AN UNUSUAL TRIAD OF COCAINE USE:

SPONTANEOUS CORONARY ARTERY DISSECTION, BRUGADA-LIKE ECG PATTERN AND PNEUMOTHORAX

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BACKGROUND

Cocaine is a known precipitant of acute cardiovascular events, including coronary vasospasm, spontaneous coronary artery dissection (SCAD), arrhythmias, and pulmonary complications such as pneumothorax. The simultaneous presentation of SCAD, Brugada-like ECG pattern and pneumothorax has not been previously reported.

PRESENTATION & HOSPITAL COURSE

A 58-year-old male with a history of active tobacco and cocaine use presented with acute right-sided sharp chest and back pain. A chest x-ray revealed a right pneumothorax. A chest tube was placed. Electrocardiogram showed coved ST elevation and T-wave inversion in V1-V2, with hyperacute T waves in V3-V5, raising concern for a Brugada-like pattern. Troponin was within normal limits. Cardiac catheterization identified SCAD of the terminal OM1 branch. Transthoracic echocardiogram showed normal LVEF without structural or wall motion abnormality. Persistent air leak required bronchoscopy with right middle lobe endobronchial valve placement, followed by a robotic-assisted wedge resection, pleurodesis, and pleural tent. Patient recovered well and was discharged on aspirin, high-intensity statin, and acetaminophen.

DISCUSSION

Since there are no risk factors for atherosclerosis or iatrogenic injury, cocaine is considered the most probable trigger for SCAD. Additionally, in the absence of syncope, ventricular arrhythmia, a family history of sudden cardiac death, and with convex ST elevation on repeat ECG, Type I Brugada syndrome was ruled out. Cocaine can induce a transient Brugada-like ECG pattern due to its sodium channel-blocking effects. Cocaine can also cause spontaneous pneumothorax, even in the absence of underlying lung disease. To our knowledge, this is the first reported case of concomitant SCAD, Brugada-like ECG pattern and spontaneous pneumothorax attributed to cocaine use.

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CONCLUSION

Cocaine can simultaneously precipitate SCAD, Brugada-like ECG changes and pneumothorax. Multidisciplinary management is essential for improving outcomes in this presentation.

Cocaine use can simultaneously precipitate SCAD, Brugada ECG changes, and pneumothorax, highlighting the need for high clinical suspicion and multidisciplinary management

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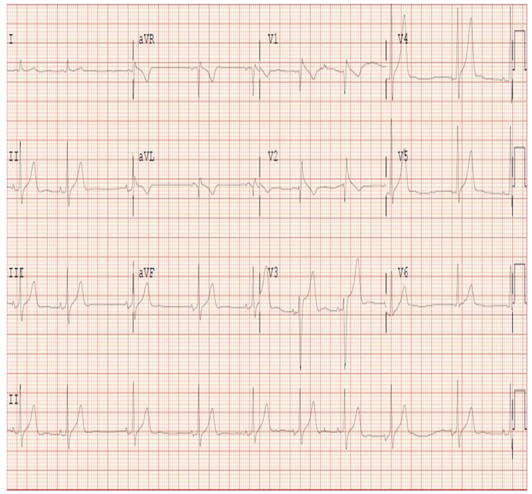
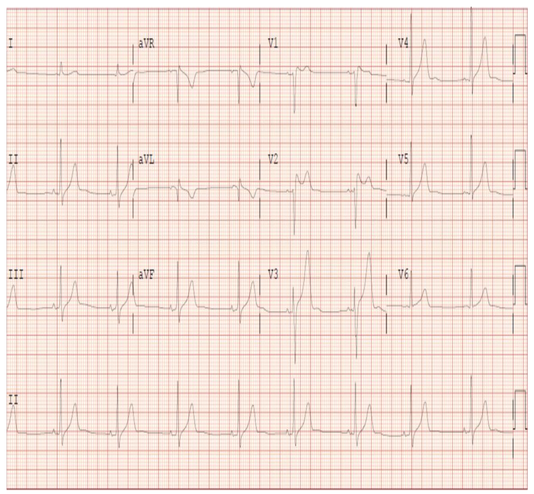
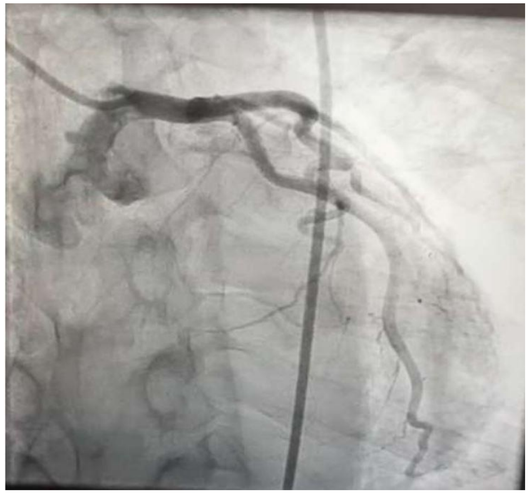
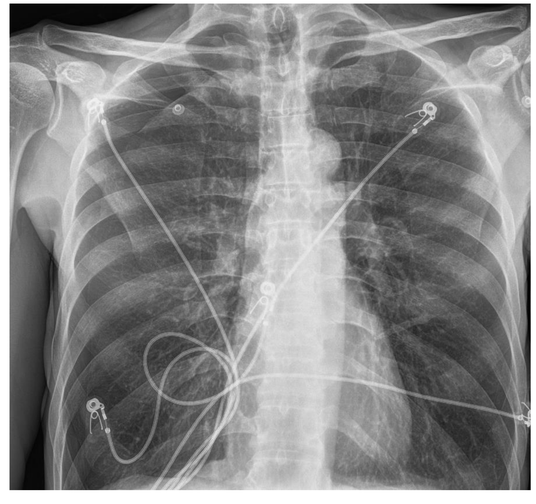
IMAGING





Electrocardiogram (ECG) showed coved ST elevation and T-wave inversion in V1-V2, with hyperacute T waves in V3-V5, raising concern for a Brugada-like pattern (left). Repeat ECG revealed convex ST elevation which ruled out Type 1 Brugada syndrome.





Cardiac catheterization showed SCAD of OM1 branch. X-ray showed right sided small pneumothorax.