS usually begin within several hours to 2 days following IVIG treatment. Discontinuation of IVIG treatment has resulted in remission of AMS within several days without sequelae. AMS is characterized by the following signs and symptoms: severe headache, nuchal rigidity, drowsiness, fever, photophobia, painful eye movements, nausea and vomiting.

Human normal immunoglobulin may contain blood group antibodies that may act as hemolysins and induce in vivo coating of red blood cells with immunoglobulin, causing a positive direct antiglobulin test result and hemolysis. Delayed hemolytic anemia can develop subsequent to IVIG therapy due to enhanced red blood cell sequestration and acute hemolysis, consistent with intravascular hemolysis, has been reported.

Non-cardiogenic pulmonary edema has been reported in patients following IVIG treatment. Transfusion-related acute lung injury is characterized by severe respiratory distress, pulmonary edema, hypoxemia, normal left ventricular function, and fever. Symptoms typically appear within 1 to 6 hours after transfusion.

Overdose

Overdose may lead to fluid overload and hyperviscosity. Patients at particular risk of complications of fluid overload and hyperviscosity include elderly patients and patients with cardiac or renal impairment.

Storage

Store and transport at +2 OC to +8 OC

Protect from light

Do not freeze

Keep out of the reach and sight of children

Commercial Pack

Normoglobin : Each box contains 1 vial containing the human normal immunoglobulin BP.