

Effect of Albumin Administration on Acute Kidney Injury after Paracentesis in Hospitalized

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Therapeutic paracentesis is a common procedure performed to relieve symptoms of ascites due to a variety of diseases including cirrhosis, heart failure and malignancy. In some patients, paracentesis is associated with acute kidney injury due to decreased systemic vascular resistance after fluid removal and compensatory activation of the renin-angiotensin-aldosterone system. It is unknown whether a history of chronic kidney disease predisposes to acute kidney injury after paracentesis. The American Association for the Study of Liver diseases recommends that albumin be administered for all patients receiving >5L of fluid removal, though the evidence supporting this practice is lacking. Experience from our institution has shown that occasionally patients with chronic kidney disease can quickly progress to requiring dialysis shortly after therapeutic paracentesis, even if volumes <5L are removed. We have reviewed over 1100 bedside paracentesis procedures performed by the UPMC Medicine Procedures team from June 2016 through June 2020 to determine 1) whether history of chronic kidney disease predisposes to acute kidney injury after paracentesis and 2) whether albumin is protective against acute kidney injury after paracentesis in patients with chronic kidney disease. Multivariate logistic regression will be used to determine whether covariates such as age, gender, race/ethnicity, etiology of ascites, MELD-Na score and pre-procedure serum albumin affect acute kidney injury. Our results may have practice-changing implications to support more aggressive use of albumin in patients with chronic kidney disease receiving paracentesis with volumes <5L removed. Alternatively, if albumin is not found to be protective against acute kidney injury after paracentesis in patients with chronic kidney disease, our data may indicate this costly resource may best be conserved for other uses. In either case, this rich data set will inform the practice of bedside paracentesis in hospitalized patients, many of whom have chronic kidney disease and may be at risk for development of acute kidney injury after paracentesis.