

What if the guide wire breaks? A case of a percutaneous coronary intervention complication

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Introduction: Complex percutaneous coronary interventions (PCI) have become a standard procedure which is why a risk of a guide wire or other device fracture remains¹. Guide wire fractures during PCI are extremely rare and occur in approximately 0.02-0.08% of cases². Guide wire remnants can lead to an acute ischemic event due to thromboembolic occlusion and perforation³. There are several approaches to solving this problem: surgical management, percutaneous removal techniques, stent implantation over the guide wire fragments or conservative follow-up².

Case report: 73-year-old patient was admitted for acute myocardial infarction without ST elevation. Echocardiography showed a preserved LV ejection fraction and hypokinesia of the basal half of the inferior and posterior wall. A coronary angiography was performed, which revealed 90% stenosis of the distal segment of the left main, 80% stenosis of the distal segment of the LAD, 95% stenosis of the proximal LCx and 95% stenosis of the proximal RCA. The patient was offered further treatment options in the form of cardio-surgical revascularization or high-risk percutaneous coronary intervention, and the patient decided to attempt percutaneous intervention. A coronary angiogram was performed, and a stent was implanted in the LCx and LM/LAD, but the tip of the guide wire remained in the LCx despite multiple attempts to extract it and cover it with a stent. Forty-eight hours later, a repeat coronary angiography was performed, which did not show any damage to the previously implanted stents. The procedure was continued, and PCI was performed on the RCA with the implantation of one stent. Twenty days later, the patient was readmitted to evaluate the flow in the left coronary artery. Coronary angiography showed proper patency of previously implanted stents in all three arteries with adequate flow. The patient was prescribed lifelong dual antiplatelet therapy and remained asymptomatic in follow-up.

Conclusion: Guide wire fracture is a rare but potentially fatal complication of PCI. Some authors suggest a conservative approach. Smaller fragments can remain in the artery without adverse consequences, mainly if contained within small, chronically occluded coronary vessels. Currently, there are no guidelines in regard to the optimal antiplatelet regimen for these patients.

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LITERATURE

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