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크레메진이 만성 콩팥병 진행에 미치는 영향

국립중앙의료원 내과[1], 연세대학교 의과대학 내과학교실[2], 고려대학교 안산병원 내과학교실[3]
가천의과대학교 길병원 내과학교실[4], 가톨릭대학교 의정부성모병원 내과학교실[5], 보라매병원 내과학교실[6]
인제대학교 일산백병원 내과학교실[7], 가톨릭대학교 서울성모병원 내과학교실[8], 분당서울대학교병원 내과학교실[9]
한림대학교 평촌성심병원 내과학교실[10], 건국대학교병원 내과학교실[11], 서울대학교병원 내과학교실[12]

차란희[1], 강신욱[2], 차대룡[3], 장재현[4], 윤선애[5], 임춘수[6], 한상엽[7]
박철휘[8], 나기영[9], 김성균[10], 박정환[11], 김연수[12]

The Effect of AST-120 (Kremezin®) on the Progression of Chronic Kidney Disease in Korea

Ran-hui Cha[1], Shin Wook Kang[2], Dae Ryong Cha[3], Jae Hyun Chang[4], Sun Ae Yoon[5], Chun Soo Lim[6]
Sang Yeop Han[7], Cheol-whee Park[8], Ki Young Na[9], Sung Gyun Kim[10], Jung Hwan Park[11], Yon Su Kim[12]

Department of Internal Medicine[1], National Medical Center
Department of Internal Medicine[2], Yonsei Medical School Severance Hospital
Department of Internal Medicine[3], Korea University Ansan Medical Center
Department of Internal Medicine[4], Gachon University Gil Hospital
Department of Internal Medicine[5], St. Mary's Hospital, EuijungBu
Department of Internal Medicine[6], Seoul National University Boramae Hospital
Department of Internal Medicine[7], Inje University Ilsan Hospital
Department of Internal Medicine[8], St. Mary's Hospital, Seoul
Department of Internal Medicine[9], SNUH Bundang Hospital
Department of Internal Medicine[10], Hallym University Pyoung Chon Hospital
Department of Internal Medicine[11], Konkuk University Hospital
Department of Internal Medicine[12], Seoul National University Hospital

Background: AST-120 is an oral adsorbent excreting uremic toxins including indoxyl sulfate into feces. And AST-120 was effective in reducing the renal function decline and proteinuria as well as in improving the pathologic changes of renal diseases. However, AST-120 did not prove the capability to delay the initiation of renal replacement therapy in chronic kidney disease (CKD) patients. We aimed to find the long-term effect of AST-120 on the renal progression (doubling of SCr, creatinine clearance (CCr) decrease more than 50%, or initiation of renal replacement therapy) in patients with moderate to severe CKD.
Methods: We prospectively recruited 579 patients (CKD stage 3 and 4) from 11 medical centers in Korea and randomized them into AST-120 and control arm through the mixed block randomization as well as being stratified according to both the gender and the cause of CKD. A total of 6 gram of AST-120 in 3 divided doses was given to participants in AST-120 arm as well as standard conventional treatment. They were followed up every 3 months up to 36 months.
Results: A total of 465 patients were evaluated. Medication compliance of AST-120 was 89.9±11.82% (median 93.9%). Mean SCr and estimated CCr level was 2.81±0.666 mg/dl and 26.79±7.263 ml/min/1.73m^2, respectively. There was no significant difference in the occurrence of composite primary outcomes between two treatment arms (Log-rank p=0.330). Diabetic nephropathy and renal dysfunction were risk factors for the occurrence of primary outcomes and both additively affected (Log-rank p<0.001). The velocity of estimated CCr decline was less in AST-120 arm and this was especially profound in patients with diabetic nephropathy. The slope of 1/SCr significantly decreased in both two treatment arms and the value of AST-120 arm was less than that of control arm (p<0.05). Urinary protein excretion rate was decreased from 2.04±1.980 g/g Cr to 1.79±2.023 g/g Cr in control arm and from 1.97±2.053 g/g Cr to 1.234±1.198 g/g Cr in AST-120 arm (p<0.05).
Conclusions: AST-120 slowed the renal function decline although it did not affect on the occurrence of primary outcome. Longer period of observation of the participants with or without AST-120 is needed.

Key Words: 만성콩팥병, 크레메진, 효과
Chronic kidney disease, Kremezin, Effect