

Diethylene Glycol in Propofol Infusion Syndrome?

Physicians who observed acidosis in cases of propofol infusion syndrome^[1] are urged to contact the author of this letter at once if serum samples still exist from these patients. The Metabolic Screening Lab has discovered diethylene glycol and metabolites of ethylene glycol, its derivative, in the blood of a 50-year-old male patient who became acidotic after repeated doses of propofol in September 2005. This lipophilic drug is formulated with glycerol as part of the emulsion. The US FDA has issued a warning^[2] that pharmaceutical grade glycerol manufactured in China may have been contaminated by diethylene glycol and used in medications worldwide. We were sent these samples because of a previous notorious case erroneously thought to involve ethylene glycol.^[3] If your cases occurred between 2004 and 2007 and frozen serum samples still exist that have not already been analysed for organic acids, please contact the author at the address given below. Samples with the highest index of suspicion would be those from patients who were otherwise well but took a downward course after repeated propofol infusions, including

metabolic acidosis, renal impairment, haematuria or crystalluria. The origin of diethylene glycol in our case is in doubt, but might be clarified if other cases of contamination of propofol formulations can be demonstrated. Samples will be analysed at no charge.

James D. Shoemaker

Metabolic Screening Lab and Edward A. Doisy
Department of Biochemistry and Molecular
Biology, St Louis University School of
Medicine, St Louis, Missouri, USA

E-mail: shoemajd@slu.edu

Acknowledgements

The author voluntarily discloses an unrelated and disinterested relationship to the development of an alternative formulation of propofol.

References

1. Fodale V, La Monaca E. Propofol infusion syndrome: an overview of a perplexing disease. *Drug Saf* 2008; 31 (4): 293-303
2. US Department of Health and Human Services. Guidance for industry: testing of glycerin for diethylene glycol. Rockville (MD): FDA Center for Drug Evaluation and Research, 2007 May [online]. Available from URL: www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/ucm070347.pdf [Accessed 2009 Oct 22]
3. Shoemaker JD, Lynch RE, Hoffmann JW, et al. Misidentification of propionic acid as ethylene glycol in a case of methylmalonic acidemia. *J Pediatr* 1992; 120 (3): 417-21