

1120 **Successful Aspiration of a Massive Left Main Thrombus With a Heartrail ST01 Catheter During Primary PCI for Anterior STEMI**

Reo Shimomura¹

Mitsutoshi Asano¹, Yuta Kumagai¹, Yusuke Kawachi¹, Hiroshi Yoshikawa¹, Shinichiro Okata¹, Tsukasa Shimura

¹ Cardiology, Yokohama City Minato Red Cross Hospital, Japan

Background

Primary PCI for acute myocardial infarction with a large thrombus burden in the left main trunk (LMT) is technically challenging because thrombus migration into the left anterior descending (LAD) or left circumflex artery may complicate culprit lesion assessment and procedural planning. We report a case in which aspiration thrombectomy using a Heartrail ST01 catheter enabled identification of the culprit plaque rupture by IVUS and subsequent lesion-specific PCI.

Case

A 76-year-old man presented with a 1-hour history of persistent chest pain. Electrocardiography demonstrated anterior ST-segment elevation. Emergency coronary angiography revealed a massive thrombus in the LMT, 75% stenosis of the proximal LAD, and thrombotic occlusion of the distal LAD. To minimize distal embolization, contrast injection into the left coronary artery was intentionally limited. A Heartrail ST01 catheter was advanced into the LMT and used for aspiration thrombectomy. Although the first attempt was unsuccessful, the second aspiration retrieved a large amount of white thrombus, resulting in angiographic disappearance of the LMT thrombus. Subsequent IVUS identified plaque rupture on the wall opposite the left circumflex bifurcation, establishing the culprit lesion. Given the bifurcation anatomy and marked vessel size mismatch between the LMT and LAD, a drug-coated balloon-only strategy was initially attempted. However, lesion preparation resulted in residual plaque disruption with a type C dissection, necessitating implantation of a platinum-chromium everolimus-eluting stent (Synergy Megatron™, Boston Scientific) from the LMT to the LAD under IVUS guidance. The distal LAD thrombotic occlusion was subsequently treated, and final angiography demonstrated TIMI 3 flow without procedural complications.

Conclusion

Aspiration thrombectomy using a Heartrail ST01 catheter successfully removed a massive LMT thrombus and enabled accurate IVUS assessment of the culprit lesion before definitive PCI. This case suggests that the Heartrail ST01 catheter may be a useful option for thrombus aspiration in large proximal coronary arteries, including the LMT and ectatic vessels, where effective thrombus removal facilitates accurate lesion assessment and appropriate PCI strategy.