Treatment of toxic seizures/agitation

While agitation and seizures are common with exposures to street drugs, the same symptoms may occur in overdoses of other toxic substances, including prescription or over the-counter medications. The following treatment advice can be applied to these toxic symptoms regardless of the causative agent. Agitation or seizures related to toxic exposures may result in tachycardia, hypertension, hyperthermia or rhabdomyolysis, and may be difficult to treat. Although initial restraint of an agitated patient may be necessary, leaving that patient untreated for agitation puts him or her at greater risk for complications. Treating with intravenous (IV) benzodiazepines (BZ) is essential. The following is recommended in the treatment of toxin induced agitation or seizures, and may prove effective in the prevention and/or treatment of tachycardia, hypertension or hyperthermia.

1. Large doses IV BZ's may be required. Intubation and ventilation may be necessary.

Dose:

Diazepam

Adult: 5 to 10 mg IV; repeat every five to 10 minutes as needed. Doses in the range of 1mg/kg body weight are not unusual.

Child: 0.1-0.3mg/kg IV; repeat every five to 10 minutes as needed

Lorazepam

Adult: 2 to 4 mg IV repeat every five to 10 minutes as needed

Child: 0.05 to 0.1 milligram/kilogram IV repeat every five to 10 minutes as needed

* Lorazepam may be given intramuscularly (IM) but will take longer to be absorbed & effective.

Midazolam

Adult: 1 to 2 mg IV; repeat every two minutes as needed OR 5 mg IM until IV access available.

2. If seizures persist, administration of IV phenobarbital or propofol may be necessary.

Haloperidol is not recommended for agitation caused by toxic exposures. It is believed that haloperidol lowers the seizure threshold in toxic exposures. Although phenytoin is commonly used as a second-line therapy for epileptic or structural seizures, it has been found to be ineffective in the treatment of toxin-induced seizures. Most toxin-induced seizures are the result of enhanced excitatory neurotransmission, or inhibition of GABA. Phenytoin's mode of action is related to its ability to reduce the influx of intracellular sodium or increase the efficiency of the sodium pump; therefore, it is unlikely to be effective in terminating toxin-induced seizure activity.

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