

**864. A Prospective Study of Ethanol Lock Therapy in Children with Central Line-associated Bloodstream Infections**

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**Session:** 111. Device-Associated HAIs

*Friday, October 10, 2014: 12:30 PM*

**Background.** Central venous catheters (CVCs) are commonly used in pediatric patients who need continuous venous access. Central Line-associated Bloodstream Infection (CLABSI) is a serious complication in these children and a cause of catheter replacement. Some recent literature reported the efficacy of ethanol lock therapy (ELT) for children with CLABSI. But most of them were retrospective studies and protocols for ELT including factors such as dwell time and duration were varied. To investigate the most optimal method, we undertook a prospective study of ELT.

**Methods.** Between April 2012 and March 2014, pediatric patients diagnosed with CLABSI at the St. Marianna University Hospital in Kanagawa, Japan were enrolled. All of them were under 20 years of age and used Broviac-type tunneled CVCs. They were

treated with instillation of 70% ethanol lock with a dwell time of 4 hours per day. Duration of ELT was 5 days from blood cultures were confirmed completely negative. Ongoing utilization of CVCs for venous access was permitted. The definition of successful ELT required negative blood cultures taken from all lumens of CVCs within 3 days of ELT being started and no subsequent isolation of the original organism from blood cultures with retention of the CVCs for 30 days.

**Results.** During the observation period, 11 patients were treated for CLABSI with ELT. Their median age was 14.2 years (range: 2-17 years). The organisms that caused CLABSI included *Staphylococcus epidermidis* (n = 5), other coagulase-negative staphylococci (n = 4), *Serratia marcescens* (n = 1), and *Candida parapsilosis* (n = 1). Nine of 11 (82%) patients completed ELT and retained their CVC. Two other patients (18%) failed to complete ELT; one patient was 9-year-old boy who had *C. parapsilosis*. The other patient was a 14-year-old girl who continued culture positive for over 3 days with *S. epidermidis* and her catheter was cracked. There was no significant adverse event with ELT.

**Conclusion.** Our study suggests that ELT is safe and effective in treating CLABSI, avoiding removal of CVC in pediatric patients even with a short dwell time of 4 hours per day, and allowing ongoing utilization for venous access. A limitation of this study is a small sample size, and a larger study is necessary in the future to validate these findings.

**Disclosures.** All authors: No reported disclosures.