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# 신기능이 정상인 한국인에서 혈청 인 수치가 관상동맥 석회화에 미치는 영향

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# Effects of Serum Phosphorus within Normal Range on Coronary Calcification in Koreans with Normal Renal Function

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**Background & Aims:** Serum phosphorus levels are associated with increased risks of cardiovascular disease (CVD) and mortality in patients with chronic kidney disease (CKD). This association has also been reported in Western individuals without CKD. It is unclear, however, whether this correlation occurs present in Korean individuals without CKD, who usually ingest less phosphorus than Western individuals.

**Methods:** We reviewed findings in 402 healthy Korean adults (age 50.8±8.5 years, M:F=257:145, GFR 83.5±14.1 ml/min) who underwent electron-beam computed tomography (EBCT) during routine checkup. The study population was separated into two groups by their coronary calcium concentration, Agatston score 100. Mean serum phosphorus concentrations, measured at least 10 years prior to EBCT, were compared.

**Results:** Multivariate analysis showed that age ($p<0.001$), hypertension ($p=0.007$), smoking ($p=0.008$), family history of CVD ($p=0.032$) and serum phosphorus concentrations ($p=0.003$) were significant factors influencing the coronary calcification group with Agatston score >100. Compared with serum phosphorus ≤ 3.1 mg/dL, the odds ratio of Agatston score >100 in individuals with serum phosphorus >3.6 mg/dL was 5.75 (1.78-18.51, $p=0.003$).

**Conclusions:** Higher serum phosphorus concentrations, even within the normal range, may be associated with the degree of coronary artery calcification in Koreans with normal renal function.

**Key Words:** 관상동맥 석회화, 인, 만성 신질환
Coronary calcification, Phosphorus, Chronic kidney disease