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## QUALITY OF CARE AND OUTCOMES ASSESSMENT

**REDUCING MEDICATION ERRORS IN DIALYSIS PATIENTS WITH ACUTE CORONARY SYNDROME USING COMPUTER-ASSISTED DECISION SUPPORT**

ACC Oral Contributions

Ernest N. Morial Convention Center, Room 238

Tuesday, April 05, 2011, 9:00 a.m.-9:15 a.m.

Session Title: Quality and Outcomes of Cardiovascular Care

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**Background:** Medication errors are implicated in > 100,000 deaths annually, and dialysis patients are at increased risk of medication-related adverse events (AEs). In the setting of an acute coronary syndrome (ACS) and/or percutaneous intervention, 22% of dialysis patients have been reported to receive contraindicated antithrombotic medication, which has been associated with an increased risk of AEs. Computer-assisted decision support (CADS) is a tool that can improve quality of care and is well suited for complex algorithms governing treatment decisions typically encountered in ACS. We sought to evaluate the impact of CADS in ACS patients with reduced renal function highlighting the frequency of medication errors and AEs, especially in-hospital bleeding events.

**Methods:** 80 consecutive ACS patients (mean age 70±14 years) who required renal dialysis in 2009-2010 were evaluated (unstable angina 29%, NSTEMI 61%, STEMI 10%). Physicians had the option of using either pre-printed guideline-based ACS orders (standard orders) versus CADS-generated orders utilizing patient clinical data including risk scoring, to suggest specific therapeutics and drug dosing based on consensus guidelines and creatinine clearance.

**Results:** The 33 patients admitted using CADS-generated orders were statistically similar (age, gender, ACS diagnosis, TIMI risk) to the 47 patients admitted with the standard order set. The frequency of receiving a contraindicated antithrombotic medication was 17% using the standard orders and 0% using CADS-generated orders ( $p<0.02$ ). Frequency of in-hospital TIMI bleeding was 63% in patients receiving a contraindicated antithrombotic medication versus 10% who did not ( $p<0.001$ ).

**Conclusions:** AEs are frequently encountered in ACS patients who require dialysis. Use of CADS in the setting of ACS is feasible in a busy clinical practice, and reduces medication errors and AEs, particularly TIMI bleeds, in patients who require dialysis. Greater attention is needed towards safeguarding this growing population from medication related events.