Early Versus Delayed Thrombolysis in Acute Arterial Occlusion

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Introduction: Cholesterol embolization syndrome (CES) is a multiple systemic disease caused by the embolization of cholesterol crystals from an atherosclerotic plaque of a proximal large-caliber artery that results in the occlusion of distal small to medium-sized arteries. CES is characterized by a multitude of small emboli occurring over time, and should be distinguished from arterial thromboembolism, which occurs through the obstruction of medium-sized to large arteries by one or a few large emboli. We report herein a case of CES initially presented as acute limb ischemia following an intervention for iliac artery occlusion.

Case: A 60-year-old male patient was transferred to the Department of Cardiology due to suspected peripheral artery occlusive disease. He had developed ulcers on the head of right fifth metatarsal bone and on the second to fourth web spaces of right foot. Computed tomography angiography showed stumpless total occlusion of right common iliac artery, external iliac artery, and right common femoral artery. Peripheral endovascular intervention were successfully performed. Approximately five hours after the intervention, there was an abrupt onset of cyanosis and a cold sensation in the right lower extremity. Emergent angiography was performed for diagnosis and treatment. However, there was no evidence of arterial thromboembolism. The day after the intervention, the cyanosis on the right lower extremity had been fully resolved and livedo reticularis of the characteristic skin findings in CES developed in the right sole and in the lower portion of the big toe. Statin was administered and livedo reticularis improved without further progression.

Conclusion: It is most important to find the cause of acute limb ischemia, if it occurred after a peripheral endovascular intervention. Also, consideration of possible later cholesterol embolization will be helpful for appropriate CES diagnosis and treatment.

Acute Myocardial Infarction Results from In-Stent Neoatherosclerotic Plaque Rupture 8 Years Later from Implanting Sirolimus-Eluting Stent : Demonstrated by Optical Coherence Tomography

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A 35-year-old man with a previous history of acute myocardial infarction (AMI) had been implanted sirolimus-eluting stent 3.0 X 28 mm in proximal RCA at May 2005 presented our center with diagnosis of recurrent AMI at December 2013. Conventional coronary angiogram showed total occlusion in the previous stent site (TIMI 0). (Fig 1,A)

After immediate Thrombus aspiration and predilation , there was residual stenosis above 80% of lumen. (Fig.1, B) We acquired optical coherence tomography (OCT) images to make certain the configuration inside the stent. The OCT images revealed a lipid-laden neointima and ruptured thin fibrous cap. There was vessel occlusion because of thrombus adjacent plaque rupture. Neoatherosclerotic changes continued from proximal edge to middle part of the stent. (Fig.2) We injected IV bolus abciximab and did numerous additional balloonings. Final angiography showed residual stenosis lesser than 30% of lumen. (Fig.1, C) But, a 6-month scheduled angiographic follow-up showed in-stent restenosis. (Fig.1, D) We reconstructed 3-D rendered images of OCT. (Fig.2, B)

Thrombolytic Treatment : Lower Limb Ischemia after Bee Sting

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Bee venom cause urticaria and localized pain; however, severe symptoms include anaphylaxis, cardiovascular collapse, and death. Following case study is about arterial thrombosis occlusion and severe ischemia in lower limb few hours after bee stings.

The patient [58/15] was stung 5 times { frontal, inf orbital, Lt. knee}. After 1 hour, the patient felt pallor, pain, coldness in left toe and did not have dorsalis pedis pulsation. Lab finding suggested disseminated intravascular coagulation. ECG, chest X-ray, cardiac doppler echo showed no abnormality. Whole body CT was conducted and thrombus was observed in internal iliac artery, lower extremity aa. Conduction of PTA, insertion of local cathetering urorikinase, and prescription of aspirin, plavix on the first day of admission. The next day, patient showed thrombocytopenia and prolonged INR, but dorsalis pedis artery pulsation became palpable. After 5 days of treatment, CT angiography was conducted for Ili and normal blood vein and artery was observed. And lab finding becoming normalization. Ischemic change from bee sting is not well known, and there is no guideline for surgery and medication; there is no article about treatment in Korea. Our case was the first to try emergency PTA to a patient with thrombus caused by bee sting, CT angiography was used to find the location and severity of the thrombus. We used PTA to catheterize a channel in the artery, and injected urorikinase [1/3 of the recommended dosage]. We try to prevent DIC progression from decrease of medication and targeting thrombosis. Then antplatelet drug was prescribed and after few days normal blood artery was observed from CT angiography. Wrong thrombolytic treatment can provoke progression to systemic disease. We focused on targeted medication dosage and location for treatment and was able to achieve good result.