

Category : **Renal: failure**

**A95 - Persistent severe acute kidney injury (ps-aki) is associated with higher health resource utilization (hru) and costs**

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### **Introduction:**

We aimed to compare HRU and costs for patients with persistent severe AKI (PS-AKI) to those for patients with non-persistent severe AKI (NPS-AKI).

### **Methods:**

We conducted a retrospective observational study of hospitalized US adults using the Premier Healthcare Database from January 1, 2017 to December 31, 2019, with 30-day (d) follow-up for outcomes and 12-month look-back period (LBP) for baseline serum creatine (SCr) level and comorbidities, including the Charlson Comorbidity Index (CCI). “Index” admission was the first during the study period that met inclusion criteria (age  $\geq 18$  yr, hospital length of stay (LOS)  $\geq 3$ d with  $\geq 3$  SCr measures, and KDIGO stage 2 or 3 AKI [SCr criteria] and exclusion criteria ( $\geq 2$  dialysis visits during LBP; or ECMO, stage 5 CKD, eGFR  $< 15$  mL/min/1.73m<sup>2</sup>, baseline SCr  $\geq 4.0$  mg/dl, or renal transplant during index hospitalization or LBP). PS-AKI was defined as 1) AKI stage 3 lasting  $\geq 3$ d or with death within 3d, without intervening lower AKI stage, or 2) AKI stage 2/3 with dialysis within 3d. A second definition, PS-AKI by SCr only (PS-AKI<sub>SCrO</sub>), excluded PS-AKI defined by dialysis or death. Regression models adjusted for age, sex, race-ethnicity, CCI, hospital characteristics (number of beds, teaching status, region, urban/rural), admission type and point of origin, medical vs surgical MS-DRG, primary payer, presence of CKD or sepsis, and ICU stay.

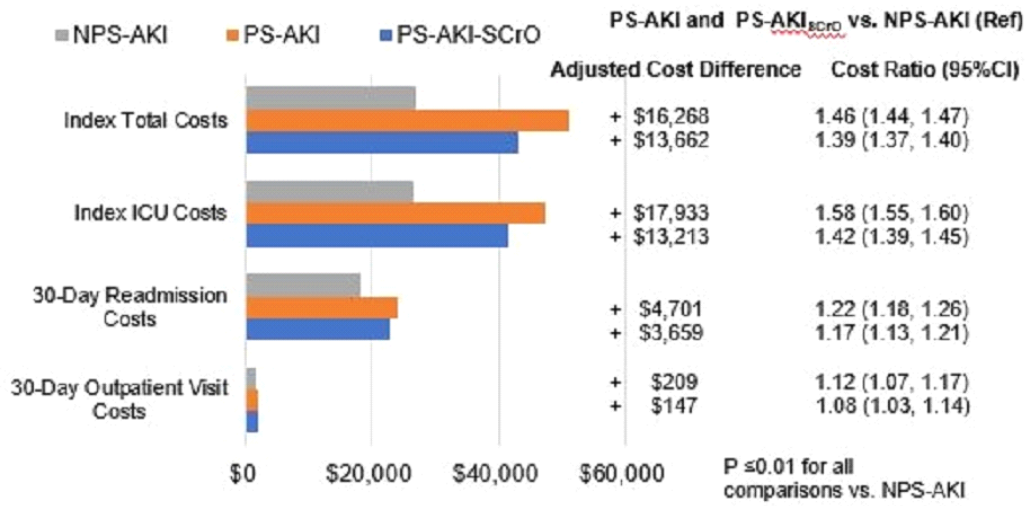
### **Results:**

Of 126,528 AKI stage 2/3 patients, 75.6% had NPS-AKI, 24.4% had PS-AKI and 15.3% had PS-AKI<sub>SCrO</sub>. Compared to NPS-AKI, PS-AKI<sub>SCrO</sub> had  $\geq 38\%$  longer mean index LOS (4.8d) and ICU LOS (2.8d), and 11% longer readmission LOS (1.0d). PS-AKI<sub>SCrO</sub> also had  $\geq 39\%$  higher index and ICU costs, 17% higher readmission costs and 8% higher outpatient costs over 30 days (Figure). Results were similar or greater for PS-AKI.  $P < 0.01$  for all comparisons (PS-AKI and PS-AKI<sub>SCrO</sub> vs NPS-AKI) in adjusted models.

### **Conclusion:**

Persistent severe AKI is independently associated with longer LOS and higher costs during index hospitalization and 30-day follow-up.

**Image :**



*Unadjusted mean costs, adjusted mean difference and ratio (95%CI) for PS-AKI and PS-AKISCrO vs. NPS-AKI (ref)*