

Normal Immunoglobulin-VF

New Zealand

NAME OF THE MEDICINE

Human Normal Immunoglobulin, solution for intramuscular injection.

DESCRIPTION

Normal Immunoglobulin-VF is a sterile, preservative-free, pasteurised solution containing 160 mg/mL human plasma proteins and 22.5 mg/mL glycine. The solution has a pH of 6.6. At least 98% of the protein is immunoglobulins (mainly IgG).

Normal Immunoglobulin-VF is manufactured from plasma donated by New Zealand's voluntary donors. Immunoglobulins for intramuscular injection, prepared by this process from plasma screened by current methods, have not been implicated in the transmission of viral infectious diseases including human immunodeficiency virus (HIV). Studies using plasma spiked with HIV have shown that the Cohn cold-ethanol fractionation process produces a very large reduction in virus titre with undetectable levels in the immunoglobulin fraction. Epidemiological studies have not recognised any cluster of AIDS patients or HIV seroconversion in immunoglobulin recipients. The manufacturing process for Normal Immunoglobulin-VF contains specific steps to reduce the possibility of viral transmission including pasteurisation for viral inactivation and nanofiltration for virus removal.

PHARMACOLOGY

Normal Immunoglobulin-VF consists mainly of IgG with a broad spectrum of antibodies against various infectious agents.

CLINICAL TRIALS

A comparative clinical trial was conducted to investigate the effect of pasteurisation on the *in vivo* behaviour of intramuscular immunoglobulins using Hepatitis B Immunoglobulin (pasteurised and unpasteurised) as the representative of this group of products. Fifty-eight (58) healthy subjects (28 males and 30 females) each received an intramuscular injection of pasteurised (viral inactivated) or unpasteurised Hepatitis B Immunoglobulin. No significant clinical differences were observed.

Twenty-eight (28) subjects received the viral inactivated product. Maximal serum concentration of IgG was reached after 8.0 ± 5.5 days (mean \pm s.d.), and the estimated half life of IgG was 27.2 ± 6.6 days (mean \pm s.d.). These values are consistent with ranges observed with other intramuscular immunoglobulin products.

A clinical trial with Normal Immunoglobulin-VF has not been conducted.

INDICATIONS

Normal Immunoglobulin-VF is indicated in the management of congenital and acquired forms of primary hypogammaglobulinaemia. It may also be of value in treating secondary forms of this disorder as in leukaemia, nephrosis and acute protein-losing enteropathy, particularly when there is a tendency to recurrent infection.

In susceptible contacts of hepatitis A, measles and poliomyelitis, Normal Immunoglobulin-VF may be of value in preventing or modifying the disease. In general, the earlier in the incubation period of these diseases Normal Immunoglobulin-VF is given, the greater its effectiveness.

Hepatitis A

Routine passive protection is recommended in persons exposed less than one week previously for the following categories of individuals:

- Household contacts of an index case, who have not already had hepatitis A or have no serological evidence of immunity to the virus.
- Common source exposures. When a vehicle such as food or water is identified as a common source of infection for multiple hepatitis cases, administration of Normal Immunoglobulin-VF should be considered for all those exposed to the source.
- Institutional contacts.
- Staff in institutions where hepatitis is endemic.

Routine prophylaxis is not recommended for school, office, factory or hospital contacts.

Rubella

Although Normal Immunoglobulin-VF can prevent or modify the clinical disease in susceptible rubella contacts if given within 72 hours of exposure, it does not prevent viraemia in such patients. It should, therefore, not be relied upon to prevent congenital malformations due to rubella if given to susceptible pregnant women during the first trimester.

Measles (Morbilli)

Normal Immunoglobulin-VF is indicated for protection against measles in persons exposed less than one week previously. It is recommended in children under six months of age whose mothers have not had the disease, in children between six months and three years of age who have not been actively immunised and in immunosuppressed contacts of the index case.

