Overview of Study Design

Study Population

Inclusion Criteria

- Acute renal failure clinically consistent with a diagnosis of ATN defined as
  - clinical setting of acute ischemic or nephrotoxic injury
    and
  - oliguria (average urine output < 20 mL/hr) for > 24 hours; or an increase in serum creatinine of ≥2.0 mg/dL (≥1.5 mg/dL in females) over a period of ≤ 4 days
- Plan for renal replacement therapy by clinical team
- Receiving care in a critical care unit
- One non-renal organ failure (SOFA organ system score ≥ 2) or sepsis
- Age ≥ 18 years
- Patient/surrogate willing to provide informed consent

Exclusion Criteria

- Premorbid serum creatinine > 2 mg/dL (> 1.5 mg/dL in females)
- Acute renal failure clinically believed to be due to an etiology other than ATN
- More than 72 hours since meeting both of the following:
  -fulfillment of definition of ARF
  -BUN > 100 mg/dL
- > 1 hemodialysis treatment or > 24 hours of CRRT
- Prior kidney transplant
- Pregnancy
- Prisoner
- Weight > 128.5 kg
- Non-candidacy for renal replacement therapy
- Moribund state
- Patient not expected to survive 28-days because of an irreversible chronic medical condition
- Comfort-measures only status
- Participation in a concurrent interventional study
- Patient/surrogate refusal
- Physician refusal

Randomization

- 1:1 randomization to treatment arms
- Stratification of randomization by:
  - site
  - oliguria
  - SOFA cardiovascular score (0-2 vs 3-4)

Sample Size

- 582 patients per group

Study Sites

- 18 VA Sites (9 patients/year)
- 9 Non-VA sites (28 patients per year)

Study Duration

- 3-years enrollment
- 60 days maximum primary follow-up

Overview of Study Design (continued)