per 1 g/dL decrease; 95% CI 1.18–1.92) and presentation with ACS (OR 3.14; 1.16–9.49) were independently associated with MACE, and low estimated glomerular filtration rate (eGFR; OR 1.32 per 10 mL/min/1.73 m² decrease; 1.08–1.62) and ACS (OR 4.61; 1.43–19.29) with all-cause mortality.

Conclusion: In a real-world provisional LM bifurcation crossover cohort in which the side branch was largely preserved before the procedure, final kissing balloon inflation was performed only in cases that developed stenosis at the side-branch ostium after crossover, and no significant difference was found between the groups in MACE or its components. However, the small size of the FKB group (n=17) and the wide confidence interval render this comparison underpowered to exclude a clinically meaningful difference; moreover, because the FKB group is by definition a selected subgroup that developed side-branch ostial stenosis, the groups also differ with respect to the development of this potentially prognostically unfavourable stenosis. Therefore, although there is no evidence that FKB is harmful, a benefit has not been demonstrated either; the findings are hypothesis-generating and should be confirmed in adequately powered prospective studies. The decision to perform FKB remains an individualised, case-by-case decision based on the post-stenting angiographic result.

Keywords: LMCA bifurcation, Provisional crossover stenting, Final kissing balloon, MACE.

SS–14

Nanocrush Technique for Distal Left Main Coronary Artery Bifurcation PCI in a Patient with Occluded Saphenous Vein Grafts

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Introduction and Aim: Graft occlusion following coronary artery bypass grafting (CABG) represents a challenging clinical scenario that may require complex percutaneous coronary intervention (PCI). Distal left main coronary artery (LMCA) bifurcation lesions are technically demanding, and the selection of an appropriate bifurcation stenting strategy is critical for procedural success. We present a case of successful PCI of a distal LMCA bifurcation lesion using the Nanocrush technique in a patient with a history of CABG and total occlusion of all saphenous vein grafts.

Case Report: A patient with a previous history of CABG underwent follow-up coronary angiography, which demonstrated total occlusion of the left anterior descending (LAD) artery, left circumflex (LCx) artery, and all saphenous vein grafts. Further angiographic assessment revealed a critical lesion involving the distal LMCA bifurcation. Given the absence of patent bypass grafts and the significant distal LMCA disease, PCI was planned. Following appropriate lesion preparation, successful bifurcation stenting of the distal LMCA was performed using the Nanocrush technique. Final angiography demonstrated TIMI grade 3 flow in both the main and side branches without significant residual stenosis. No periprocedural complications occurred, and the patient was discharged in a clinically stable condition.

Conclusion: Distal LMCA bifurcation lesions in patients with previous CABG and total occlusion of bypass grafts represent highly complex coronary interventions requiring substantial technical expertise. In appropriately selected patients and lesions, the Nanocrush technique may provide an effective and safe bifurcation stenting strategy, allowing optimal stent apposition and reconstruction of the bifurcation anatomy.

Keywords: DK Nano-Crush, coronary bifurcation intervention, percutaneous coronary Intervention (PCI).

SS–15

Is Revascularization Indicated for Every Occluded Spontaneous Coronary Artery Dissection?

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Introduction and Aim: Spontaneous coronary artery dissection, or SCAD, is an unpredictable and potentially life-threatening condition. It is one of the most common causes of acute coronary syndrome, particularly in young women. SCAD is defined as a tear within the wall of an epicardial coronary artery that occurs in the absence of trauma, coronary intervention, or atherosclerotic plaque rupture. This process leads to the formation of a false lumen, which can partially or completely compress the true lumen and impair coronary blood flow. Patients most commonly present with chest pain, dyspnea, or palpitations. Since ischemic changes may be present on the ECG, the clinical presentation can be difficult to distinguish from acute coronary syndrome caused by atherosclerotic plaque rupture. SCAD mainly affects young and middle-aged women without traditional cardiovascular risk factors. It has been associated with severe physical or emotional stress, migraine, anxiety, depression, fibromuscular dysplasia, hormone replacement therapy, pregnancy, inflammatory conditions, menopause, and genetic variants related to certain connective tissue disorders.

