

Spontaneous Coronary Artery Dissection in a 35 Year-Old Woman with Systemic Lupus Erythematosus Successfully Treated by Angioplasty

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Abstract: Spontaneous coronary artery dissection (SCAD) is an unusual cause of acute myocardial ischaemia with complex pathophysiology; it has been associated with several conditions such as atherosclerosis, connective tissue disorders and the peripartum period. SCAD has exceptionally been reported (three published cases) in patients with systemic lupus erythematosus (SLE). In this work, we report the original case of a 35 year-old woman with a known history of SLE who presented with an acute coronary syndrome caused by an extensive dissection of the left anterior descending artery (LAD) and the diagonal and who was successfully treated by an intravascular ultrasound (IVUS)-guided percutaneous angioplasty.

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Keywords. Systemic lupus erythematosus; Spontaneous coronary artery dissection; Percutaneous coronary interventions

Introduction

Spontaneous coronary artery dissection (SCAD) is an unusual cause of myocardial ischaemia, myocardial infarction and sudden cardiac death with complex pathophysiology [1]. SCAD is defined as a shear between the media and the intima or between the media and the adventitia causing intramural haematoma possibly impeding the true lumen of the coronary vessel [2]. Although, no direct causes and no clear pathological mechanisms have been identified yet, several conditions have been associated with SCAD, such as atherosclerosis, connective tissue disorders and the peripartum period [3]. SCAD has exceptionally been reported in patients with systemic lupus erythematosus (SLE); in this work, we report the case of a 35 year-old woman with a known history of SLE who presented with an acute coronary syndrome caused by an extensive dissection of the left anterior descending artery (LAD) and the diagonal and who was successfully treated by an intravascular ultrasound (IVUS)-guided percutaneous angioplasty.

Case Report

VH, a 35 year-old woman, presented to the emergency department with a low intensity constrictive chest pain evolving for 24 h. She is a current smoker and has been

treated since five years for a SLE with dermatological and neurological manifestations; she had, though, interrupted her corticosteroid therapy several months prior to the current episode. Physical examination was uncharacteristic. EKG showed poor R-wave progression and T wave inversion on anterior leads (Fig. 1). Biology found an elevated troponin I level at 1.2 mg/l, normal blood cells count and a moderately elevated C-reactive protein at 25 mg/l.

She was admitted to our coronary care unit. Transthoracic echocardiography revealed a mild depression in left ventricular systolic function with an ejection fraction at 50% associated with hypokinesia on anterior and lateral walls. Accordingly, she has been treated as non-ST segment elevation myocardial infarction (NSTEMI) with dual antiplatelet agents (60 mg oral prasugrel and 250 intravenous aspirin) and low molecular weight heparin and referred for an inpatient coronary angiogram.

Coronary angiogram performed through right radial access showed an extensive dissection of both LAD and diagonal with a totally occluded mid LAD (Fig. 2, Movie 1), left circumflex and right coronary artery were angiographically normal. For PCI, the left main was cannulated with a 6 French EBU 3.5 guiding catheter (Medtronic, Minneapolis, MN). Under IVUS guidance, and after several attempts, a straight Balanced Middle Weight (BMW™) (Abbott Vascular Inc.) coronary guidewire has finally been successfully placed in distal LAD true lumen with a second BMW protective guide in the diagonal (Fig. 3, Movie 2); after balloon predilatation, a first (3.0/38) drug-eluting stent XIENCE PRIME LL (Abbott Vascular Inc.) was implanted in mid LAD; at control, a retrograde dissection reaching

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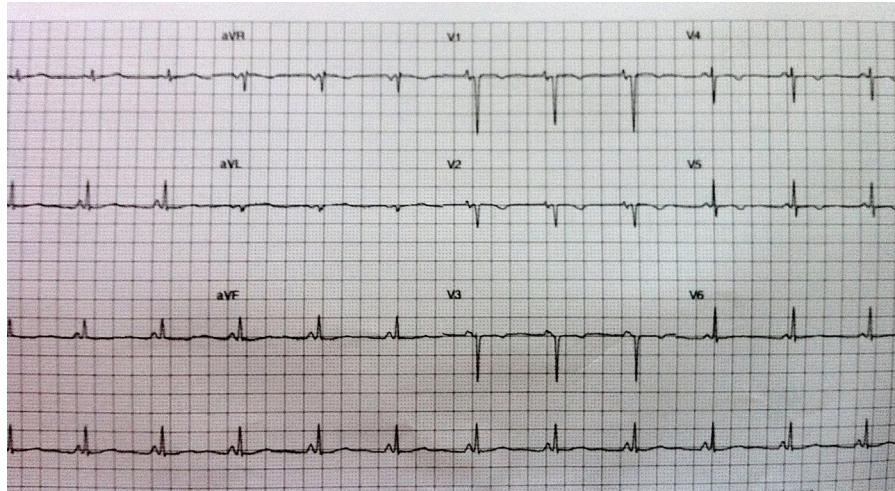


