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(Background) We evaluated the late catch-up phenomenon based on IVUS analysis and high-sensitivity C-reactive protein (hs-CRP) level. (Methods) We enrolled the patients underwent target vessel revascularization (TLR) more than one year. All the patients confirmed no residual stenosis in former follow-up angiography, which was done more than twelve months after first PCI. We measured the coronary sectional area of lumen and stent before and after the TLR. We also calculated plaque area in the stent. Among the patients, we made case-matched control group based on the patient's background and compared the levels of hs-CRP. (Results) A total of 16 patients were enrolled (20 lesions). The observation period between the marked PCI and TLR is 1022 ± 224 days. IVUS analysis showed all the culprit lesions contained mixed or fibrous plaque, but not echo-lucent one. Before the TLR, the sectional area of lumen, stent and external elastic membrane is 14.8 mm^2 , 6.3 mm^2 and 2.3 mm^2 , respectively. After the TLR, the area of lumen, stent and external elastic membrane is 15.2 mm^2 , 6.7 mm^2 and 6.5 mm^2 , respectively. And the plaque area in the stent, reduced from 4.4 mm^2 to 0.2 mm^2 on average. The hs-CRP level is significantly higher in the late catch-up group than the control group ($p=0.03$, $0.19 \pm 0.11 \text{ mg/dl}$, $0.14 \pm 0.12 \text{ mg/dl}$, respectively). (Conclusion) The late catch-up phenomenon observes in repeat TLR mainly due to intimal proliferation inside of the stent and the prolonged inflammation may contribute the proliferation.