**Supplementary Material**

**Supplementary Figure 1.** Illustration of the concept of “ischemic cascade”. The myocardial ischemic event induces a sequence of events in a specific order – firstly, metabolic changes in the cardiomyocytes, followed by diastolic and then systolic myocardial dysfunction. Afterward, changes in the electrocardiogram may be observed. The last event to be detected is the anginal symptoms

A close-up of several images of a person's heart

Description automatically generated

**Supplementary Figure 2.** Motion of the PCI wire during the cardiac cycle

A picture containing text, screenshot, diagram

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1. The Δa, Δb1, and Δb2 will be calculated (the difference between asystole and adiastole, b1systole and b1diastole, b2systyole and b2diastole). To assess the dynamics in PCI wire kinetics during ischemia induction, the change in the different parameters will be compared

A picture containing diagram, line, text, plot

Description automatically generated

**B.** a – line connecting the ends of distal contrast part of PCI wire in systole and diastole. After constructing the line, a parallel line is constructed at both sides of the wire. These parallel lines are moved laterally until they cross the most convex part of wire curves at each side. From these tangent points perpendicular distances (b1 and b2) are measured in systole and diastole.

Separately, two rotational vectors are traced from the tip of guiding catheter to the proximal and distal ends of fluoroscopically contrast distal end of PCI wire. The distance of both vectors, the rotational angles (taking diastolic as a reference) of proximal and distal end vectors will be measured

**Supplementary Table 1.** Patients’ demographic and clinical characteristics

|  |  |
| --- | --- |
|  | N = 69 |
| Age, years, mean ± SD | 67.5 ± 8 |
| Sex, male, n (%) | 51 (74) |
| Hypertension, n (%) | 69 (100) |
| Diabetes, n (%) | 17 (25) |
| Dyslipidemia, n (%) | 69 (100) |
| Peripheral vascular disease, n (%) | 6 (9) |
| Smoking history, n (%) | 43 (62) |
| COPD, n (%) | 12 (18) |
| Target vessel, n (%)   * LAD * LCx * RCA | 82   * 56 (69) * 20 (24) * 6 (7) |