Case Report: A 38-year-old woman with no known chronic medical conditions presented to the emergency department with chest pain. Her initial ECG was consistent with an acute inferior myocardial infarction, and she was immediately transferred to the cardiac catheterization laboratory. Coronary angiography showed a normal left coronary system. In the right coronary artery, a spontaneous coronary artery dissection extending from the ostium to the distal segment was identified, as shown in Figure 1. Since distal coronary flow was preserved, the patient was hemodynamically stable, and her chest pain had improved compared with the initial presentation, no intervention was performed at that time. Instead, close clinical follow-up with serial assessment of symptoms and troponin levels was planned. Medical treatment was initiated, and the patient was admitted to the coronary intensive care unit for continuous monitoring. Transthoracic echocardiography showed a left ventricular ejection fraction of 50 to 55 percent, with mild hypokinesia of the inferolateral wall.On the first day of hospitalization, laboratory tests showed a triglyceride level of 191 milligrams per deciliter, an HDL level of 44 milligrams per deciliter, and a high-sensitivity troponin I level of 1.99 micrograms per liter, with a normal range below 0.1 micrograms per liter. Serial troponin levels were 6.29, 2.13, and 2.20 micrograms per liter. The ST-segment elevations in the inferior leads gradually regressed, and the patient's symptoms improved. The patient remained clinically stable during her intensive care unit follow-up and was subsequently evaluated by the cardiology council. Conservative management was continued, and follow-up coronary angiography was planned for three months later. The patient was discharged with continued medical treatment and bed rest during this period. Three months later, repeat coronary angiography demonstrated complete resolution of the dissection extending from the ostium to the distal segment of the RCA, as shown in Figure 2.

Discussion: The coronary arteries consist of three histological layers: the tunica intima, tunica media, and tunica adventitia. Spontaneous coronary artery dissection occurs when an intramural hematoma develops within the coronary arterial wall. The blood may originate either from injury to the vasa vasorum or from an intimal tear.The intramural hematoma separates the intima from the outer layers of the arterial wall, creating a false lumen. This false lumen compresses the true lumen, reduces coronary blood flow, and may result in acute coronary syndrome.The left anterior descending artery is the most commonly affected vessel.According to reported frequencies, the LAD and its branches are involved in approximately 50 percent of cases, the circumflex artery, ramus intermedius, and obtuse marginal branches in approximately 30 percent, the RCA and its

branches in approximately 25 percent, multivessel involvement in approximately 15 percent, and the left main coronary artery in approximately 4 percent.Distal coronary segments are affected more frequently than proximal segments. Patients with SCAD are usually admitted with a suspected diagnosis of acute coronary syndrome.The initial evaluation includes a detailed history and assessment of symptoms, ECG, cardiac biomarkers such as troponin, echocardiography, and coronary angiography.Based on the angiographic appearance, SCAD can be classified into four types.

Type 1 SCAD, or the classic appearance, is characterized by contrast staining of the arterial wall and visualization of a dissection flap, with clearly visible true and false lumens.

Type 2 SCAD, or diffuse stenosis, is the most common type. It usually appears as a long and smooth narrowing, typically extending for more than 30 millimeters. It can be further divided into type 2A, involving the distal segment, and type 2B, extending all the way to the distal end of the vessel.

Type 3 SCAD, or focal stenosis, can closely mimic atherosclerotic disease. These lesions are usually short and focal, and intravascular imaging, such as OCT or IVUS, may be required for diagnosis.

Type 4 SCAD is characterized by complete coronary artery occlusion with absent distal flow.

The clinical presentation of SCAD can range from ST-elevation myocardial infarction and non-ST-elevation acute coronary syndrome to ventricular tachyarrhythmias, congestive heart failure, and sudden cardiac death. The management of SCAD differs from that of conventional ischemic heart disease, and there is still no universally accepted treatment strategy. Most SCAD lesions heal spontaneously within approximately two months. Therefore, medical treatment and conservative management are generally preferred in stable patients. Unlike conventional acute coronary syndrome, percutaneous coronary intervention and coronary artery bypass grafting are not routinely recommended. There are several reasons for this. First, the guidewire may enter the false lumen and occlude the true lumen. Second, balloon angioplasty and stent implantation may extend the dissection or propagate the intramural hematoma, potentially worsening coronary obstruction. Such extension may result in spiral dissection of the distal vessel or retrograde extension into the proximal segments and adjacent branches, including the left main coronary artery. In addition, because SCAD lesions can be very long, long stents may be required. This may increase the risk of in-stent restenosis and stent thrombosis. As the intramural hematoma is gradually resorbed, late stent malapposition may also occur, potentially increasing the risk of late stent thrombosis. Intravascular imaging can help confirm the diagnosis; however, manipulation of the vessel with a guidewire or imaging catheter may itself worsen the dissection. Similarly, during CABG, it may be difficult for the surgeon to determine whether the graft has been placed into the true lumen.

