

Retrospective case review of respiratory outcome from use of Hyper-oncotic Intravenous Albumin in patients with Acute Congestive Heart Failure

Introduction

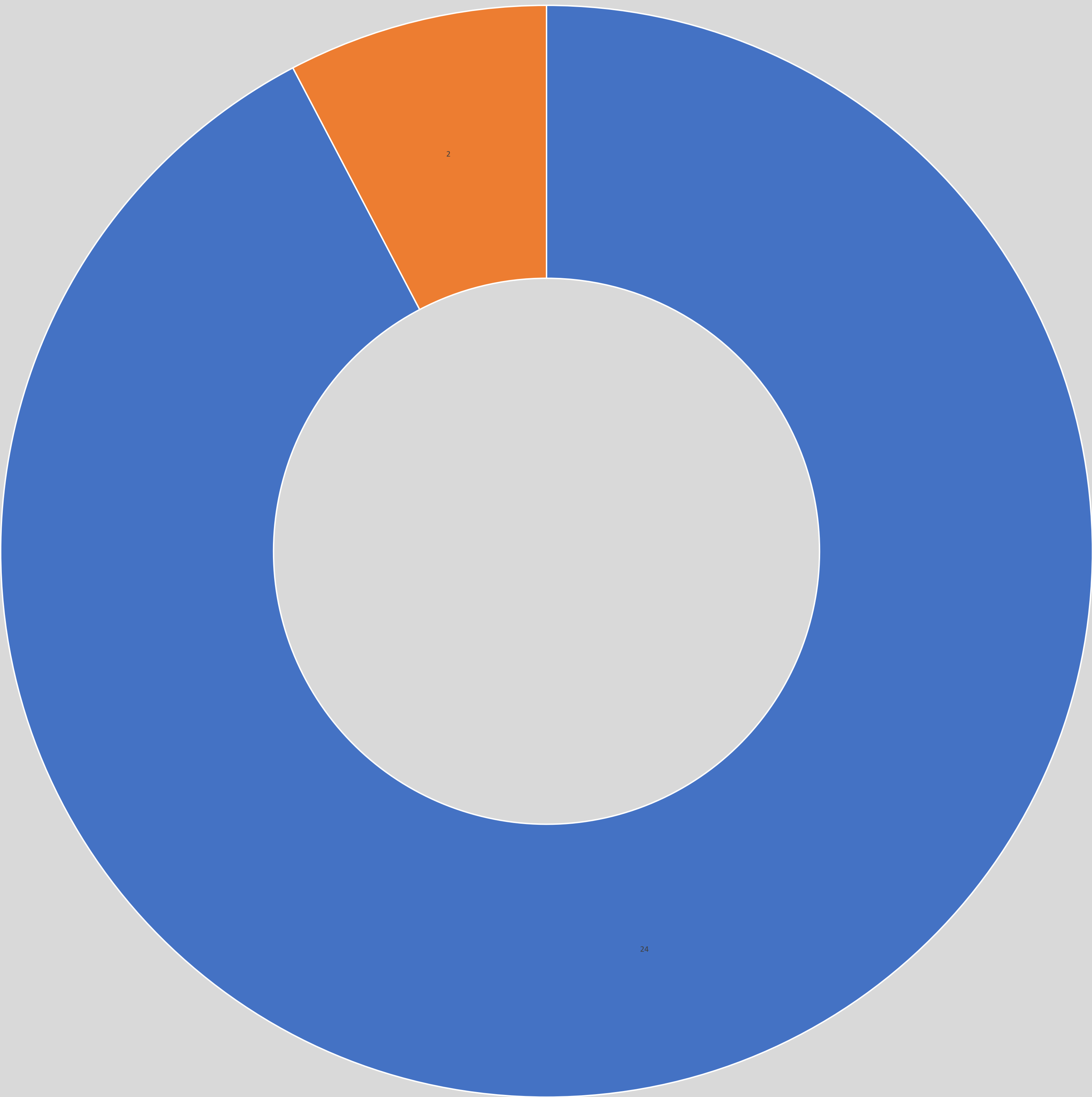
- Hyper oncotic Intravenous Albumin is sometimes used in patient with Acute Congestive heart failure in the setting of impaired renal function or to improve diuresis.
- Studies have shown that with IV albumin administration, there is improved diuresis with diuretics, improved outcome in hypoalbuminemic patients with acute lung injury. There are well established guidelines for use of albumin in patient with cirrhosis with improved outcome. (1,2,3)
- There is paucity of data on use of albumin on patients with Acute congestive heart failure.
- Research Question: Is there a change in respiratory status in patients hospitalized with Acute Congestive Heart Failure who received IV albumin 25%, measured in terms of change in supplemental oxygen requirement and/or change in Chest Xray findings ?-

Method

- Retrospective chart review of patients admitted to a hospital between 1/1/2022 and 31/12/2022 with primary diagnosis of Acute Congestive Heart Failure who received Intravenous 25% Albumin and followed their immediate respiratory outcome in terms of change in supplemental Oxygen requirement and/or Chest Xray findings as the primary outcome measures.
- We excluded patient with cirrhosis of liver, patient received inotropes, LVAD, continuous pulmonary artery catheterization, received albumin during hemodialysis or intermittent dosing at least 48 hours apart.
- 43 patient selected with EPIC Slicer-dicer with given inclusion and exclusion criteria
- 17 were further excluded after chart review and met exclusion criteria
- 26 patients met inclusion criteria and their chart were reviewed

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24 Patients had unchanged Oxygen requirement
2 Patients had increased Oxygen requirement



Results

- Out of 26 patients, that met the inclusion and exclusion criteria, 2 (7.79%) patients had increased oxygen requirement while remaining 24 (92.30%) did not. Only one patient had a repeat Cxray documented within 72 of albumin administration completion and did show some worsening of Chest Xray finding of CHF but oxygen requirement was stable.

Discussion

- In our study, only 2 patients (7.79%) had change in Oxygen requirement with use of IV 25% Albumin.
- Majority of patient (92.3%) that received IV albumin in this retrospective chart review did not have any change in oxygen requirement.
- Limitation of this study includes retrospective chart review design and other variables like adequate diuresis and patient's intravascular fluid status with cardiac preload status were not considered.
- Adequate diuresis can diminish the effect of intravascular fluid increase in response intravenous hyper oncotic Albumin.
- Albumin itself could improve diuretic response (1) to diuretics agents.
- If patient receives IV albumin after aggressive diuresis where preload had diminished, IV albumin could potentially improve diuresis of extravascular fluid volume.
- Further study can help guide use of IV albumin in patients with Acute Congestive Heart Failure.

References

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3. *Biggins, S.W., et al., Diagnosis, Evaluation, and Management of Ascites, Spontaneous Bacterial Peritonitis and Hepatorenal Syndrome: 2021 Practice Guidance by the American Association for the Study of Liver Diseases. Hepatology, 2021. 74(2): p. 1014-1048.*