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Prospective usefulness of eximer laser coronary angioplasty for Japanese acute coronary syndrome patients

[Background]Eximer laser is able to change the lesion morphology by vaporizing thrombus and ablating the atherosclerotic plaque, unlike the thrombus aspiration therapy. Eximer laser coronary angioplasty (ELCA) may be an effective and safe revascularization device for treatment of acute coronary syndrome (ACS). However, ELCA is not yet used widely in Japan. [Methods]In our institution, we introduced the eximer laser from May 2013. So far eight consecutive ACS patients underwent emergency PCI with ELCA. Seven patients were STEMI, and all patients were without cardiogenic shock. In all cases, PCI was performed with 6Fr system, and 1.4 mm concentric tip laser catheter was used. After ELCA, adjunct balloon angioplasty and stent implantation were performed. Of course neither thrombus aspiration device nor distal protection device was used. [Results]In all cases, distal embolism was not observed, and TIMI grade 3 flow was successfully achieved. No other procedural complications (perforation, dissection , acute closure, bleeding) were observed either. All patients improved clinically, and were discharged. [Conclusion]We believe that neither the thrombus aspiration device nor the distal protection device may have been the infallible treatment of ACS since we have seen cases where such devices are inappropriate to adopt and in stead ELCA seems to be a better choice for ACS.Finally we as a group of Japanese intervention cardiologists at the forefront of Japanese medical progress are determined to continue to observe more cases to prove that ELCA may be a safe and effective treatment for future ACS patients.