“Ethanol lock therapy (ELT) has emerged as an effective method for the prevention and treatment of central line-associated bloodstream infections (CLABSIs), but the safety of ELT in infants has not been established” Chhim et al (2015).

Reference:

Chhim, R.F., Crill, C.M., Collier, H.K., Arnold, S.R., Pourcyrous, M., Meibohm, B. and Christensen, M. (2015) Ethanol Lock Therapy: A Pilot Infusion Study in Infants. The Annals of Pharmacotherapy. January 28th. .

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Abstract:

BACKGROUND: Ethanol lock therapy (ELT) has emerged as an effective method for the prevention and treatment of central line-associated bloodstream infections (CLABSIs), but the safety of ELT in infants has not been established.

OBJECTIVE: The objective of this study was to determine blood alcohol concentration (BAC) and evidence of hepatic injury in infants after infusing a small one-time dose of ethanol, equivalent to the volume that would be flushed through the central venous catheter (CVC) after ELT is completed.

METHODS: This was a prospective pilot study in infants weighing ≤6 kg with and without liver dysfunction who had a CVC. The primary end points were 5-minute and 1-hour BACs after a 0.4-mL dose of 70% ethanol was flushed through the CVC. Acceptable BACs were defined as <0.025% at 5 minutes and <0.01% at 1 hour. The secondary end point was evidence of hepatic injury, defined as a change of greater than 2 times the upper limit of normal of any component in the hepatic panel in patients with a normal baseline panel or doubling of any component in the hepatic panel in patients with an abnormal baseline panel (aspartate aminotransferase, alanine transaminase, total or direct bilirubin, gamma-glutamyl transferase, or alkaline phosphatase).

RESULTS: A total of 10 patients were included for analysis, with a mean age and weight of 3.5 ± 2.4 months and 4.5 ± 0.9 kg, respectively. All patients had acceptable BACs and no evidence of hepatic injury. In 8 patients, 5-minute BACs were undetectable; BACs of the

other 2 patients were 0.011%. One-hour BACs in all patients were undetectable.

CONCLUSIONS: Flushing ELT resulted in acceptable BACs and no evidence of hepatic injury in this patient cohort. Further studies are needed to investigate the long-term safety and efficacy of ethanol infusion after ELT in this patient population for the prevention and treatment of CLABSIs.

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