



K2 Mepivacaine Fatality Occurring After Local Anesthesia Was Administered Intravascularly During a Pre-Operative Procedure

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After attending this presentation, attendees will understand why qualified anaesthesiologists should administer the drug mepivacaine in order to avoid accidental death following intravascular infusion of the drug.

This presentation will impact the forensic community and/or humanity by showing the forensic community how fatal a local anaesthetic block of mepivacaine could be when accidentally administered intravascularly.

This is the case of a 92-year-old woman who was scheduled for surgery after falling at her residence and being diagnosed as having a left hip fracture. She had a recorded history of chronic pulmonary emphysema, congestive heart failure, coronary artery disease and glaucoma. While being prepared for surgery, she received an L3 in one block with 35 ml of 1.5% mepivacaine and sedation with midazolam. Five minutes thereafter, she had a witnessed cardiac arrest. Advanced Cardiac Life Support (ACLS) protocol was initiated with no success. At the autopsy, the descendent appeared relatively healthy and no trauma was found to have caused her death. Biological fluids and tissues were tested for basic, acidic, and neutral drugs using GC/MS.

In the postmortem heart blood, toxicological analyses identified *mepivacaine* at a concentration of 9.50mg/L, which is consistent with an intravascular administration. Vitreous humor, bile, liver, and brain specimens contained: 0.96mg/L, 0.46mg/L, 14.58mg/kg, and 2.18mg/kg mepivacaine, respectively. Atropine, levorphanol, pseudo/ephedrine, citalopram, dextromethorphan, lidocaine and midazolam were also present.

Administration of an appropriate dose of local anesthetic appears to be the single most important factor in preventing catastrophic reactions (*New England Journal of Medicine*, 295, 1397-1399, 1976).

The medical examiner ruled that the cause of death was mepivacaine toxicity and the manner of death was determined to be accidental.

Mepivacaine, Intravascular, Gas Chromatography/Mass Spectroscopy