Conclusion: More than 90 percent of patients demonstrate angiographic healing within approximately one month. Therefore, PCI should not routinely be considered as the first-line treatment. In clinically stable patients, conservative management with close monitoring is generally preferred. Our case demonstrates that even in the presence of complete coronary occlusion due to SCAD, spontaneous healing may occur with conservative treatment in selected stable patients.

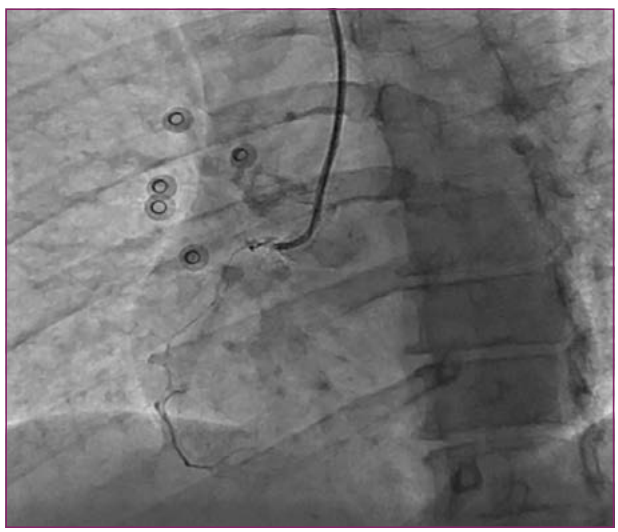

Figure 8.

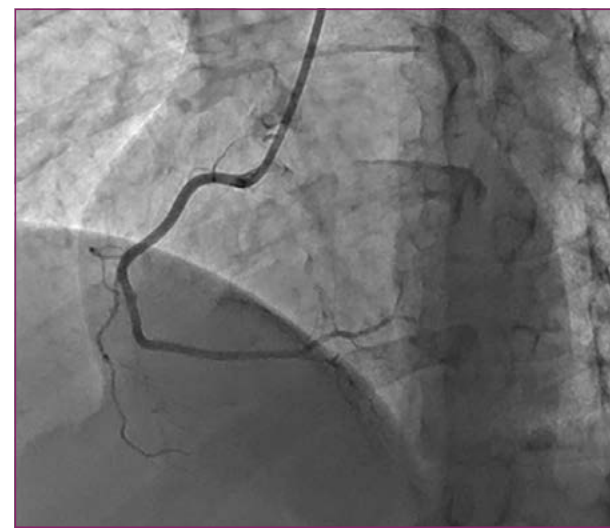

Figure 9.

SS–16

Left Circumflex CTO Resistant to Sequential Plaque Modification Techniques

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Introduction and Aim: Severely calcified chronic total occlusion (CTO) lesions are among the most technically challenging complex coronary lesions encountered during percutaneous coronary intervention (PCI), with relatively low technical success rates. We present a case of a complex, severely calcified left circumflex (LCx) CTO in which revascularization could not be achieved despite the sequential use of advanced plaque modification techniques.

Case Report: A 60-year-old man presented to the emergency department with pain originating in the epigastric region and radiating to the back. Four months earlier, an exercise stress test had been discontinued due to symptoms, and although coronary angiography had been recommended, the patient had not undergone further evaluation. He was admitted with a preliminary diagnosis of unstable angina. His medical history included hypertension, coronary artery disease, and active smoking. Electrocardiography showed sinus rhythm with supraventricular extrasystoles. Echocardiography revealed a left ventricular ejection fraction of 40–45%, with hypokinesia of the lateral and anterior walls. Coronary angiography demonstrated diffuse 40–50% stenosis in the right coronary artery (RCA), 50–60% stenosis in the distal left anterior descending artery (LAD), a chronic total occlusion of the first diagonal branch (D1), and a severely calcified CTO in the proximal LCx.

First Session (April 5, 2026): The LCx was engaged from the left main coronary artery. Despite the use of different coronary guidewires and balloon support, the CTO segment could not be crossed intraluminally. Subsequently, a guidewire was advanced into the obtuse marginal (OM) branch. The proximal calcified segment was sequentially dilated using