

POTENTIALLY AVOIDABLE FLUID OVERLOAD TREATMENT IN HEMODIALYSIS PATIENTS

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Fluid overload (FO) is a common complication in Hemodialysis (HD) patients. Emergency treatment for FO can be expensive, and some of these episodes of treatments could be potentially avoidable. Patterns of emergency treatment for FO have received little study. We developed a claims-based definition of potentially avoidable FO treatment to describe the frequency and cost of these treatments in the inpatient, emergency department (ED), and hospital outpatient observation settings, using the Medicare End-Stage Renal Disease database.

The study population included Medicare patients receiving HD on January 1, 2004, excluding those who died, changed to peritoneal dialysis (PD), underwent kidney transplant, lost Medicare primary payer status, recovered renal function or were lost-to-follow up in the first 6 months of 2004. Patients were followed from July 1, 2004 to the earliest date of death, change to PD, transplant, payer change, lost-to-follow-up, recovery of renal function or the end of 2006. A potentially avoidable FO treatment episode was defined as follows: inpatient, hospital observation, or ED stay with principal diagnosis code for FO, heart failure, or pulmonary edema; HD done on day of admission or following day; length of stay ≤ 3 days; no vascular access procedures or complications; no cardiovascular procedures or AMI diagnosis; not a surgical DRG.

Among the 176,790 patient study population, 17,457 (10%) experienced at least one potentially avoidable FO episode, with an event rate of 0.79 per patient year. Most (78%) of the episodes were treated in the inpatient setting. Average cost per treatment episode was \$5657 with notably higher costs for patients treated in the inpatient setting (\$6826). The total FO-related Medicare cost was about \$150 million in the two and half years follow up period.

FO episodes requiring emergent treatment are relatively common and quite expensive. We believe the definition used for potentially avoidable FO treatment episodes is conservative. Additional analysis could identify associations between FO treatment episodes and patient characteristics and may suggest actions to prevent them.