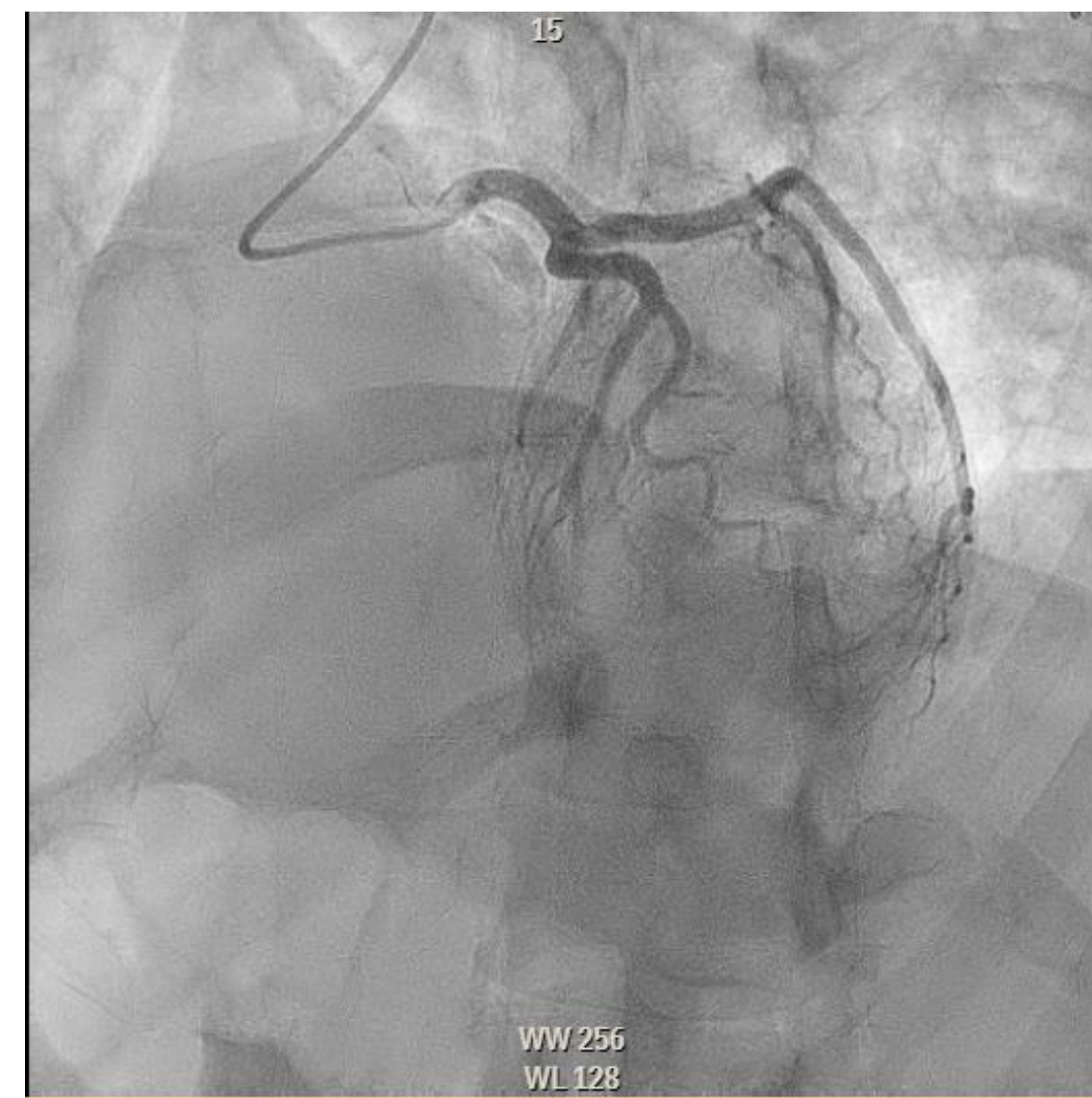


Background

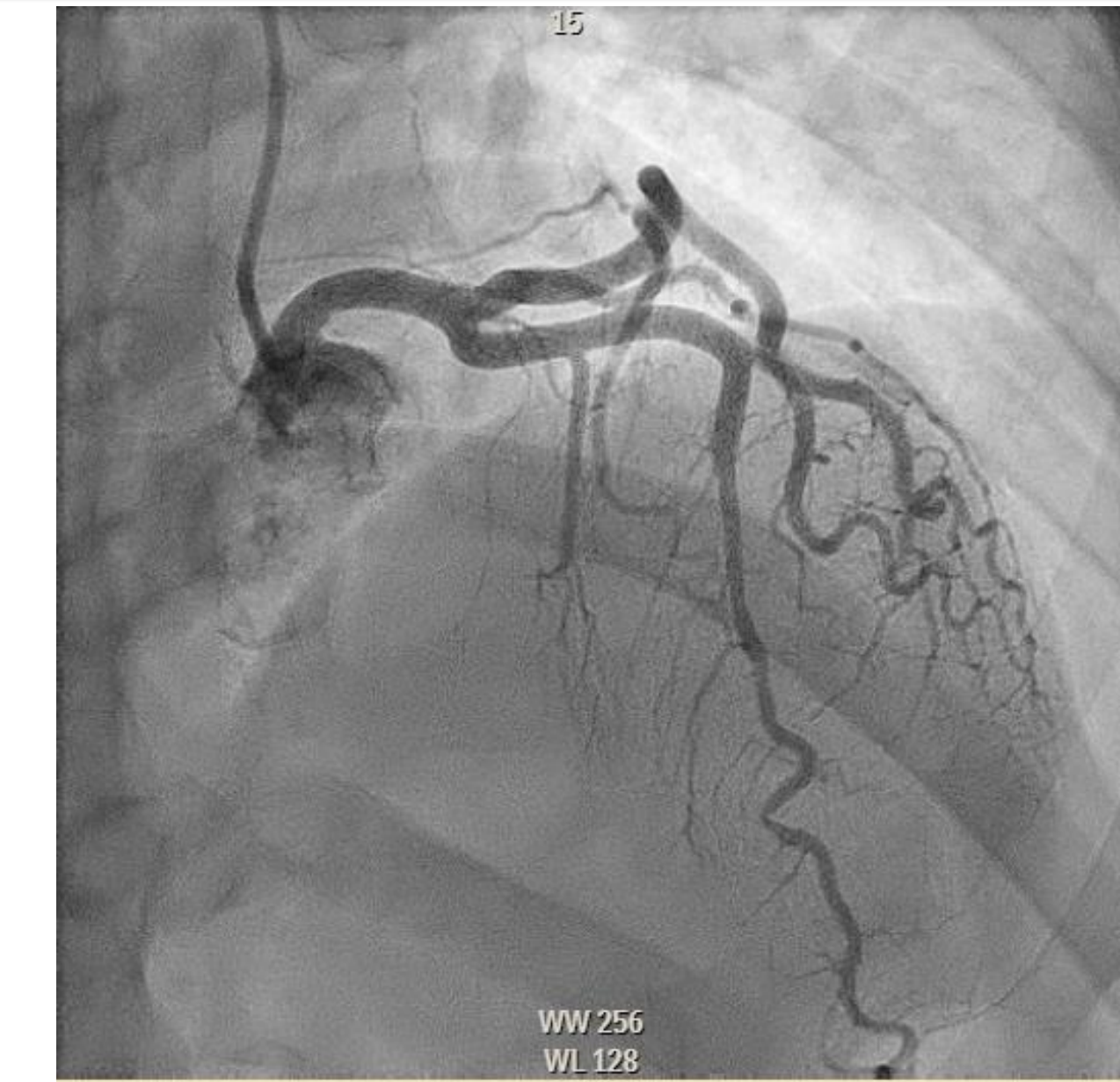
Spontaneous coronary artery dissection (SCAD) is an uncommon cause of acute coronary syndrome characterized by intramural hematoma formation within the coronary arterial wall, resulting in compression of the true lumen. It predominantly affects women in their fifth and sixth decades of life. Contemporary management favors conservative therapy, as most clinically stable SCAD lesions demonstrate spontaneous angiographic healing on follow-up. Revascularization is generally reserved for left main or proximal large-territory dissections, hemodynamic instability, malignant arrhythmias, or ongoing ischemia. We present a case of near-occlusive type 2 SCAD involving the left anterior descending artery (LAD) with serial angiographic assessment illustrating the natural history of conservative management.

