

## 혈액투석환자에서 단순 방사선 촬영상 혈관 석회화 점수와 적혈구막 단순 불포화 지방산과의 연관성

동아대학교 의과대학 내과학교실<sup>1</sup>, 동아대학교 의과대학 생리학교실<sup>2</sup>  
동아대학교 의과대학 병리학교실<sup>3</sup>, 한양대학교 생활과학대학 식품영양학과<sup>4</sup>

안원석<sup>1</sup> · 손영기<sup>1</sup> · 김성은<sup>1</sup> · 김기현<sup>1</sup> · 배혜란<sup>2</sup> · 나서희<sup>3</sup> · 박용순<sup>4</sup>

### Association between Vascular Calcification Scores on Plain Radiographs and Monounsaturated Fatty Acid Contents of Erythrocyte Membrane in Hemodialysis Patients

Won Suk An<sup>1</sup>, Young Ki Son<sup>1</sup>, Seong-Eun Kim<sup>1</sup>, Ki-Hyun Kim<sup>1</sup>  
Hae-Rahn Bae<sup>2</sup>, Seo-Hee Rha<sup>3</sup>, Yongssoon Park<sup>4</sup>

Department of Internal Medicine<sup>1</sup> DONG-A University

Department of Physiology<sup>2</sup> DONG-A University

Department of Pathology<sup>3</sup> DONG-A University

Department of Food and Nutrition<sup>4</sup> Hanyang University

**Purpose :** Vascular calcification (VC) scores on simple plain radiographic films are known to be associated with coronary artery disease (CAD) and mortality. The erythrocyte membrane omega-3 fatty acids (FAs) contents was shown to be a significant and independent discriminator of CAD. And omega-3 FAs has been shown to reduce ectopic calcification in an animal model. The present study was designed to demonstrate a correlation between VC scores on plain radiographs and FA contents of erythrocyte in hemodialysis (HD) patients.

**Methods :** We recruited 31 HD patients from Dong-A University Dialysis Center. We checked the plain radiographic films of the feet, hands, pelvis, and lateral lumbar spine and evaluated VC scores with previously reported methods. Erythrocyte membrane FA contents were measured by gas chromatography. We defined significant VC as any one finding among the abdominal aortic calcifications (AACs) scores >5, VC scores of the pelvis and hands >3 or arterial media calcifications of the feet on plain radiographs.

**Results :** Positive associations were found between the VC scores of the feet, VC scores of the hands and pelvis, VC scores of AACs, and CAD. Positive associations were found between the VC scores of the feet, VC scores of the hands and pelvis, VC scores of AACs, and erythrocyte membrane monounsaturated FA contents. Patients with significant VC had higher erythrocyte membrane monounsaturated FA and oleic acid compared to patients without significant VC. Negative associations were found between erythrocyte membrane monounsaturated FA contents, oleic acid and high density lipoprotein cholesterol.

**Conclusion :** Erythrocyte membrane monounsaturated FA and oleic acid is related with VC scores on plain radiographs. Further study will be needed to elucidate the effect of erythrocyte membrane FA contents on VC on plain radiographs.

**Key Words :** 혈액투석, 혈관석회화, 지방산

Hemodialysis, Vascular calcification, Fatty acid