Angioscopic findings one year after percutaneous coronary intervention for chronic total occlusion

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Background: Chronic total occlusion (CTO) is thought as a high-risk feature of stent thrombosis, but little is known about the difference in neointimal healing of stents implanted for CTO lesions compared to that of non-CTO lesions.

Methods and results: A total of 62 stents in consecutive 47 patients (69±11 years, 41 male) who underwent follow-up angiography and angioscopy one year after percutaneous coronary intervention (PCI) between March 2016 and July 2019 were evaluated. The examined stents were divided into 3 groups according to the lesion status at previous PCI: CTO group (n=12), stable coronary artery disease without CTO (non-CTO group, n=30) and acute coronary syndrome (ACS group, n=20). The grade of neointimal stent coverage in CTO group was significantly lower than that of non-CTO group (0.5±0.5 vs 1.4±0.9, p=0.001). The frequency of presence of thrombus was significantly higher in CTO group and ACS group compared to non-CTO group (67%, 50%, and 13%, respectively, p=0.001). The yellow grade in CTO group was equivalent (p=1.00) to that in ACS group and was tented to be higher (p=0.051) compared to non-CTO group (1.3±0.8, 1.5±0.6, and 0.8±0.7, respectively).

Conclusion: The present study suggested a delayed healing in stents implanted for CTO lesions. Longer dual-antithrombotic therapy maybe beneficial for these patients.

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