Poliomyelitis

Normal Immunoglobulin-VF is recommended for susceptible contacts who have not been immunised against poliomyelitis.

CONTRAINDICATIONS

Normal Immunoglobulin-VF is contraindicated in individuals:

1. with isolated immunoglobulin A (IgA) deficiency, unless they have been tested and shown not to have circulating anti-IgA antibodies.

2. who have severe thrombocytopenia or any coagulation disorder that would contraindicate intramuscular injections.

PRECAUTIONS

Normal Immunoglobulin-VF MUST NOT be administered intravenously because of the potential for anaphylactic reactions. Injections must be made intramuscularly, and care should be taken to draw back on the plunger of the syringe before injection in order to be certain that the needle is not in a blood vessel.

Normal Immunoglobulin-VF should be given with caution to patients with a history of prior systemic allergic reactions following the administration of human immunoglobulin preparations. In the case of shock, treatment should follow the guidelines of shock therapy.

Pathogen Safety

This product is made from human plasma. Products made from human plasma may contain infectious agents, such as viruses and theoretically Creutzfeldt-Jakob disease (CJD) agents, 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 infectious agents and by testing for the presence of certain viral markers.

In addition, virus removal and inactivation procedures are included in the manufacturing process. The current procedures applied in the manufacture of this product are effective against enveloped viruses such as human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV), and the non-enveloped viruses, such as hepatitis A virus (HAV) and human parvovirus B19. Additionally, the product contains specific antibodies directed against human parvovirus B19.

Despite these measures, such products may still potentially transmit disease. There is also the possibility that other known or unknown infectious agents may be present in such products.

Vaccination for patients in receipt of medicinal products from human plasma should be considered where appropriate.

Genotoxicity, Carcinogenicity and Impairment of Fertility

No genotoxicity, carcinogenicity or reproductive toxicity studies have been conducted with Normal Immunoglobulin-VF. There have been no reports of such effects associated with the use of CSL's plasma derived products.

Use in Pregnancy and Lactation

The safety of this medicinal product for use in human pregnancy or during lactation has not been established in controlled clinical trials. Normal Immunoglobulin-VF should therefore only be given with caution to pregnant women and breast feeding mothers. Immunoglobulins are excreted in breast milk, however, it is not known whether this applies to passively administered Normal Immunoglobulin-VF.

Paediatric Use and Use in the Elderly

The use of this product in the paediatric and elderly populations has not been established in appropriate studies. To date, these populations are not over-represented in spontaneous reports of adverse events associated with the use of CSL's intramuscular immunoglobulin products.

Interactions with Other Medicines

Normal Immunoglobulin-VF should not be mixed with other pharmaceutical products, except as indicated (see **DOSAGE AND ADMINISTRATION**).

Live attenuated virus vaccines: Passively acquired antibody can interfere with the response to live, attenuated virus vaccines. Therefore, administration of such vaccines, e.g. poliomyelitis or measles, should be deferred until approximately three months after passive immunisation. By the same token, immunoglobulins should not be administered for at least two weeks after a vaccine has been given.

Inactivated vaccines: Inactivated vaccines may be administered concurrently with passive antibody (although in separate syringes) to induce active immunity as is sometimes done for tetanus-prone wounds.

Passive Transfer of Antibodies and Effect on Laboratory Tests

After injection of immunoglobulin, the transitory rise of the various passively transferred antibodies in the patient's blood may result in misleading positive results in serological testing.

There is no evidence to date that parvovirus B19 can be transmitted by Normal Immunoglobulin-VF, which is known to contain antibodies to the virus and the nanofiltration step of the manufacturing process has been shown to remove such viruses (or viruses of similar size).

