

## THE CLINICAL PICTURE

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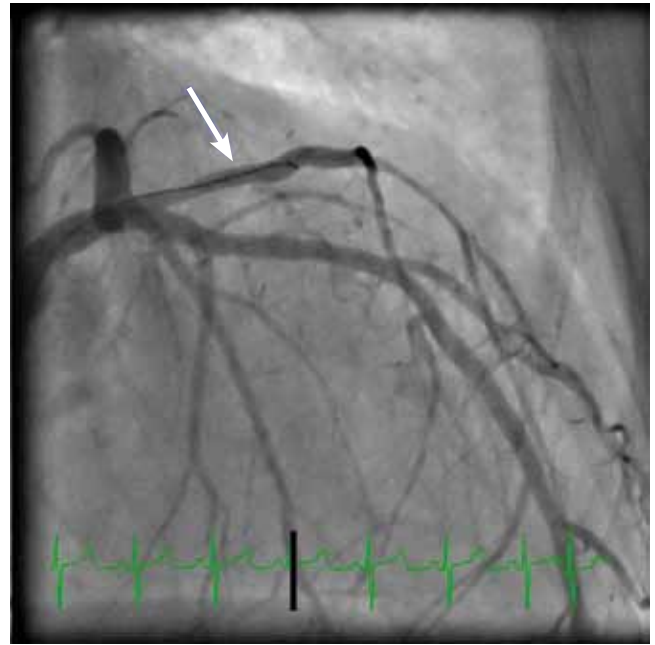
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# The Clinical Picture

## A rare complication of infective endocarditis



**FIGURE 1.** Diagnostic catheterization shows 99% embolic stenosis (arrow) of the first diagonal branch of the left anterior descending artery.



**FIGURE 2.** First diagonal branch of the left anterior descending artery after aspiration of the embolus shows no atherosclerosis (arrow).

**A**N 85-YEAR-OLD WOMAN presented to the emergency department with a 2-hour history of dyspnea, dizziness, generalized weakness, nausea, and diaphoresis. Her medical history included hypertension, end-stage renal disease with hemodialysis, and atrial fibrillation.

She had an arteriovenous fistula for dialysis access in her right upper arm, with erythema around the site.

Her creatine kinase level was 1,434 U/L (normal range 30–220), creatine kinase MB 143.4 ng/mL (0.0–8.8 ng/mL), and troponin T 0.1 ng/mL (0.0–0.1 ng/mL). She had ST el-

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evation in leads I and aVL. She was taken for emergency cardiac catheterization.

Angiography showed 99% stenosis of the first diagonal branch of the left anterior descending (LAD) artery (**FIGURE 1**). No evidence of underlying atherosclerotic disease was seen, suggesting that the obstruction was due to embolism rather than to in situ thrombosis occurring after plaque rupture. The thrombus was aspirated from the vessel. Stenting was not needed, as there was no residual stenosis (**FIGURE 2**).

Transesophageal echocardiography, done to find the source of the embolus, showed a small, mobile echo-density on the anterior mitral valve leaflet, with no apparent thrombus

or patent foramen ovale.

Three blood cultures were drawn on the day of cardiac catheterization. Two grew gram-positive organisms: one grew coagulase-negative *Staphylococcus*, and the other grew gram-positive bacilli (anaerobic, non-spore-forming). On the basis of these findings, intravenous vancomycin (Vancocin) was started. Seventy-two hours later, one of two blood cultures again grew coagulase-negative *Staphylococcus*. Five days after the start of antibiotic treatment, blood cultures were negative, and the patient received intravenous vancomycin for 4 weeks (from the time the blood cultures became negative) for native mitral valve endocarditis.

### ■ EMBOLISM AND ENDOCARDITIS: KEY FEATURES

An embolic event occurs in 22% to 50% of cases of infective endocarditis and can involve the lungs, bowel, other organs, or extremities.<sup>1</sup> The incidence of embolization of the coronary arteries in patients with infective endocarditis is unknown, but in one case series<sup>2</sup> it occurred in 8 (7.5%) of 107 cases. The most common site of coronary embolism is the LAD.<sup>3</sup>

Myocardial infarction is a rare complication of coronary artery embolization.<sup>2</sup> It was reported in 17 (2.9%) of 586 consecutive pa-

tients with infective endocarditis.<sup>4</sup> In patients with infectious endocarditis complicated by myocardial infarction, the death rate was nearly double that seen in patients with infective endocarditis without myocardial infarction (64% vs 33%).<sup>4</sup>

### ■ TREATMENT

The best treatment for this complication of infective endocarditis is not known, as it has not been well studied. The high death rate in these patients makes restoration of coronary perfusion essential.

Thrombolytics are usually avoided in patients with septic embolization because of concerns about concurrent intracerebral mycotic aneurysms and the risk of hemorrhage.

Percutaneous transluminal angioplasty carries a risk of distal mobilization of emboli, development of mycotic aneurysm at the balloon dilation site, or reocclusion due to a mobile embolus.<sup>5</sup> Stent placement may improve vessel patency but carries a theoretic risk of infection in bacteremic patients. Percutaneous embolectomy has also been used either prior to or instead of stent placement.<sup>6</sup> Surgical options include embolectomy in patients who may require surgery, and coronary artery bypass grafting for patients with chronic embolization.<sup>7</sup>

**The high death rate makes restoring coronary perfusion essential**

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