Clinical significance of late-acquired malapposition observed by serial optical coherence tomography after second-generation drug eluting stents

Authors:
T Nakamura¹, T Yonetsu¹, M Nakao¹, S Nakagama¹, T Niida¹, Y Matsuda¹, K Hirasawa¹, Y Hatano¹, T Sasaoka¹, T Umemoto¹, T Lee¹, ¹Tokyo Medical and Dental University - Bunkyo-ku - Japan,

Topic(s):
Coronary Intervention: Outcome

Citation:
Background: Previous studies have demonstrated that the presence of late-acquired stent malapposition after stent implantation may be a risk of late and very late stent thrombosis and myocardial infarction, which is however still controversial.

Purpose: We sought to investigate the incidence and prognosis of late acquired stent malapposition after second-generation drug eluting stents (2G-DES) implantation.

Methods: A total of 199 lesions in 139 patients who underwent optical coherence tomography (OCT) at both immediately after implantation (Baseline) and 6-12 months after 2G-DES implantation (follow-up) were investigated. We excluded lesions with stent failure before follow-up examination. We evaluated presence or absence of malapposed strut at 1mm interval of OCT images and stents with one or more cross-sections with >30% malapposed strut was defined as stents with malapposition (MP), otherwise well-apposed (WA). We divided the lesions into 4 groups according to the presence of malapposition at baseline and follow-up; WA and WA, persistent well-apposed; MP and WA, resoloved malapposition; WA and MP, late acquired malapposition (LAMP); and MP and MP, persistent malapposition. We compared the target lesion failure (TLF) rate after follow-up examination among 4 groups with Kaplan–Meier analysis.

Results: Median follow-up period was 469 (IQR71-1416) days. follow-up OCT examination was performed at median 9 months (IQR7.6-10.5). There were no significant differences in patient’s and procedural characteristics among the 4 groups. TLF rate in LAMP group was 12.0% and Kaplan–Meier analysis showed no significant differences among the 4 groups in TLF rate.

Conclusion: LAMP was observed by OCT at 6-12 months in 12.0% of lesions after 2G-DES implantation, which was not associated with TLF at 5 years.
Abstract: P5622
Clinical significance of late-acquired malapposition observed by serial optical coherence tomography after second-generation drug eluting stents

Authors: T Nakamura 1, T Yonetsu 1, M Nakao 1, S Nakagama 1, T Niida 1, Y Matsuda 1, K Hirasawa 1, Y Hatano 1, T Sasaoka 1, T Umemoto 1, T Lee 1
Tokyo Medical and Dental University - Bunkyo-ku - Japan,

Topic(s): Coronary Intervention: Outcome

Citation:
Background: Previous studies have demonstrated that the presence of late-acquired stent malapposition after stent implantation may be a risk of late and very late stent thrombosis and myocardial infarction, which is however still controversial.

Purpose: We sought to investigate the incidence and prognosis of late acquired stent malapposition after second-generation drug eluting stents (2G-DES) implantation.

Methods: A total of 199 lesions in 139 patients who underwent optical coherence tomography (OCT) at both immediately after implantation (Baseline) and 6-12 months after 2G-DES implantation (follow-up) were investigated. We excluded lesions with stent failure before follow-up examination. We evaluated presence or absence of malapposed strut at 1mm interval of OCT images and stents with one or more cross-sections with >30% malapposed strut was defined as stents with malapposition (MP), otherwise well-apposed (WA). We divided the lesions into 4 groups according to the presence of malapposition at baseline and follow-up; WA and WA, persistent well-apposed; MP and WA, resolved malapposition; WA and MP, late acquired malapposition (LAMP); and MP and MP, persistent malapposition. We compared the target lesion failure (TLF) rate after follow-up examination among 4 groups with Kaplan–Meier analysis.

Results: Median follow-up period was 469 (IQR71-1416) days. follow-up OCT examination was performed at median 9 months (IQR7.6-10.5). There were no significant differences in patient's and procedural characteristics among the 4 groups. TLF rate in LAMP group was 12.0% and Kaplan–Meier analysis showed no significant differences among the 4 groups in TLF rate.

Conclusion: LAMP was observed by OCT at 6-12 months in 12.0% of lesions after 2G-DES implantation, which was not associated with TLF at 5 years.