

접근 혈관의 반복적 협착이 혈액 투석 환자의 심혈관 질환 발생에 미치는 영향

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Recurrent Vascular Access Stenosis as a Novel Marker for Cardiovascular Outcome in Incident Hemodialysis Patients

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Objective: Vascular access is essential component and its stenosis is a major complication in hemodialysis (HD) patients. Nevertheless, there are few data for outcomes of patients who had recurrent vascular access stenosis. We have explored the influence of recurrent vascular access stenosis on patient death, cardiovascular (CV) event, and vascular access failure.

Methods: This is a single-center, retrospective study. Patients who had vascular access operation at Seoul National University Hospital between January 2009 and March 2014 were enrolled. Patients who had two or more instances of percutaneous angioplasty or revision operation within 180 days were categorized recurrent group. Death and composite CV outcomes, as coronary artery, heart failure, cerebrovascular, and peripheral vascular events, were investigated.

Results: A total of 770 patients (59.5% male, age 59.6±14.3 years) were analyzed. Recurrent group patients (n=79; 10.2%) were older and had higher arteriovenous graft (AVG) rate and higher pre-intervention rate before first using arteriovenous fistula (AVF) or AVG. Mean follow-up duration was 30.3±16.6 months. Time-to-the first post-intervention was shorter in recurrent group (7.4±0.9 vs. 11.8±0.8 months; p<0.001). During follow-up, 29 patients (3.8%) experienced vascular access failure, 16 patients (8.6%) died, and 141 patients (18.3%) had composite CV outcomes. After adjustment to the age, gender, diabetes, hypertension, hyperlipidemia, coronary artery disease, heart failure, cerebrovascular disease, peripheral vascular disease, C-reactive protein, albumin, total cholesterol, recurrent group was shown to be an independent risk factor for death only AVF group (adjusted hazard ratio [HR] 2.85; 95% confidence interval [CI] 1.28-6.36, p=0.010) and composite CV outcomes (adjusted HR 1.70; 95% CI 1.07-2.69, p=0.025), additionally adjusted vascular access type. Interestingly however, it was not associated with increased vascular access failure (HR 1.37; 95% CI 0.45-4.19, p=0.586).

Conclusion: Recurrent vascular access stenosis was a novel independent risk factor for CV event in incidental HD patients, rather than vascular access failure. For patients suffered from recurrent vascular stenosis, diligent monitoring should be warranted not only for vascular access patency but also for CV events.

Key Words: 동정맥루, 혈액투석, 심혈관 질환

AVF, AVG, Hemodialysis, Cardiovascular disease