

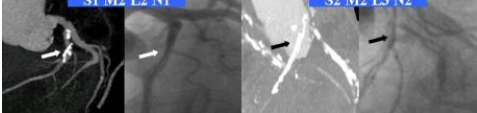
## Can Coronary Artery Calcification on MDCT Predict the Angiographic Coronary Artery Stenosis?

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**Background :** The aim of this study was to classify the morphologic characteristics of CAC on MDCT and to test whether this new classification predicts the stenotic severity on coronary angiography. **Subjects and Method :** Among the total 73 lesions of CAC on 64 slice MDCT in the 56 patients (M: F=33:23, mean age 66±9.3 years) who underwent coronary angiography. The morphologic types of CAC on 64 slice MDCT were classified into the four groups [degree of stenosis(S), shape of calcification(M), length of calcification (L), number of calcified vessel (N)] with scoring system (Table, Figure) and compared with angiographic stenosis. **Result :** 1. Diffuse(L3), elongated(M2) and multi-vessel(N2) calcified lesion were significantly associated with angiographic stenosis. (p=0.03, p=0.019, p=0.002, respectively) 2. In the multivariate regression, only multi-vessel CAC was the independent predictor for significant stenosis. [p=0.019, β=3.77, CI: 1.23-11.5 (95%)]. 3. Stenosis type (luminal narrowing ≥50%) accompanying CAC on MDCT was not correlated with angiographic stenosis (p=0.13). 5. The total morphologic score less than 4 has negative predictive value of 78% for predicting the significant stenosis. **Conclusion :** Our results suggest that the diffuse and multi-vessel CAC on MDCT can predict the coronary artery stenosis, however, the stenosis severity of lesion accompanying CAC on MDCT might not be coincided with angiographic severity. Therefore, the morphologic classification with scoring system should be considered for evaluation of the lesion with CAC on MDCT.

Score	Stenosis(S)	Morphology(M)	Length(L)	Number(N)
1	S1: luminal narrowing <50%	spotty(M1)	focal (L1)	single(N1)
2	S2: luminal narrowing ≥50%	elongate(M2): linear	segmental (L2) ≤2cm	multi(N2)
3			diffuse(L3) >2cm	



## Risk factors of stent thrombosis in patients who underwent non-cardiac surgery after drug-eluting stent implantation

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**Background :** Premature discontinuation of antiplatelets, long stent length, lower ejection fraction, diabetes, myocardial infarction and coronary dissections are known to be risk factors of stent thrombosis. Incidence and predictors of stent thrombosis in patients who undergo non-cardiac surgery after drug-eluting stent (DES) implantation is not well known. **Methods and Results :** We identified 138 patients who underwent non-cardiac surgery after DES implantation at our institution between May 2003 and February 2006. The baseline clinical and angiographic characteristics were compared between stent thrombosis (ST) group and non-stent thrombosis (non-ST) group. All patients stopped antiplatelets 5~7 days before and restarted 1~3 days after elective non-cardiac surgery if no postoperative bleeding occurred. Three patients (2.2 %) developed stent thrombosis within 30 days after surgery. One patient died due to suspected stent thrombosis and the other two had myocardial infarction due to angiographically proven stent thrombosis followed by successful intervention. All three patients who suffered stent thrombosis were male and current smoker. Clinical diagnosis of those patients at time of coronary stenting was stable angina, unstable angina and acute myocardial infarction, respectively. Mean age and cardiac risk factors were not different in both groups. High risk surgical procedure were done 33.3 % in ST group, 18.5 % in non-ST group (P=0.468). Inserted stent length was similar (26.3±4.9 mm in ST group, vs 25.2±5.2 mm in non-ST group, P=0.723), but stent size was smaller (2.5±0.1 mm vs 2.9±0.3 mm, P=0.040) and left ventricular ejection fraction was lower (46.3±8.3 % vs 56.7±11.2 %, P=0.009) in ST group. **Conclusion :** Small stent size and lower ejection fraction was associated with stent thrombosis after DES implantation in patients who underwent non-cardiac surgery.