**Antivenin (Micruroides fulvius)**

(Equine Origin)

North American Coral Snake Antivenin

**Composition**

Antivenin (Micruroides fulvius), Wyeth, is a refined, concentrated, and lyophilized preparation of serum globulins obtained by fractionating blood from healthy horses that have been immunized with coralline (Equine Origin) antivenin. The product contains 0.25% (w/v) and 0.002% (w/v) trimethylamine (mercury derivative).

**INDICATION**

Antivenin (Micruroides fulvius) (equine origin) is indicated only for the treatment of envenomation caused by bites of these coral snakes specified in the following paragraph.

**Coral Snakes and Bites**

Two genera of coral snakes are found in the United States—Micruroides (the eastern and western variegate) and Micrurus (the Amazonian or ornate variety). Found in southeastern Arizona and southwestern New Mexico.

There are two subspecies of coral snakes native to the United States: 1) M. fulvius, found in the area from eastern North Carolina through the tip of Florida and in the Gulf coastal plain to the Mississippi River; 2) M. micrurus, the Texas coral snake, found west of the Mississippi River in Louisiana, Arkansas, and Texas. These subspecies can be differentiated by experts but are very similar in appearance. The adult coral snake (M. fulvius) may vary between 20 and 47 inches in length, has a black snout, yellow, black, and red bands encircling the body, the red and black rings are wider than the yellow rings. However, marbled coral snakes, (M. m. fulvius), have black, yellow, and red rings that are approximately equal in width. A color pattern that may be present is a yellow dorsal stripe that extends from the head to the tail, which is bordered by two lateral brown stripes.

**CONTRAINDICATIONS**

For persons with coral snake envenomations threatening life or limb, there are no contraindications to administration of the antivenin. However, any person known to be allergic to horse serum, either by history or as a result of an appropriate sensitivity test, requires careful observation and consideration of the treatment. Serum-sensitive persons have also been known to react to horse serum.

**WARNINGS**

Patients allergic to antivenin or horse serum may develop anaphylaxis. Therefore, it is essential that prior to administration (IV or intramuscular) antivenin administration a proper skin test be performed, interpreted, and therapy modified if indicated.

There have been isolated reports of cardiac arrest and death associated with use of Antivenin (Coral Reef Polyvalent) (equine origin). Although this experience has not been reported with Antivenin (Micruroides fulvius) (equine origin), the similarity of these Antivenin products, this reaction cannot be ruled out for Micruroides fulvius (equine origin).

**PRECAUTIONS**

**General**

Contraindication and observation for allergic response is mandatory whenever serum is administered intravenously to that should occur, the patient must be administered intravenously to that should occur, the patient must be administered intravenously to the patient immediately. This precaution is especially important because of the potential for severe reactions to antivenin.

**Procedures to be Taken in Administration of Horse Serum**

Before administration of any product prepared from horse serum, appropriate measures must be taken in order to detect the presence of any one of the following serum enzymes, including anaphylactic shock, which is life-threatening. The presence of antivenin in the serum is not a contraindication to its use. However, in cases of severe allergic reactions, antivenin should be administered without delay.

**Skin-Tested Intradermally**

A 0.1 ml. skin test is performed on a 0.1 ml. of a 1:100 dilution of Horse Serum or Antivenin. A control test on the opposite extremity using Sodium Chloride Injection, USP, is performed in order to detect any foreign reactions. The test skin is read after 15 minutes and the results are recorded. The presence of antivenin in the serum is not a contraindication to its use. However, in cases of severe allergic reactions, antivenin should be administered without delay.

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A 1:100 or greater dilution should be used for preliminary skin testing if the history suggests sensitivity. A positive reaction to a skin test occurs within 30 to 60 minutes and is manifested by a wheal with or without papule and surrounding erythema. In general, the shorter the time between injection and the beginning of the skin reaction, the greater the sensitivity.

If the history is negative or allergy and the result of the skin test is negative, proceed with administration of Antivenin as ordered above. If the history is positive and a skin test is strongly positive, administration may be delayed, especially if the positive skin test is accompanied by systemic allergic manifestations. In such instances, the risk of administering Antivenin must be weighed against the risk of withholding it, keeping in mind that severe envenomation can be fatal. (See text paragraph of this section.

A negative allergic history and absence of reaction to appropriately skin tested dose do not rule out the possibility of an immediate reaction. Also, a negative skin test does not mean that withholding or not giving desensitized serum (serum sickness) will occur after administration of the full dose.

