S-E7

# 조영제 유발성 신병증 발생을 예측하는데 있어 심장초음파로 측정한 심실 확장 기능 지표 E/E'의 역할

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# Diastolic Dysfunction Increase the Risk of Contrast Induced Nephropathy

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**Backgrounds:** Contrast induced nephropathy (CIN) is the 3rd leading cause of hospital acquired acute kidney injury and is associated with poor long term clinical outcomes. While many risk factors for CIN have been identified, only few studies have evaluated the correlation between CIN and echocardiographic parameters. Therefore, the aim of this study is whether the diastolic dysfunction is associated with CIN.

**Methods:** We collected and analyzed 735 patients who underwent percutaneous transluminal coronary angiography (PTCA) and performed echocardiography within 3 months at Severance Cardiovascular Hospital in Seoul, Korea from Jan 2008 to Dec 2010, retrospectively. CIN was defined as increase of ≥0.5 mg/dL or ≥25% in serum creatinine level within 72 hours after procedure.

**Results:** When we divided the patients into three groups based on the E/E', CIN was more developed in the highest E/E' (>15) group (21.6% vs. 4.0%, 4.3%, p<0.001). Moreover, diabetes mellitus (DM), hypertension, 3 vessel disease, and intra-aortic balloon pump use were associated with the development of CIN significantly. Multivariate binary logistic regression analysis revealed body mass index, DM, eGFR ≤60ml/min, high seinsitivity C-reactive protein, and E/E' (odds ratio 1.06, 95% confidence interval 1.003-1.113, p=0.037) as independent risk factors for CIN. In subgroup analysis based on DM and eGFR of 60 ml/min, CIN incidence was significantly related to diastolic dysfunction, except for group with GFR >60ml/min. Higher E/E' and development of CIN are probably associated with all cause mortality.

**Conclusions:** Echocardiographic parameter, E/E' may be an independent predictor for the development of CIN. We suggest that the caution will be needed when the patients with higher E/E' are required with angiography.

**Key Words:** 심장초음파, E/E', 조영제 유발성 신병증
Echocardiography, E/E', Contrast induced nephropathy