ADVERSE EFFECTS

Local tenderness, erythema and stiffness may occur at the site of injection and may persist for several hours. This may occur after any intramuscular injection. In the clinical trial with Hepatitis B Immunoglobulin, the following general and local reactions were recorded in the 58 healthy subjects (total number of events, up to and including 7 days post injection; pasteurised product/unpasteurised product): malaise (20/22 events), drowsiness (13/17 events), induration (10/4 events), sensation of fever (4/4 events), chills (3/3 events), sweating (3/1 events) and warmth/heat when touched (0/4 events). There was an overall higher reporting of local tolerance adverse events at the injection site for the unpasteurised product, such as pain (32/52 events), bruising (10/22 events), redness (2/8 events) and irritation (2/4 events).

Mild pyrexia, malaise, drowsiness and urticaria have been reported occasionally after injections of immunoglobulins. True allergic responses are rare. Skin lesions, headache, dizziness, nausea, generalised hypersensitivity reactions and convulsions have been reported on rare occasions.

DOSAGE AND ADMINISTRATION

Dosage

The following dosages are recommended:

Hepatitis A

Household contacts, common source exposures: A dose of Normal Immunoglobulin-VF equivalent to 0.06 mL/kg bodyweight should be given for long term protection or 0.03 mL/kg bodyweight for short term protection. For prophylaxis long term, the injections should be given 5-monthly but serological checks should be made to assess if active immunity has developed.

The following doses of Normal Immunoglobulin-VF are recommended for persons who plan to travel in areas where hepatitis A is common*. Length of stay less than 3 months, 0.03 mL/kg bodyweight; 3 months or longer, 0.06 mL/kg bodyweight (repeat every 4-6 months).

Institutional contacts:* 0.06 mL/kg bodyweight.

Staff in institutions where hepatitis is endemic:* A large dose (0.06 mL/kg bodyweight) should be offered at the time of employment, and this should be repeated at six-monthly intervals if the risk persists.

* The use of hepatitis A vaccine may be more appropriate for these individuals, provided there is adequate time for active immunity to develop (7 to 10 days).

Measles

0.2 mL/kg bodyweight for prevention.

Poliomyelitis

0.3 mL/kg bodyweight.

Hypogammaglobulinaemia

0.6 mL/kg bodyweight at intervals of one month. An additional dose should be given during the first month of treatment.

Administration

If the product appears to be turbid by transmitted light or contains any sediment it must not be used. **The product does not contain an antimicrobial preservative. It must, therefore, be used immediately after opening the vial. Any unused solution must be discarded appropriately.**

Normal Immunoglobulin-VF should be brought to room temperature before use, and given slowly by deep intramuscular injection using an appropriate sized needle. If a large dose (more than 5 mL) is required, it is advisable to administer it in divided doses at different sites. Hyaluronidase and/or a suitable local anaesthetic may be added to the injection if desired.

An intravenous preparation is available from CSL when large doses of immunoglobulin need to be given, or when the patient has a significant haemostatic defect which may cause bleeding following intramuscular injection.

OVERDOSAGE

The consequences of overdosage are not known.

PRESENTATION AND STORAGE CONDITIONS

Normal Immunoglobulin-VF solution for intramuscular injection is available in single vials containing 2 mL or 5 mL. Both presentations contain 160 mg/mL human plasma proteins and 22.5 mg/mL glycine.

Store at 2°C to 8°C (Refrigerate. Do not freeze). Protect from light. Do not use after the expiry date shown on the label.

NOTE:

The following specific immunoglobulins are also available:

Tetanus Immunoglobulin-VF (for intramuscular use) for passive prophylactic immunisation against tetanus.

Zoster Immunoglobulin-VF (for intramuscular use) for prevention of varicella/zoster infection in high-risk patients, e.g. patients with malignant disease or on immunosuppressive therapy.

Hepatitis B Immunoglobulin-VF (for intramuscular use) to prevent infection of persons accidentally exposed to hepatitis B virus.

Rh(D) Immunoglobulin-VF (for intramuscular use) for prevention of haemolytic disease of the newborn.

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POISON SCHEDULE OF THE MEDICINE

Prescription Medicine

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