

Calendar of Upcoming Events 2005

- > April 21-24, 2005, Spring ASRA meeting, Toronto, Canada.
- > April 30-May 1st, Comprehensive Regional Anesthesia workshop, WRAMC.
- > April 29-May 1st, Update in Clinical Regional Anesthesia at UVA, Charlottesville, VA.
- > Sept. 14-17th, 2005, XXIV Annual ESRA Congress, Berlin, Germany.
- > November 18-22, 2005, 4th International ESRA Conference, Cape Town South Africa.

- > Ongoing: Visiting Clinical Preceptorship at Wake Forest University School of Medicine, Department of Anesthesiology, Regional Anesthesiology and Acute Pain Management.

Links:

Useful websites related to Regional Anesthesia

- > <http://www.arrowintl.com>
- > <http://www.nysora.com/>
- > <http://www.asra.com/Main.html>
- > <http://www.regionalblock.com>
- > <http://www.anesth.uiowa.edu/rasci/workshops/>

If there are any events you would like to add to the next newsletter please e-mail me at: Kelly.marciniak@arrowintl.com.

Local News Story

- > Reading Eagle story. [Click here](#)

Words From A Thought Leader

Mechanisms of nerve injury with peripheral nerve blocks

Mechanical trauma during performance of nerve blockade is probably the most common attributing factor to neurologic injury after neuronal blockade. Such trauma can result from a single or a repeated mechanical injury to the fascicles by the advancing needle or more likely, from an intraneural injection of local anesthetic. Neurologic injuries resulting from an intraneuronal injection are probably due to a combination of factors. Examples include direct needle trauma with perforation of the perineurium and other nerve sheaths, physical disruption of the nerve fibers, and disruption of the neuronal microvasculature, with the consequent intraepineural or intrafascicular hematoma and nerve ischemia. Because the perineurium is a tough and resistant tissue layer, an injection into this compartment or a fascicle can cause a prolonged increase in endoneurial pressure, exceeding the capillary perfusion pressure. This pressure in turn may result in endoneurial ischemia. Addition of a vasoconstrictor to the local anesthetic and application of tourniquet over the site of nerve blockade result in an additional decrease in blood supply to the nerve. The combination of all these factors contributes to neuronal ischemia and contributes to the extent of neurologic injury. At the present time there are no monitoring standards during application of nerve blocks and relatively little is known on how to avoid an intraneuronal injection. However, clinical and experimental evidence suggests that such injections may be associated with pain on injection and an increased pressure on injection of local anesthetic. For instance, recent data in animal models suggest that that injection pressures in excess of 20 psi during nerve block injection is associated with neurologic injury and can serve as a marker of intraneural injection. Future developments in this field will inevitably involve implementing more objective means of monitoring and documenting nerve block injections to decrease the risk of complications. In line with this trend, a group of North American regional anesthesiologists has recently proposed a standard nerve block documenting procedure to be published early next year in *Regional Anesthesia and Pain Medicine*. This much needed document represents the first major step in transforming the specialty of regional anesthesia into an objective and reproducible clinical discipline.



Written By Dr. Admir Hadzic

Reference list for Complications in Regional Anesthesia

- > Acute and Nonacute Complications associated with Interscalene Block and shoulder Surgery by Alan Borgeat, M.D., Georgios Ekatothramis, M.D., Fabian Kalberer, M.D., Cedric Benz, M.D. *Anesthesiology*, V95, No 4 Oct. 2001.
- > Possible Mechanism of Irreversible Nerve Injury Caused by local Anesthetics by Norihito Kitagawa, M.D., Mayuko Oda, M.D., Tadahide Totoki, M.D. *Anesthesiology*, V100 No 4, April 2004

(continued)



Regional Anesthesia News

Spring 2005 Volume 2



- > Major Complications of Regional Anesthesia in France by Yves Aurroy, M.D., Dan Benhamou, M.D. et al. Anesthesiology, V97, No5, 2002.
- > Complications of Regional Anesthesia by Gregory A. Liguori, M.D. from the department of Anesthesia, Hospital for special Surgery NY New York, 2003

■ In the next issue

- > Regional Anesthesia in Ghana

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