

Reduction in catheter related bloodstream infections with weekly dosing of 100% Ethanol Lock Therapy in chronic home parenteral nutrition.

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Background:

Catheter related bloodstream infection (CRBSI) is a serious complication associated with home parenteral nutrition (HPN). Ethanol lock therapy (ELT) in various strengths and frequencies has been reported as a successful strategy to reduce the incidence of CRBSI in HPN patients.

Objective:

The aim of this study was to determine incidence of CRBSI before and after initiation of weekly dosing of 100% ELT in a group of frequently infected HPN patients.

Methods:

The records of all patients on chronic HPN from one home care provider were reviewed for the past five years to determine if they had received ELT. To qualify, patients needed to have at least two CRBSI in a three month period. Those who qualified instilled 2 – 3 ml of 100% sterile ethanol into each lumen of their indwelling catheter weekly. The ethanol dwelled 2 – 4 hours and then was flushed with saline. Primary outcome was a comparison of the incidence of CRBSI before (baseline=1 year) and after initiation of ELT (study period = after ELT started to 8/30/08). Only patients with three months or more of CRBSI data on ELT were included. CRBSI data was normalized by n/1,000 catheter days. Statistics were done using paired T with $p < 0.05$ being considered significant.

Results:

There were 27 patients who qualified. Their age was 44.7 ± 19.2 years and 19(70%) were female. The duration of CRBSI data collection for baseline by protocol was 1 year prior to start of ELT. For the study period, the mean duration of ELT use was 1.9 ± 1.2 years. In the baseline period, CRBSI was $9.74 \pm 8.2/1,000$ catheter days compared with $2.15 \pm 3.1/1,000$ catheter days in the study period ($p < 0.0001$). No adverse effects were reported.

Conclusions:

There was a nearly five fold decrease in incidence of CRBSI and no adverse effects during the ELT study period in this cohort of HPN patients. Additional measures to decrease incidence of infection were not reported but may have also contributed to the results. In this study, weekly dosing of 100% ELT demonstrates efficacy as a prophylactic measure for reducing the incidence of CRBSI in an HPN population. Further studies are warranted.