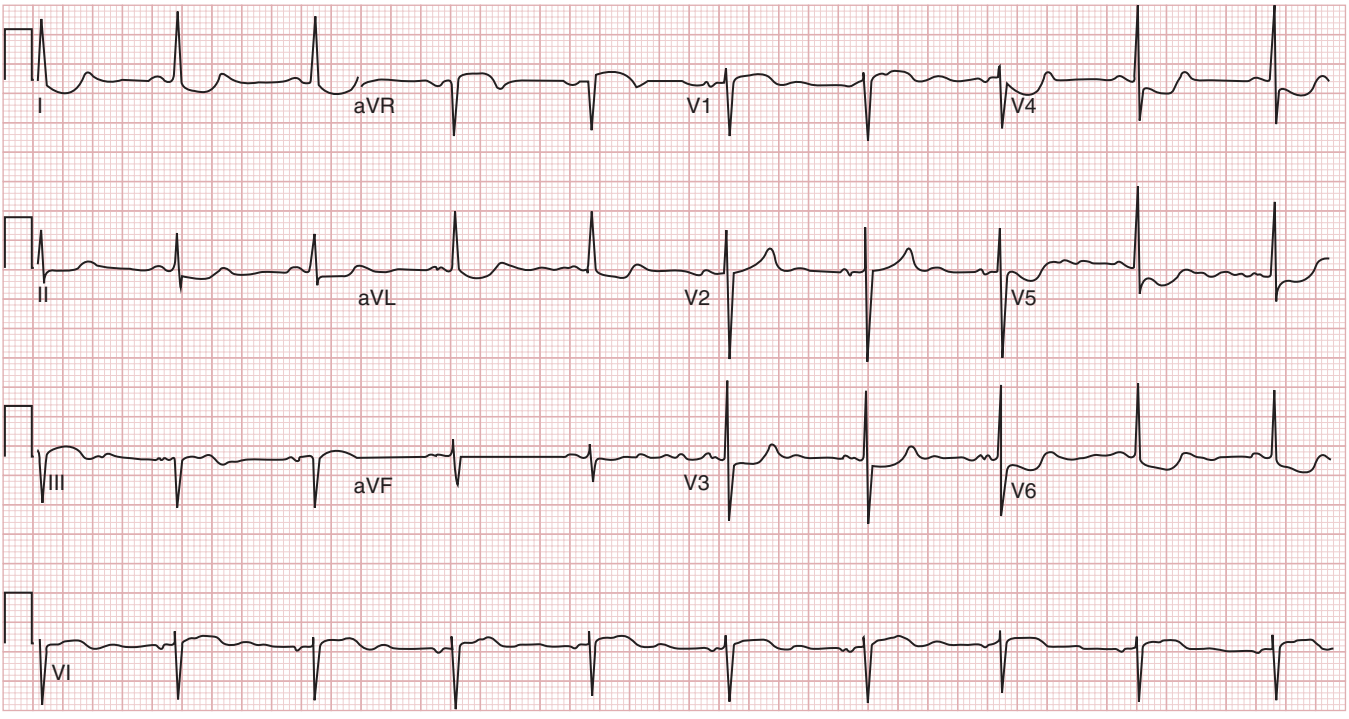

FIGURE 297e-7 **Following resolution of the chest pain,** the ST-segment depression is less marked.

VIDEO 297e-31 Next, the LAD wire is removed and passed through the stent into the distal LAD. A second drug-eluting stent is deployed through the struts of the left main coronary artery/LCx stent.
VIDEO 297e-32 Following rewiring of the LCx, both stents are re-dilated simultaneously ("kissing" balloons).
VIDEO 297e-33 The final result in the LAO caudal view.
VIDEO 297e-34 The final result in the RAO cranial view showing patent left main, LCx, and LAD coronary arteries.

SUMMARY

- Left main coronary artery disease occurs in 5–10% of patients with symptomatic coronary artery disease.
- In patients with left main coronary artery disease, revascularization with CABG has been shown to decrease mortality significantly over 5–10 years of follow-up.
- PCI with drug-eluting stents in selected cases has been shown to have equal in-hospital and 1-year death and myocardial infarction rates compared with CABG in the Synergy between PCI with Taxus and Cardiac Surgery (SYNTAX) trial. Long-term outcome differences between the two treatment strategies are not known.
- Indications for PCI of left main coronary artery lesions are high-risk surgical patients and patients with protected left main coronary artery disease (i.e., prior CABG with patent bypass grafts). Patients who are good candidates for bypass surgery may also undergo a stenting procedure, but discussion with the patient, the interventional cardiologist, and the cardiac surgeon should be undertaken to determine the best treatment option in an individual case.
- Outcomes are better for patients with an isolated lesion in the ostium and body of the left main coronary artery where a single stent can be placed compared to bifurcation lesions that involve the ostium of the LAD and LCx.

CASE 6: MULTIVESSEL PCI IN A DIABETIC PATIENT

(Videos 297e-35 to 297e-42)

- A 58-year-old man presented with a NSTEMI.
- The patient has hyperlipidemia and type 2 diabetes mellitus treated with oral hypoglycemic agents.
- Diagnostic catheterization revealed two-vessel disease with a total occlusion of the second obtuse marginal branch that was felt to be responsible for the patient's symptoms (culprit lesion). In addition, there was a high-grade stenosis in a large ramus intermedius branch, and the RCA had a significant stenosis in the midsegment of the vessel.

VIDEO 297e-35 Baseline angiogram of the left coronary circulation in the RAO view shows the total occlusion of the second obtuse marginal branch with delayed retrograde filling via collateral vessels and a high-grade stenosis in the ramus intermedius.
VIDEO 297e-36 A guidewire is passed through the total occlusion, and the lesion is pretreated with balloon angioplasty.
VIDEO 297e-37 Following placement of a drug-eluting stent in the lesion, the vessel is widely patent. A third obtuse marginal vessel, not previously seen, now fills faintly (Thrombolysis in Myocardial Infarction [TIMI] grade 1 flow) with contrast but was not treated.
VIDEO 297e-38 The ramus intermedius lesion was crossed with a guidewire and pretreated with balloon angioplasty.
VIDEO 297e-39 A drug-eluting stent is placed across the ramus lesion and deployed. The final result shows no residual stenosis in either the ramus or second obtuse marginal vessels.
VIDEO 297e-40 Baseline angiogram of the RCA shows a high-grade lesion in the midsegment of the vessel.
VIDEO 297e-41 The lesion was pretreated with balloon dilation followed by stent deployment.
VIDEO 297e-42 The final result shows no residual stenosis in the mid-RCA.

SUMMARY

- Multivessel PCI is performed commonly and may be done in one setting or staged with two or more procedures.
- Acute and long-term studies of multivessel PCI have shown comparable rates of death and myocardial infarction when compared to CABG, but a higher incidence of repeat revascularization as a result of restenosis is associated with PCI.
- In the randomized Bypass Angioplasty Revascularization Investigation (BARI) trial, diabetic patients treated with PCI had a worse long-term mortality than diabetic patients treated with CABG. However, the BARI registry found that in selected diabetic patients with favorable anatomy, PCI can result in outcomes equal to those observed with CABG.