**DIFFUSE MULTIVESSEL CORONARY ARTERY SPASM (CAS) INDUCED BY GUIDEWIRE INSERTION LEADING TO CARDIAC ARREST: A CASE REPORT**

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*Introduction*: Coronary artery spasm (CAS) during PCI is well described, although multivessel involvement rarely occurs. Diffuse CAS solely following guidewire insertion is a very rare phenomenon, comprising about 1%. To our knowledge, diffuse, multivessel CAS induced by guidewire insertion leading to cardiac arrest has not been reported.

*Case Report*: JL, a 74 years old man, presented to the catheterization laboratory due to abnormal stress echocardiogram. Using right radial approach, angiography of the right and left coronary systems showed 50% lesions in the proximal LAD and proximal RCA. Given the abnormal stress test, decision was made to assess fractional flow reserve (FFR) across these lesions, starting with the LAD. A 0.014” St Jude PressureWire was inserted crossing the lesion in proximal LAD. Following this, the patient suddenly developed bradycardia and hypotension that quickly progressed to PEA arrest. Standard CPR protocol was initiated. Angiography showed diffuse multivessel coronary spasm, with total occlusion of LAD and near-total occlusion of left circumflex. 400 mcg of nitroglycerin was administered into the left main coronary artery. Adding inotropic and vasopressor support, spontaneous circulation was restored. Repeat angiography revealed complete restoration of the above multivessel CAS suggesting resolution. The procedure was completed and patient was admitted to the ICU for continued care.

*Conclusion*: CAS induced solely by guidewire insertion is a very rare phenomenon, comprising about 1% in a study of 906 patients undergoing intracoronary Doppler flow measurement using 0.014´´ or 0.018´´ Doppler FloWire. Two cases have reported diffuse right coronary artery spasm induced by guidewire insertion, with those patients’ being mainly asymptomatic. CAS during coronary angiography usually responds well to intracoronary injection of nitrated and calcium channel blockers. Prompt recognition and immediate treatment of diffuse multivessel CAS is crucial to avoid a potential hemodynamic catastrophe that could result in severe debility or even death.