



## CASE REPORT

# Dyspnea and Recurrent Syncopal Episodes in Patient with Left Main Coronary Artery Stenosis

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## Abstract

**Background:** Ischemia is the clinical syndrome that stems from the mismatch of blood supply and demand. Syncope is one of the rare initial presentations of acute coronary syndrome patients. The paucity of incidence often causes ischaemia to be overlooked as a differential in patients with syncope.

**Case presentation:** We present a case of a 40-year-old woman with no cardiovascular risk factors presented with a history of recurrent syncope and dyspnea without any angina symptoms.

**Management & Results:** A coronary angiogram was done for the patient, showing an ostio-proximal left coronary artery disease. A Xience Prime DES was placed, which ultimately achieved TIMI III flow. Post PCI, the patient exhibited improvement in the symptoms and didn't report any syncopal episodes in the follow-up.

**Conclusion:** Syncope can be the only presenting symptom in patient with Acute Coronary Syndrome (Myocardial Ischemia). It should be explored as a differential in people with no obvious neurological cause.

## Keywords

Syncope, Left Main Coronary Artery Disease, Percutaneous Coronary Revascularization, Osteo-proximal disease, Dyspnea.



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## Introduction

Myocardial Ischemia results from the mismatch of supply and demand of blood supply in the coronary arteries. The mismatch of blood supply gives rise to symptoms, which include a constricting feeling in the center of the chest and radiating to arms, which might exaggerate with exertion. This discomfort, labeled as angina<sup>1</sup>. The symptoms might not always present classically and might have other uncommon presentations. The presentations include discomfort in Arm, Jaw, Neck, Ear whereas some can have a syncopal episode as an atypical presentation of angina<sup>2</sup>.

Left Main coronary artery disease is associated with a high incidence of mortality and morbidity due to a large amount of myocardium supplied by the vessel<sup>3</sup>. Even in patients with non-obstructive left main coronary artery disease, there is an increased incidence of adverse outcomes. Identifying the left main coronary artery disease can be used as a vital tool in stratifying risk in patients with coronary artery disease<sup>4</sup>. Left Main coronary artery disease may also serve as an indicator for aggressive coronary artery disease and require intensive therapy<sup>5</sup>.

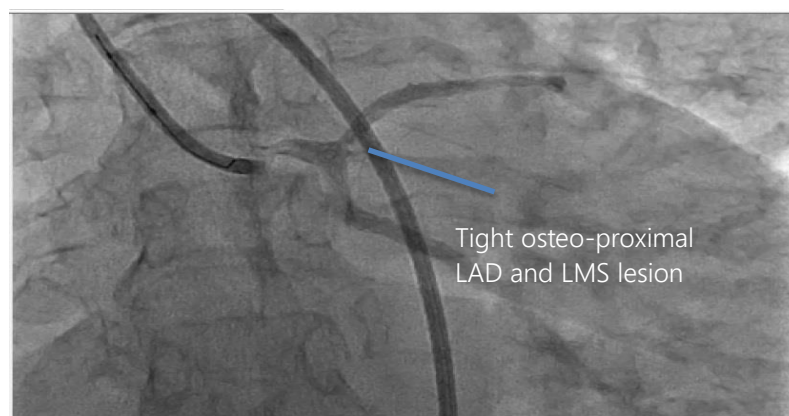
## Case description

A 40-year-old female with no previous comorbidities, syncopal episodes, and persistent dyspnea on exertion presented to the ER of Lady

