IS - 45

Advanced ethanol withdrawal: adjuvants

Robert S. Hoffman
NYU School of Medicine, United States of America

Perhaps the best-known risk factor for the disorders associated with thiamine deficiency (Wernicke 's encephalopathy and Korsakoff's Psychosis) is alcoholism. Despite the legislated fortification of flour with thiamine hydrochloride in many countries, chronic alcohol users remain at risk for thiamine deficiency because of impaired gastrointestinal absorption. While the use of lipid soluble thiamine preparations are attractive in that they retain the ability to be absorbed in the setting of alcohol intake, their unpleasant smell and foul taste have prevented their wide-spread incorporation into common food-stuffs. The epidemiology to thiamine deficiency in alcoholics is poorly defined, but is reported to be 21% in Scotland and 12.5% in the USA.

Animal data suggest that clinical signs and symptoms of thiamine deficiency can begin within 2 weeks of the complete removal of thiamine from the diet. As such, many experts recommend that chronic alcoholic patients be given prophylactic supplementation with parenteral thiamine every week or every other week. The typical dose (although never rigorously studied) is 100 mg given intravenously or given intramuscularly if the patient has no indication for intravenous access. Some authorities recommend higher doses (250 mg) typically in countries where parenteral multivitamin supplements contain 250 mg/dose. Once clinical symptoms are evident, higher doses are recommended, again with no randomized trials to guide therapy. Consensus based recommendations from the British National Formulary and the Royal College of Physicians, British Association for Psychopharmacology, the European Federation of Neurological Societies (EFNS), and the National Institute for Health and Clinical Excellence (NICE) suggest 500 mg intravenously three times daily for 2 to 3 days and 250 mg intravenously daily for the next 3 to 5 days. The recent increase in dose is based on rare reports of patients failing standard therapy and the overall safety and low cost of thiamine supplementation.

The other major adjuvant that deserves discussion in the treatment of alcohol withdrawal is magnesium. The empirical case for magnesium is strong: 1) alcoholics are typically magnesium deficient because of poor intake and excessive losses; 2) magnesium deficiency manifests as tachycardia and tremor which are major manifestations of alcohol withdrawal; 3) magnesium as an NMDA antagonist and as such might supplement the GABA agonism typically used in the treatment of withdrawal. Unfortunately when trialed, there seems to be no benefit to empiric magnesium supplementation. Despite the lack of strong

experimental support, magnesium supplementation is often given when: 1) serum concentrations are low; 2) other electrolyte abnormalities are present; 3) QT prolongation is present; 4) patients are more severely ill than the group included in randomized trials. It is unclear which if any of these practices should be supported and further research is needed.