

## ATYPICAL PRESENTATION OF CARDIAC SYNCOPE IN THE ELDERLY: A CASE REPORT

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All the authors contributed significantly to the research that resulted in the submitted manuscript.

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### ABSTRACT

Syncope is defined as a transient, self-limited, loss of consciousness with an inability to maintain postural tone, which is followed by spontaneous recovery<sup>1</sup>. Syncope can be cardiac or non cardiac in origin. In elderly, cardiac syncope has worse prognosis and can present atypically. We report the case of a 75 year old patient who presented with history of syncope at home after developing an allergic reaction to diclofenac and colchicine. He had non-ST elevation myocardial infarction (NSTEMI) and angiogram revealed severe atheromatous coronary disease with culprit right coronary artery (RCA) lesion. Transient sinus node dysfunction secondary to ischemia was thought to cause his syncope. He had coronary artery bypass grafting and was discharged home a few days later. **CONCLUSION:** Significant coronary artery disease was unmasked in our patient by an initial allergic reaction. In elderly patients, a thorough work- up to rule out cardiac syncope is indicated.

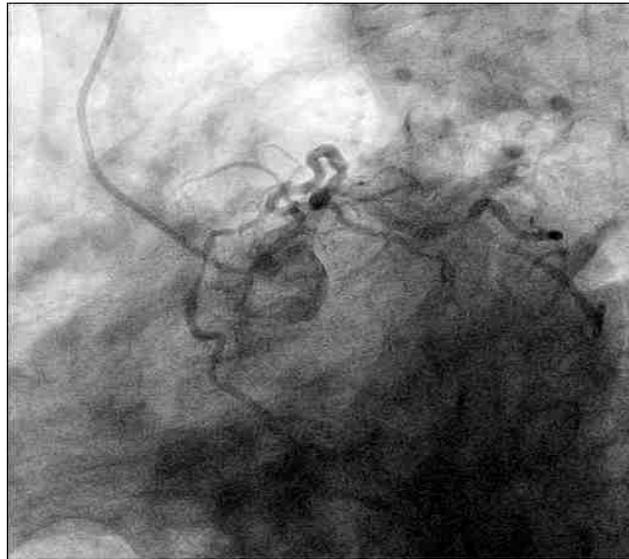
### INTRODUCTION

Syncope is defined as a transient, self-limited, loss of consciousness with an inability to maintain postural tone, which is followed by spontaneous recovery.<sup>1</sup> Syncope is a common clinical problem accounting for 1-3% of all emergency department (ED) visits and 6% acute admissions.<sup>2</sup> Assessment of syncope in patients presenting to the emergency department is challenging because of the heterogeneity of underlying pathophysiologic processes and diseases. Although many underlying causes of syncope are benign, others are associated with substantial morbidity or mortality, including cardiac arrhythmia, myocardial infarction, pulmonary embolism and occult hemorrhage.<sup>3,4</sup>

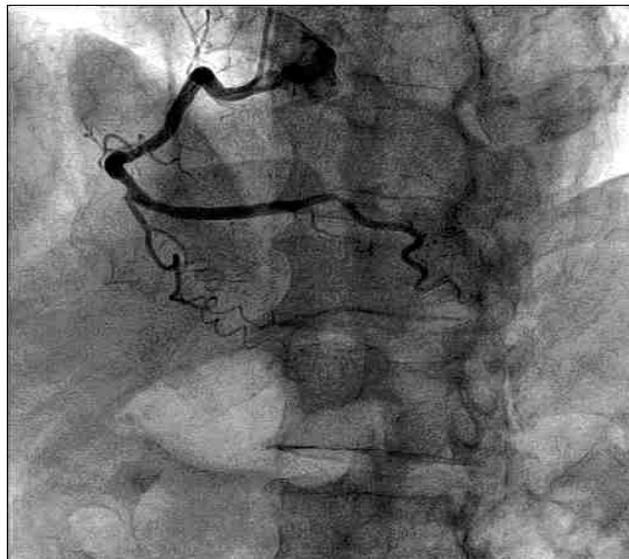
### CASE REPORT

A 75 year old, retired farmer, self-presented to the emergency department with an episode of syncope at home. In the early morning, he treated himself with colchicine and diclofenac sodium for an acute attack of gout. Later in the morning while visiting his wife's grave at local cemetery, he noticed an acute, generalized,

