

Determinants and Frequency of Stent Fracture in the Superficial Femoral Artery in Korea

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BACKGROUND: Despite improved patency by development of the nitinol stent, stent fracture has emerged as a new problem in the percutaneous transluminal angioplasty of the superficial femoral artery (SFA). However, the factors influencing SFA stent fracture are not well understood. The aim of our study was to delineate the factors influencing and frequency of nitinol stent fracture in the SFA. **METHODS:** 89 consecutive patients with de-novo peripheral artery disease who underwent rescue stenting with a nitinol stent (SMART stent, Cordis) in the SFA were enrolled between May 2006 and January 2009. Follow-up angiography was performed 12.6± 1.0 months later to detect stent fracture. Patients were divided to 2 groups based on the results of F/U angiography and/or fluroscopy: those with or without stent fracture. **RESULTS:** Stent fracture occurred in 15 patients (16.8%). Baseline patient characteristics were similar between those with and without stent fracture. The degree of limb ischemia and the ankle brachial index before the procedure were also similar between the groups. Lesion length >100 mm, the number of stents used, the lesion involving the distal SFA, TASC C and D, chronic total occlusion, and calcified lesion were more frequently observed in those with stent fracture than in those without fracture. Of these variables, Lesion length >100 mm, the number of stents used were the strongest independent determinant associated with stent fracture by discriminant analysis ($p=0.01$). **CONCLUSION:** Long lesion and multiple stenting adversely affects stent fracture in patients implanted with a nitinol stent in the SFA.

Atrial fibrillation in acute myocardial infarction

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Background: Atrial fibrillation (AF) is the most commonly encountered clinical arrhythmia. However, The impact of AF in acute myocardial infarction (AMI) on future major cardiac adverse events is uncertain in Korean population. **Methods:** Between November 2005 and November 2007, 12,928 patients were registered in the Korean Acute Myocardial Infarction Registry (KAMIR). Patients were divided into 2 groups according to presence of AF: Group I (who had not AF, n=12,350) and Group II (who had AF, n=578). In-hospital mortality, mortality in 1 year, and overall mortality were compared between groups. Also, we examined independent predictors for mortality in AF groups. **Results:** The incidence of AF in AMI was 4.7%. AF group was significantly older (Group I: 62.5±12.7, Group II: 68.5±11.6, $p<0.001$) and more likely to have lower systolic blood pressure (Group I: 130.0±30.2, Group II: 122.1±31.7, $p<0.001$) and lower ejection fraction (Group I: 51.7±12.6, Group II: 48.7±13.1, $p<0.001$). There was no significant statistical differences in the prevalence of diabetes, hypertension, dyslipidemia, and angiographic findings ($p>0.05$). There was significant difference in failure rate in percutaneous coronary intervention (1.6% vs. 3.8%, $p=0.004$), In-hospital mortality (4.2% vs 10.8%, $p<0.001$), mortality in 12 months (4.8% vs 9.7%, $p=0.002$), and overall mortality (12.1% vs. 27.8%, $p<0.001$). However, AF was not an independent predictors in overall mortality. In multivariate analysis, age (OR 1.094, CI: 1.047~1.142, $p<0.001$), blood pressure (OR 0.979, CI: 0.964~0.994), left ventricular ejection fraction (OR 0.931, CI: 0.900~0.965, $p<0.001$), percutaneous coronary intervention (OR 2.409, CI: 1.036~5.60, $p=0.041$) were independent predictors for overall mortality in AF with AMI patients. **Conclusion:** Although has poor prognosis, AF in AMI is not an independent predictor for mortality. Age, blood pressure, left ventricular ejection fraction, percutaneous coronary intervention are independent predictors in AF with AMI patients.