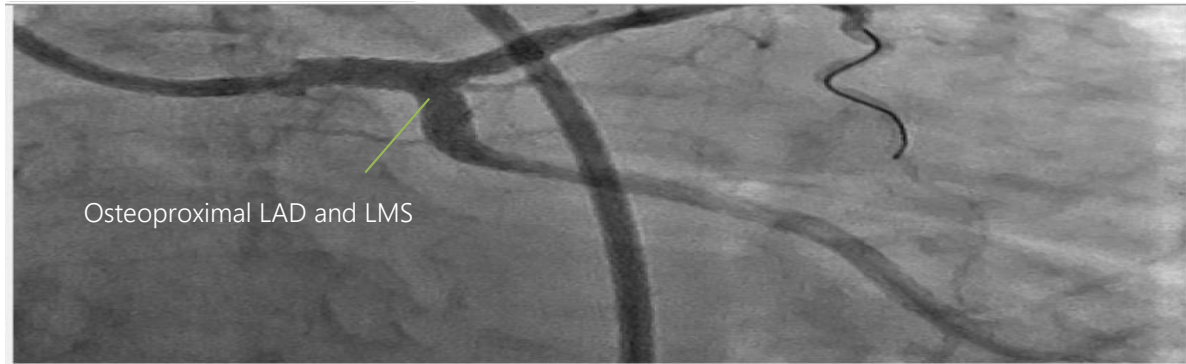
Reading Hospital. The patient gave a history of syncopal episodes and dyspnea over the past two years. The patient was not using any medication and did not report any family history of cardiac disease, diabetes, or hypertension. No discernable clinical findings were pointing towards any specific disease on examination. After being admitted to the inpatient department, multiple chemical and radiological investigations were done for the patient. All chemical labs, including Troponin-I, were not deranged. The patient had multiple ECGs, which also didn't exhibit any pathology. Then did the MRI brain with contrast for the patient, which was also insignificant, and no pathology was seen in the MRI scan of the patient. The patient was persistently symptomatic and hence enlisted for Coronary Angiography.

## Clinical Procedure

The radial artery was cannulated, and the coronary arteries were accessed through the Seldinger technique, which showed an osteo-proximal lesion in the left main coronary artery. The LAD was wired BMW GW the lesion in os-LMS was pre dilated with emerge 2.5x12mm followed by os LAD, another BMW GW was passed into LCX. Xience Prime 3.5x23mm was deployed in the os LMS extending into the os LAD without any complications. POT in ostial Floris LMS was done NC emerge 405x8mm without any immediate complications, and TIMI III flow achieved.



**Figure 1: coronary angiography**



**Figure 2: after percutaneous coronary intervention.**

**Table 1: Baseline blood investigations**

<b>Cardiac profile</b>	<b>AST</b>	<b>17.6 U/L (10-25)</b>
	<b>LDH</b>	<b>197 U/L (91-180)</b>
	<b>CK</b>	<b>99 U/L (0-166)</b>
<b>Liver function tests</b>	Total Bilirubin	0.29 mg/dl (0.1-1.0)
	AST	14 U/L (10-50)
	Alkaline Phosphatase	128 U/L (35-104)
<b>Renal function tests</b>	Blood urea	28 mg/dl (18-45)
	Serum creatinine	0.97 mg/dl (0.42-1.06)
<b>Serum electrolytes</b>	Sodium	140mmol/L (135-150)
	Potassium	4.12mmol/L (3.5-5.1)
	Chloride	102.3 mmol/L(96-112)
<b>Cardiac troponin</b>	Trop I	<0.1 ng/ml (<0.6)
<b>Covid-19</b>	PCR Covid-19	Not detected

## Discussion

The patient had a history of recurrent syncopal episodes, but no cause for the syncopal episodes was identified, and multiple times the ECGs were done, which didn't show any pathology. It is not unusual for a cause of syncope to be unidentified after an initial evaluation in the ER with an exact cause only diagnosed in 20 to 50% of the patients<sup>6</sup>. Syncope is more common in elderly females, and there is a significant association between the cardiovascular comorbidity and syncope<sup>7</sup>.

Syncope can occur in patients having the acute coronary syndrome, but the presenting complaints almost always have some chest pain, or the history has some cardiovascular risk factor including obesity, diabetes hypertension<sup>8</sup>. Our patient was

unique because not only did she not have any cardiovascular risk factors, but she didn't have any chest pain on presentation. She had an osteo-proximal lesion in the left main coronary compared to the Min Li case, where the patient had a lesion in the left main coronary artery and the LAD (Left anterior descending). Left main coronary artery disease can be the nadir of the severity of coronary artery disease and is associated with many cardiovascular complications.

PCI to the left main coronary artery has been shown to be safe and effective with no significant difference in the primary outcome over five years<sup>9</sup>. As the patient had a low syntax score, PCI to the LAD was a reasonable choice taking benefit vs. risk under consideration. The angiographic follow-up

after Left Main PCI is associated with lower MACE events rather than just medical follow-up and can be considered in such patients<sup>10,11</sup>.

## Conclusion

Syncope can be a rare initial presentation of patients with coronary artery disease and must not be ignored even in relatively young patients with the established risk factors for cardiovascular disease. Initial evaluation might not reveal an obvious cause for the syncope, and coronary artery disease should be included in the differential diagnosis.

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