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

Snake Venom Antiserum

(ECHIS) I.H.S

Lyophilised

(Monovalent, Enzyme Refined, Equine Antivenom Immunoglobulin fragments)

Description

Snake Venom Antiserum (ECHIS) is a sterile preparation containing equine immunoglobulin fragments F (ab') 2. Freeze dried powder is reconstituted with 10 mL of Sterilised Water for Injections supplied along with the vial. Each mL has a capacity of specifically neutralising $40LD_{50}$ of *Echis ocellatus* venom.

The antitoxic equine immunoglobulin fragments and their derivatives are obtained from the serum of healthy equines immunized against venom of the above species of snake.

Reconstitution of Lyophilised Antiserum

The antivenom is supplied in liquid as well as freeze dried form. The freeze dried powder is reconstituted with 10 mL of Sterilised Water for Injections BP is supplied with this pack. The whole content of freeze dried powder dissolves into a clear colourless or pale yellow liquid.

Administration and Dosage

Reconstituted Antivenom is administered as soon as possible if clear-cut signs/symptoms of envenomation are evident. It can be administered in two ways:

1. Intravenous injections: Reconstituted Antivenom is administered by slow intravenous injection (1-2 mL/minute).
2. Infusion: Reconstituted Antivenom is diluted in isotonic saline or glucose solution, 5-10 mL/Kg of body weight.

At present there is no simple method to measure the amount of circulating venom in the body, therefore the antivenom dose cannot be accurately recommended. The dose also depends on the severity of envenomation. In consideration to the requirement of venom neutralization fast, two vials are usually injected directly by I.V. route slowly .i.e.1-2 mL/minute (taking care of sensitivity reaction). Two more vials are given after half an hour to one hour, if the symptoms of envenomation persist. In this way patient should be given doses (further dose can be given with Intravenous fluid) till the envenomation symptoms subside.

The patient should be closely monitored for 2 hours. Local administration of antivenom in or around the bite site is ineffective, painful, and may raise intra compartmental pressure, particularly in the digits. Hence it is not recommended.

Snakebite Manifestations

In case of Echis ocellatus , paralytic manifestations are uncommon (though they have occasionally been reported with Russell's viper).The usual manifestations comprise persistent pain and swelling of the bitten limb with oozing of blood from the bitesite.There may be blister formation and necrosis. This is followed by generalized vascular injury with severe external and internal haemorrhage.Vomiting may occur. Death usually results from cardiovascular shock or renal failure.

Antivenom Reactions

Anaphylaxis is life-threatening, but if the correct protocol is followed, it can be effectively treated and dealt with. Anaphylaxis can be of rapid onset, and can deteriorate into a life-threatening emergency very quickly. The patient should be monitored closely, and at the first sign of any of the following, antivenom should be discontinued, and 0.5 mg of 1:1000 adrenaline must be administered intramuscularly: urticaria, itching, fever, chills or rigor, nausea, vomiting, diarrhea, abdominal cramps, tachycardia, hypotension, bronchospasm, and angioedema. Children must be given 0.01 mg/Kg of body weight of adrenaline I.M.

In addition, to provide long term protection against Anaphylactic reaction, 100 mg of hydrocortisone and 10 mg of H_1 antihistamine can be given I.V. The dose for children is 0.2 mg/Kg of antihistamine I.V. and 2 mg/Kg of hydrocortisone I.V. If after 10 to 15 minutes of the patient's condition has not improved, or if the condition is worsening, a second dose of 0.5 mg of adrenaline 1:1000 I.M. may be given. In the vast majority of cases, no more doses will be required. If there is hypotension or haemodynamic instability. I.V. fluids should be given. Once the patient has recovered, the antivenom can be restarted slowly for 10-15 minutes keeping the patient under close observation. Then the normal drip rate can be resumed, sometimes serum sickness reactions may occur. But these usually take a few days to a week, and can be easily treated with oral antihistamines and corticosteroids (for e.g., prednisolone - adults 5 mg 6 hourly; child 0.7 mg/Kg/day).

Associated Treatment:

Snake bite can cause moderate to severe pain in at the bite site. This normally responds well to paracetamol. Aspirin and non-steroidal anti-inflammatory drugs (NSAIDs) should not be administered, as they can exacerbate bleeding. Mild opiates (such as tramadol 50 mg) can be administered, for severe pain.

Storage:

Store the freeze dried vial below 25^0C. Reconstituted liquid should not be stored for long nor should be allowed to freeze. Keep out of reach of children.

Presentation

Snake venom antiserum Echis is supplied as freeze dried powder in a glass vial. Sterilised Water for Injections is supplied in 10 ml container.

Disposal

Left over antiserum and used empty vials should be discarded as biomedical waste.

Manufactured by:
ViNS BIOPRODUCTS LIMITED
Survey No: 117, Thimmapur (V)-509 325
Kothur (M), Rangareddy (Dist.),
Telangana, India.

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