P-183

안지오텐신 수용체 차단제에 의한 고칼륨혈증 발생 예측 시 말기 간질환 모델 점수의 유용성

아주대학교 의과대학 신장내과학교실[1], 아주대학교 의과대학 호흡기내과 및 중환자치료학교실[2]
아주대학교 의과대학 의용정보학교실[3]

신승수[2], 박래웅[3], 윤덕용[3], 신규태[1], 김흥수[1], 박인휘[1]

The Model for End-Stage Liver Disease Score is a Useful Measure to Predict the Occurrence of Hyperkalemia among Angiotensin Receptor Blocker Users in the Hospitalized Patients

Seung Soo Sheen[2], Rae Woong Park[3], Dukyong Yoon[3], Gyu-Tae Shin[1], Heungsoo Kim[1], In-Whee Park[1]

Department of Nephrology[1], Ajou University School of Medicine
Department of Pulmonary and Critical Care Medicine[2], Ajou University School of Medicine
Department of Biomedical Informatics[3], Ajou University School of Medicine

What is known and objective: Angiotensin receptor blockers (ARBs) are medications commonly used for treating conditions such as hypertension. However, ARBs are frequently associated with hyperkalemia, a potentially critical adverse event, in high-risk patients. Although both the liver and the kidney are major elimination routes of ARBs, the relationship between hepatorenal function and ARB-related hyperkalemia has not yet been investigated. The purpose of this study was to evaluate the risk of hyperkalemia, in terms of various hepatorenal functions, for hospitalized patients newly initiated on ARB treatment.

Methods: We evaluated ARB-related hyperkalemia in a cohort of 5530 hospitalized patients, who had not previously used ARBs, between April 12, 2004 and May 31, 2012. Hepatorenal function was assessed by the Model for End-Stage Liver Disease (MELD) score. Hyperkalemia risk was assessed by hepatorenal function, risks were categorized into the four MELD scoring groups, and the groups were compared with one another.

Results and discussion: The MELD score was significantly different between the hyperkalemic and non-hyperkalemic groups (independent t-test, $p<0.001$). The MELD score 10-14, 15-19, and ≥20 groups showed higher risks of hyperkalemia than the lowest MELD score group (log-rank test, $p<0.001$; multiple Cox proportional hazard model, HR 1.478 ($p=0.003$), 2.285 ($p<0.001$), and 3.024 ($p<0.001$), respectively).

What is new and conclusion: The MELD score showed a stronger predictive performance for hyperkalemia than either serum creatinine or estimated glomerular filtration rate alone. Furthermore, the MELD score showed good predictive performance for ARB-related hyperkalemia among hospitalized patients. The clinical implications and reasons for these findings merit future investigation.

Key Words: 약물 부작용, 안지오텐신 수용체 차단제, 고칼륨혈증
Adverse drug effect, Angiotensin receptor blocker, Hyperkalemia