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Local Anesthetic Toxicity

Local anesthetics have changed the way we all practice. Most patients tolerate them with few, if any, side effects. However in rare cases, there can be severe complications.

The dose of local anesthetic administered must take into consideration several factors: ischemic heart disease, cardiac arrhythmias, poor cardiac function, hypercapnia, metabolic disease, low plasma protein concentration, and advanced age. The signs and symptoms of local anesthetic toxicity are unpredictable.

Recognition of signs of local anesthetic toxicity include:

- Sudden change in mental status, agitation or loss of consciousness with or without seizures.
- Cardiovascular collapse—bradycardia, conduction blocks, asystole or ventricular tachyarrhythmias may occur.

The most important step in treating local anesthetic toxic-

ity is to recognize the diagnosis in a patient with altered mental status or cardiovascular instability. Central nervous system symptoms can be subtle or absent. Hypotension or bradycardia is often the only sign of toxicity. The most important factor in treating local anesthetic toxicity is aggressive airway management to avoid hypoxia, hyperventilation, and acidosis.

Management of local anesthetic toxicity includes:

- Immediately discontinue any further administration of the local drug;
- Call 911;
- Place patient in supine position;
- Administer oxygen;
- Maintain airway and initiate CPR;
- Confirm or establish IV access;
- Administer IV diazepam 5 mg over one minute titrated to effect or IV midazolam 2.5mg over

one minute titrated to effect; and

- Continue to closely monitor vital signs.

The patient will be transferred to the hospital where they will obtain arterial blood gases, and administered lipid emulsions. Propofol is an insufficient emulsion because of

its low lipid content and its cardiac depressant effect. An interesting question comes up with respect to Oraverse, a local anesthetic reversal agent. Oraverse is phentolamine mesylate, which is a

continued on reverse

NEWS YOU CAN USE

Introducing Epocrates

The Epocrates Rx and Epocrates Online drug database is a proprietary database developed by their editorial team of pharmacists and physicians from academic backgrounds and institutions. “The medical information editors generally add most new drugs approved by the FDA for use in humans around the time the drug becomes commercially available. In order to avoid con-

fusion about what is actually available for clinicians to prescribe, we do not add drugs to the database immediately upon FDA approval.” (www.epocrates.com)

You can access Epocrates for free by visiting their website at www.epocrates.com. The free app is also available for your tablet and smartphone.

DENTAL FUN FACT

DID YOU KNOW...

1,240 is the number of videos of spontaneous and posed smiles in the University of Amsterdam Smile Database (www.uva-nemo.org/index.html), the most comprehensive such collection assembled. (**Tufts Dental Medicine** fall 2012 Vol. 16)

vasodilator. The website for Oraverse states that the exact mechanism for reversal of local anesthetic is not fully understood. Presumably, the mechanism by which Oraverse works is to vasodilate the area where the local anesthetic was administered. This would disseminate the local

anesthetic systemically. This would be the exact opposite of what you would want to accomplish in the patient who is suffering from local anesthetic overdose. Further, Oraverse can cause tachycardia or bradycardia and increase the risk of cerebrovascular accident (CVA or stroke),

myocardial infarction, hypotension and shock-like states. This should be avoided in patients suffering from local anesthetic toxicity. Further information can be found on the Oraverse website, www.oraverse.com.

AAOMS Office Anesthesia Evaluation Manual, 8th edition

Dr. Brian Simpson
announces the fourteenth meeting of the
NANUET IMPLANT STUDY GROUP

Speaker: LTC Ron Prenzel, D.M.D.
Oral and Maxillofacial Surgeon
West Point Military Academy

“Dentoalveolar Surgery”

Tuesday, March 12, 2013

Dinner: 6:30 Presentation: 7:00 — 9:00 pm

Restaurant X 117 North Rte. 303 Congers, NY

2 CE credits awarded by the Ninth District Dental Association

Cost: \$45.00

To register, contact Theresa: 845-623-3497
or email her at theresag@drbriansimpson.com

“Develop success from failures. Discouragement and failure are two of the surest stepping stones to success.” -Dale Carnegie