

## A rare case of primary aldosteronism presenting with embolic myocardial infarction

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Primary aldosteronism (PA) is now recognized as the most common cause of secondary hypertension (HTN). Patients with PA experience more cardiovascular events than those with essential HTN. Heart failure and arrhythmia such as atrial fibrillation (AF) are the most common cardiovascular complications occurring in PA patients, and a few cases of coronary artery disease (CAD) related to PA have been reported. Herein, we report a rare case of PA patient who presented with myocardial infarction (MI) associated with coronary embolism (CE) in the absence of coronary artery atherosclerosis and AF. A 52-year-old woman was transferred to our emergency room (ER) with the sudden onset of chest pain and an abnormal electrocardiogram (ECG). She had never smoked and had no cardiovascular risk factors except HTN. Acute MI was suspected, and coronary angiography was performed. No significant stenosis was observed. However, there was embolization of the distal left anterior descending artery (Fig. 1A). To determine the cause of coronary embolization, blood test results were reviewed, and additional tests were performed. Holter monitoring was performed, but no significant arrhythmia was observed. PA was strongly suspected due to hypokalemia (potassium 2.9 mmol/L) and elevated aldosterone to renin ratio (ARR) with high aldosterone level (aldosterone 56.6 ng/dL, aldosterone:renin ratio (ARR) 283 (normal value <30). The computed tomography scan revealed an abnormal mass in the left adrenal gland (Fig. 1B). The laparoscopic surgery and histopathology confirmed the presence of adrenocortical adenoma (Fig 1C). After surgery, the patient's serum potassium level was normalized, and blood pressure was controlled by the administration of 40 mg telmisartan once a day. We believe that our report makes a significant contribution to the literature because we present a rare case of a patient with primary aldosteronism (PA) who presented with myocardial infarction (MI) associated with coronary embolism (CE) in the absence of coronary artery atherosclerosis and atrial fibrillation.