Fig. 1. EKG showing poor R-wave progression with inversion of T waves on anterior leads.

ostial LAD was noted requiring the implantation a second 3.0/33 XIENCE PRIME LL stent covering the ostium and slightly (2 struts) overlapping with the first stent providing a good angiographic result on the LAD but with an

unfortunate loss of the diagonal (Fig. 4). The side branch was, however, successfully rewired with an additional BMW guidewire, and a third long DES (2.5/33 XIENCE PRIME) was implanted into the diagonal through the

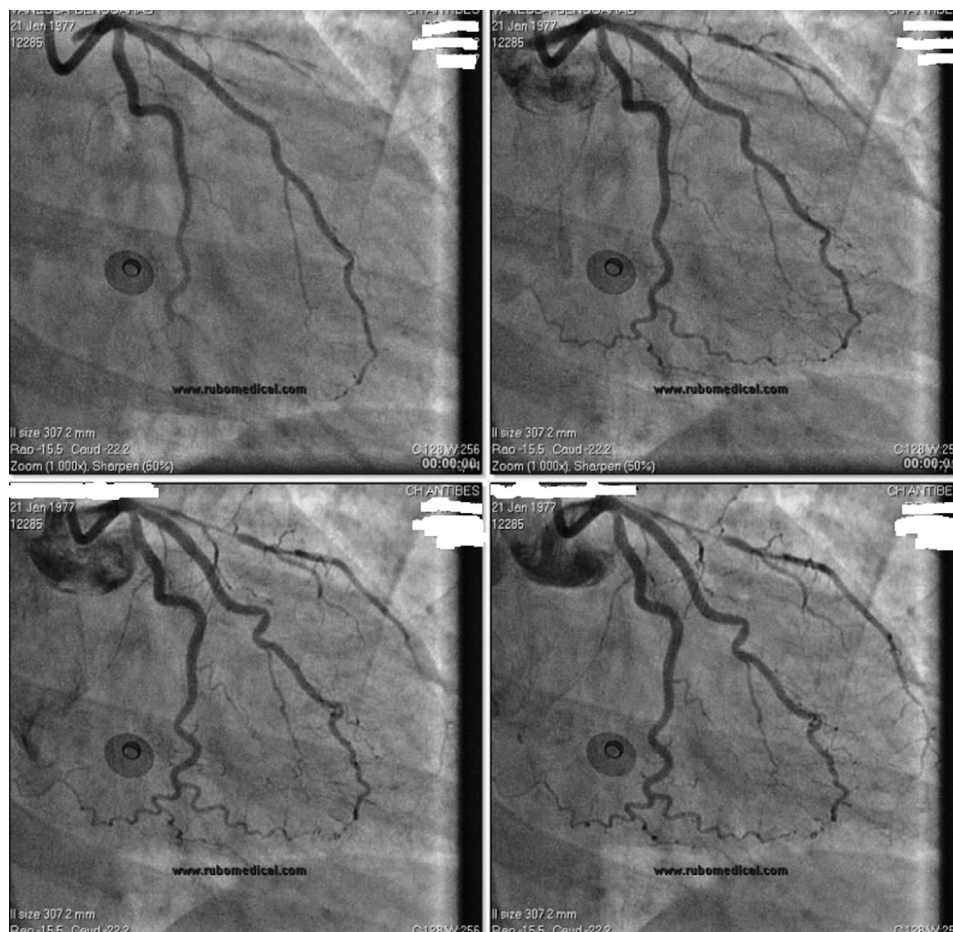


Fig. 2. Coronary angiogram showing extensive dissection on the entire LAD with total occlusion at mid segment along with dissection of the diagonal branch.

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