Case

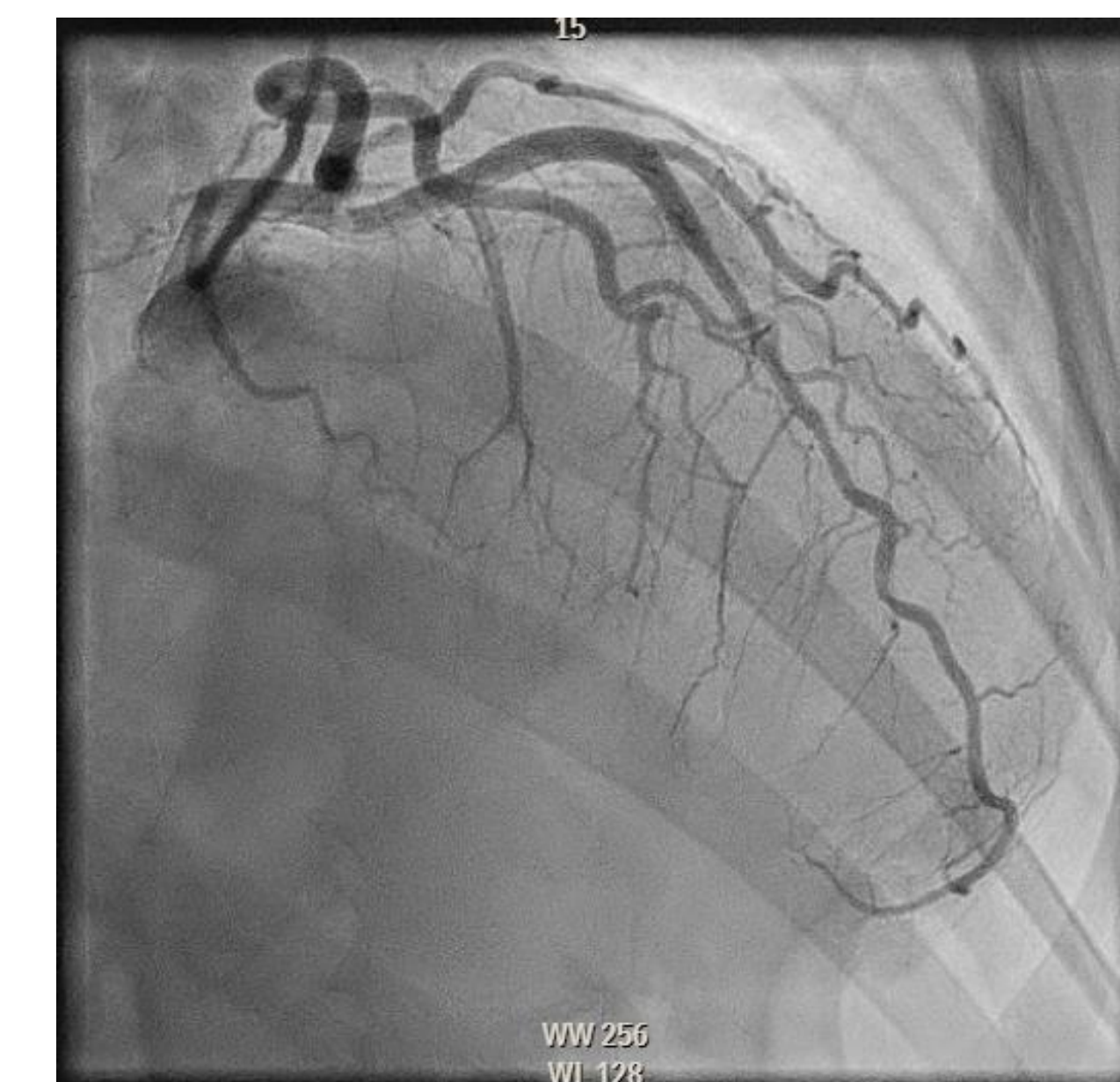
A 44-year-old woman with no significant cardiovascular history presented with acute-onset substernal chest pain. Initial evaluation revealed elevated cardiac troponin levels and nonspecific ST-T wave changes. The patient subsequently developed recurrent refractory chest pain accompanied by new ST-segment elevations in the precordial leads on repeat electrocardiography. Emergent coronary angiography demonstrated a long, diffuse, smooth narrowing of the mid-to-distal LAD consistent with type 2 spontaneous coronary artery dissection, without left main involvement, resulting in approximately 95% luminal narrowing. Following initial medical therapy, the patient stabilized clinically without persistent ischemia or hemodynamic compromise. A conservative management strategy was therefore pursued, and she was discharged on dual antiplatelet therapy and beta-blockade. The patient remained asymptomatic on follow-up. Repeat coronary angiography performed 10 weeks later to assess vessel healing prior to activity clearance demonstrated complete resolution of the previously observed LAD narrowing, with restoration of normal luminal caliber and smooth vessel contours, consistent with full resorption of the intramural hematoma and spontaneous vascular remodeling.



Coronary angiography showing side to side comparison in LAO Cranial View. (Left) Showing LAD dissection and (Right) showing subsequent resolution of dissection and restoration of TIMI 3 Flow on repeat angiography after 90 days.



Coronary angiography showing side to side comparison in RAO Cranial View. (Left) Showing LAD dissection and (Right) showing subsequent resolution of dissection and restoration of TIMI 3 Flow on repeat angiography after 90 days.



Discussion

This case provides longitudinal angiographic documentation of complete LAD remodeling following near-occlusive type 2 spontaneous coronary artery dissection. Despite severe initial luminal compromise (~95%), conservative management resulted in full anatomical restoration within 10 weeks. While spontaneous healing of SCAD is well described in clinically stable patients, this case is notable for the degree of initial stenosis in a major epicardial vessel and the availability of high-quality paired angiography confirming normalization. These findings reinforce that angiographic severity alone should not dictate revascularization in SCAD, with clinical stability and preserved distal flow remaining the primary determinants of management. Given the elevated risk of procedural failure and complication with percutaneous coronary intervention in dissected, friable vessels, conservative therapy with close observation may yield favorable anatomical outcomes in appropriately selected patients, consistent with current societal recommendations.