If the history is negative and the skin test is mild or questionable positive, administerDesensitization as follows to reduce the risk of a severe immediate systemic reaction: (1) Pretreatment with antihistamines, 1,100 and 1,130 of Antivenin, (2) All at least 15 minutes between injections and proceed with the next dose of dilution factor by the previous dose of Antivenin, (3) 5 minutes after the injection, and finally 15 minutes after the injection. If a systemic reaction occurs after any injection, place a heparinized syringe into the veins and administer an appropriate dose of epinephrine, 1,000,000, parenterally into the (and enter another one) for 3 minutes. At least 30 minutes before injecting the next dose. The amount of Antivenin to be administered should be the same as the last dose which did not produce a reaction. (6) If no reaction occurs after 5 days of undiluted Antivenin has been administered, switch to the intramuscular route and continue administering the dose at 15 minutes intervals until the entire dose has been given or has been determined to be unnecessary as described below.

DOSAGE AND ADMINISTRATION

Drug Interactions

Monitor or discontinue any drugs that depress respiration or are cardiotoxic. Sedatives should be used with extreme caution.

Therapy with beta-adrenergic blocking agents, has been associated with an increased severity of allergic reactions. Atropine may be required to counteract symptoms in patients receiving beta-adrenergic blocking agents, which may be necessary at a higher dosage than has been previously used.

DOSAGE AND ADMINISTRATION

IMMEDIATEly. Before administration, read sections on CONTRAINDICATIONS, WARNINGS, PRECAUTIONS, AND ADVERSE REACTIONS. Since the possibility of a severe immediate systemic reaction (anaphylaxis) always exists whenever horse serum is administered, appropriate therapeutic agents, such as sympathomimetics, epinephrine, and antihistamines, should be readily available. Intravenous or intramuscular injections of Antivenin are to be given slowly and must always be preceded by a test dose of 0.1 ml for 1 minute. This dose must be well tolerated prior to administration of the entire dose. The patient must be kept under constant surveillance for at least 30 minutes after each injection. If any signs of anaphylactic shock appear, continue the intravenous infusion. The rate of delivery is regulated by the severity of the signs and symptoms of anaphylaxis and envenomation of Antivenin. However, the maximum speed of 0.1 ml of undiluted Antivenin has been given, administer the maximum safe dose of 10,000 units of intramuscular fluids, based on weight and age, should be kept at all times. If this does not terminate the reaction, an intravenous injection of 10,000 units of epinephrine and 1,000 units of antihistamines must be given. If these measures do not terminate the reaction, 1 to 2 mg of antihistamines should be given every 30 minutes. If the reaction persists, nasotracheal intubation or endotracheal intubation should be performed. If this does not terminate the reaction, 1 to 2 mg of antihistamines should be given every 30 minutes. If the reaction persists, nasotracheal intubation or endotracheal intubation should be performed.

According to the data reported by Fix and Mintorff and cited above concerning venom yields obtained under artificial but probably physiological biting conditions, some envenomated patients may require administration of the contents of 10 to 15 vials to neutralize the venom dose injected by the biting snake. If the entire venom load were delivered by the bite,

Snakebites do not occur in distracting situations. However, appropriate intravenous fluids should be given, since leukocytes may be carried into the lung punctures wounds by dirt present on skin. If the patient is on anticoagulant or antiplatelet procedures.

A broad spectrum antibiotic in susceptible dosage is indicated if local tissue damage is evident. Description for Reconstituting the Dried Antivenin

Spray the small metal disc in the cup over the lugs of the vials of Antivenin and diluent. Squeeze the plunger of the syringe over the lugs of the vials of Antivenin and diluent. When both vials are in place, the disc will be reconstituted. With a sterile 10 ml syringe and needle, withdraw the disc. (Gallie’s Needle for injection) USP from the vial of diluent and the solution into the lumen of the vials of Antivenin. The vial of Antivenin will pull the diluent out of the syringe into the vial. However, delivery of 10 ml of diluent may not always be completed in the Antivenin vial. If a vial is not used, 10 ml of diluent may not be completed in the Antivenin vial. If a vial is not used, extended vials may be procted. Therefore, after 15 air are pulled into the Antivenin vial, air is injected from the container or withdrawn by the syringe with attached needle from the vial, pull 10 ml of diluent and 10 ml of Antivenin out of the vial and a needle with diluent containing sodium chloride solution is injected. The solution may be diluted with additional diluent containing sodium chloride solution after injection in sterile water and repeated if necessary. To release any remaining vials, the syringe needle must be directed into the vial, it is important for the needle to be directed at the center of the diluent and Antivenin vials, so that the vial will be filled. If the solution is not directed at the vial but allowed to run down the side of the vial, the 10 ml of diluent will be lost.

References


13. Wyeth-Ayerst Labs. Enfield, CT.
