Impact of Albumin Dose Standardization in Large Volume Paracentesis

Kathleen Olsen, Pharm.D., Thi-Thi Nguyen, Pharm.D., BCPS, AAHIVP, Megan Troutman, Pharm.D., BCPP
Ascension Via Christi Hospitals Wichita, Inc., Wichita, Kansas

Received Apr. 18, 2025; Accepted for publication Apr. 18, 2025; Published online Apr. 21, 2025
https://doi.org/10.17161/kjm.vol18.23857

Introduction. To prevent paracentesis induced circulatory dysfunction, the American Association for the Study of Liver Disease recommends dosing albumin at 6-8 g/L of fluid removed after large volume paracentesis (LVP). In response to the albumin shortage in 2022, an albumin standardization protocol was implemented based on a study by Anderson et al., which was not associated with worse outcomes.

Methods. This IRB approved retrospective single center study included data from adult patients admitted at Ascension Via Christi Hospitals Wichita, Inc. who received albumin after LVP from 1/1/2021 to 4/30/2022 (PRE-AS) and 1/1/2023 to 4/30/2024 (POST-AS), respectively. Select exclusion criteria included Scr >1.5 mg/dL and bilirubin ≥5 mg/dL with INR ≥1.5. The primary outcome was albumin dose in grams. Select secondary outcomes included acute kidney injury and hyponatremia. To meet a power of 80%, and alpha of 0.05, a sample size of 100 patients was needed. Chi-squared test or Fischer's exact test was applied for discrete data, as appropriate. Student's t-test or Mann-Whitney U test was applied for continuous data, as appropriate.

Results. Due to stringent exclusion criteria, only 35 patients were evaluated (PRE-AS, N = 14; POST-AS, N = 21). Neither primary outcome (p = 0.802) nor secondary outcomes reached statistical significance.

Conclusions. Although underpowered, a statistically significant difference in albumin dose utilization was not observed. Future sufficiently powered studies should evaluate the non-inferiority of an albumin standardization protocol on the incidence of acute kidney injury and hyponatremia.