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URIC ACID AND HEMOGLOBIN LEVEL: NOVEL RISK PREDICTORS OF ACUTE KIDNEY INJURY IN PATIENT UNDERGOING PERCUTANEOUS CORONARY INTERVENTION WITH DRUG-ELUTING STENTS

ACC Poster Contributions
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Session Title: Risk Reduction and Rehabilitation: Assessment Measures
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Authors: *SangHo Park, Seung-Woon Rha, Seung-Jin Lee, Won-Yong Shin, Dong-Kyu Jin, Ji Young Park, Byoung Geol Choi, Kanhaiya L. Poddar, Meera Kumari, Yun Kyung Kim, Cheol Ung Choi, Hong Euy Lim, Jin Won Kim, Chang Gyu Park, Hong Seog Seo, Dong Joo Oh, Cardiology Department, Soonchunhyang university cheonan hospital, Cheonan, South Korea, Cardiovascular Center, Korea University Guro Hospital, Seoul, South Korea*

Background: The occurrence of acute kidney injury in patients (pts) undergoing percutaneous coronary intervention (PCI) has been known to be associated with the multiple risk factors. However, There is very little information about the relationship among hyperuricemia, hemoglobin (Hb) level, and AKI.

Methods: The study population consisted of 1247 consecutive patients (pts) underwent PCI with DESs enrolled from 2007 to 2009. AKI was defined as an increase in serum creatinine of ≥0.5 mg/dl or ≥50% over baseline within 7 days of PCI. Also, we defined hyperuricmeia as a serum uric acid concentration of ≥7 mg/dl for males and of ≥6.5 mg/dl for females. We subdivided the pts into 4 groups of Hb level: <8.0, 8-10, 10-13, and >13 mg/dl. We examined clinical, laboratory, procedual characteristics.

Results: 51 (4.1%) experienced AKI after PCI, 15 of whom required hemodialysis. Univariate variables associated with AKI were age, baseline eGFR, baseline creatinine and BUN, DM, AMI, dose of contrast media, hemoglobin, hematocrit, hyperuricemia, uric acid, fasting blood glucose, HbA1c, hsCRP, hypoalbuminemia, LVEF and multivessel involvement. Multivariate analysis showed that the significant predictors of AKI after PCI were a baseline eGFR of <60ml/min/1.73m2, AMI, DM, hyperuricemia, amount of contrast media and hemoglobin level. (table)

Conclusions: We found that hyperuricemia and Hb level were independently associated with predictors of AKI in patients with coronary artery disease treated with PCI.

Table . Independent predictors associated with AKI by multivariate analysis

	P value*	OR	95.0% CI
Contrast amount (per 1ml)	0.045	1.003	1.000 - 1.005
Diabetes mellitus	0.021	3.665	1.217 - 11.035
Acute Myocardial infarction	0.024	3.062	1.155 - 8.112
eGFR < 60ml/min/1.73m^2	<0.001	5.743	1.749 - 18.857
Hyperuricemia	<0.001	4.739	1.961 - 11.449
Hb level (g/dl)			
Hb 10 -13 group	0.067	2.097	0.949- 4.634
Hb 8 -10 group	0.294	1.931	0.564 – 6.909
Hb < 8 group	0.003	30.222	3.185 – 286.801