**Figure 1a: LAO Caudal view, showing significant, Left Anterior Descending and Circumflex disease**



**Figure 1b: LAO(Left Anterior Oblique) View of RCA , arrow pointing at occluded PLV**



macular rash on his body. He returned home and passed out in his bedroom. He regained consciousness in a few minutes, noticed the fading rash fading, and decided to visit the emergency department.

His examination was unremarkable rash. His ECG revealed inferior leads ST flattening. His troponin-I was significantly raised to 1.74 microgram/litre Normal (0.01-0.06 microgram/litre). He was diagnosed with a type II, non-ST elevation myocardial infarction (NSTEMI). Arrhythmia was thought to be the likely cause of his syncope. He was treated along standard lines of NSTEMI.

His cardiovascular risk factors included hypertension and a cholesterol: HDL ratio of 4.6. He was on regular bendrofluthiazide for his hypertension. Difficult to explain drug allergy as he has been using this combination previously.

On further investigations, his echocardiogram was unremarkable. His inpatient coronary angiography revealed diffuse triple vessel atheromatous disease, with total occlusion of the postero-lateral branch of the dominant right coronary artery (RCA). The latter was presumed to be the culprit lesion (Figure 1a & b).

He had uneventful recovery from coronary artery bypass grafting (CABG), and was discharged home on secondary prevention.

## DISCUSSION

Syncope is a common clinical problem accounting for 1-3% of all emergency department (ED) visits and 6% acute admissions.<sup>2-4</sup> The causes of syncope are usually benign, but are occasionally significant and life-threatening particularly in elderly. Cardiovascular causes are particularly dangerous and, are twice as likely to result in death compared with non-cardiac causes.<sup>5</sup> Syncope can be a presenting complaint in 4-6% of acute myocardial infarction and more common in elderly.<sup>6,7</sup> History taking is very important to differentiate the cause of syncope.<sup>2</sup> Unfortunately, a cause for syncope can only be identified in 50% of patients at the time of their ED visit, and, for those patients, it is often unclear whether a cardiac condition caused their syncope.<sup>1</sup> Increasing age is a predictor of poor prognosis in syncope, as elderly commonly have underlying structural myocardial disease, arrhythmia, autonomic failure, vasomotor instability, polyneuropathy and polypharmacy.

Arrhythmias account for 85% of cardiac syncope at presentation and ventricular tachycardia is the most common (37%) form of arrhythmia.

In our patient a probable allergic reaction caused hypotension along with the release of potent coronary vasoconstrictors including histamine and leukotrienes. This can cause coronary vasospasm, hypoperfusion and disruption of plaque resulting in myocardial injury.<sup>8</sup>

Extensive work has been done to risk-stratify patients with syncope. San Francisco Syncope Rule was prospectively derived and validated to predict short-term serious outcomes in patients presenting to the ED with syncope.<sup>1,3</sup> Martin et al proposed a risk stratifying tool to predict year mortality in patients, based on age, history of cardiac failure, ventricular arrhythmia and presence of abnormal ECG.<sup>9</sup> Syncope in a patient with poor baseline cardiac function has poor prognosis irrespective of aetiology. NYHA III and IV heart failure with syncope has 45% year mortality, as compared to 12% of those without syncope.<sup>5</sup> Autonomic dysfunction in elderly can cause painless myocardial infarction with atypical presentations, which can present as unexplained syncope.

## CONCLUSION

Elderly presenting with syncope require a more careful workup to exclude cardiac cause, as cardiac syncope is more common with aging and has worse prognosis. Our patient was extensively investigated to exclude cardiac cause of his syncope. He has gained prognostic and

symptomatic benefits after successful treatment of his underlying significant coronary artery disease which was the likely cause of ischemia driven arrhythmia causing syncope associated with probable drug allergy.

## ACKNOWLEDGEMENT

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