

Cocaine-Induced Pneumopericardium

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A 20-year-old man without past medical history was admitted for diffuse left-sided and retrosternal chest pain after he was “told and forced to swallow crystal rocks.” He denied any prior symptomatology and denied cough. In the emergency department, he had a normal physical examination and laboratory studies. The ECG, however, showed diffuse ST-segment elevations (Figure 1). He was admitted to the Coronary Care Unit. Within 6 hours of admission, he developed a pericardial friction rub. His urine toxicology screening was positive for cocaine. The chest x-ray was consistent with the diagnosis of pneumopericardium (Figure 2).

On the second hospital day, the patient underwent both an esophageal contrast study with gastrografin and a cardiac echocardiogram. Both were normal. Subsequent chest x-rays showed a slow resolution of his pneumopericardium (Figures 3 and 4).

Cocaine-induced pneumopericardium has seldom been reported, and its mechanism remains elusive. In the present case, we postulate that the likely use of “crack” cocaine with solid contaminants in the crystalline mass could have caused a microscopic esophageal tear and eventually produced a leak of air into the pericardial sac that was self-contained. The patient was discharged in stable condition on the fourth hospital day.

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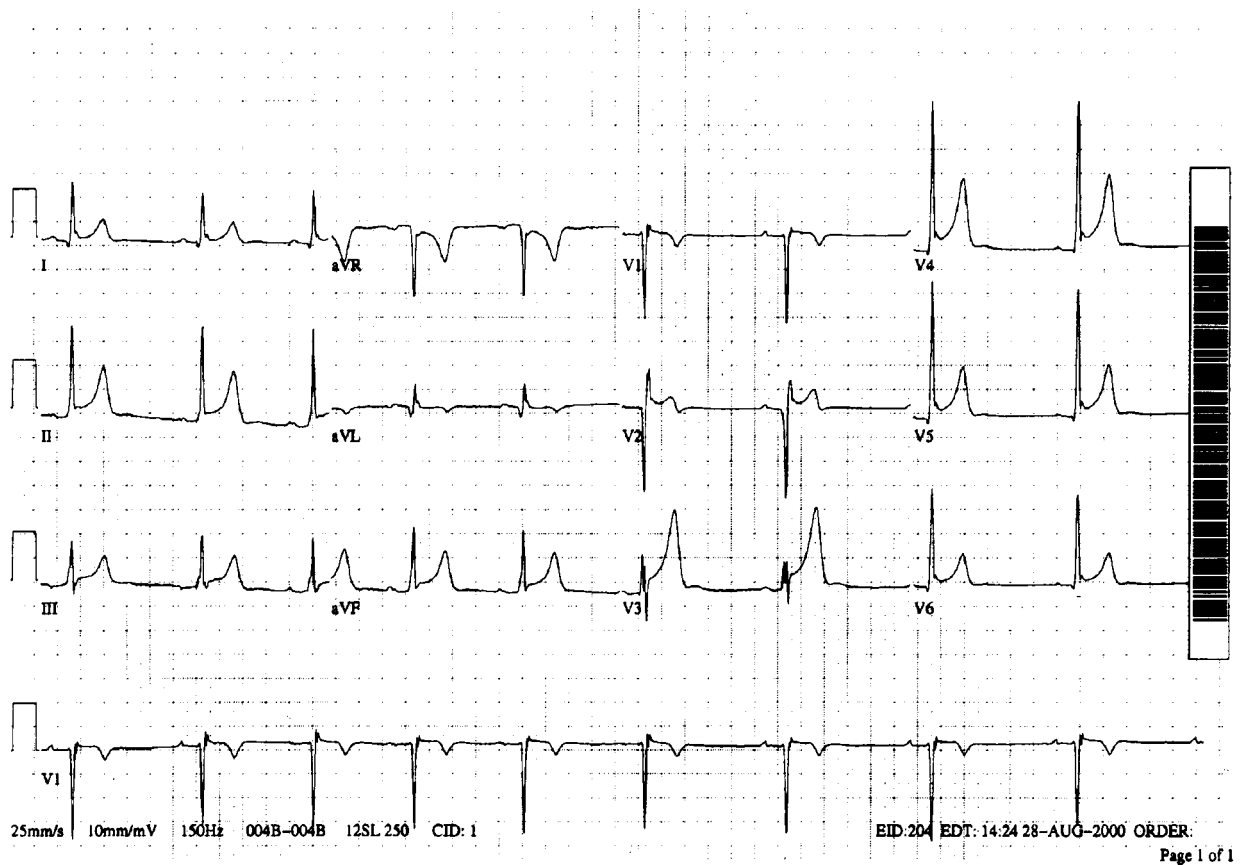


Figure 1. First ECG, which was taken on admission, shows diffuse ST-segment elevation across all leads. This pattern is consistent with acute pericarditis.

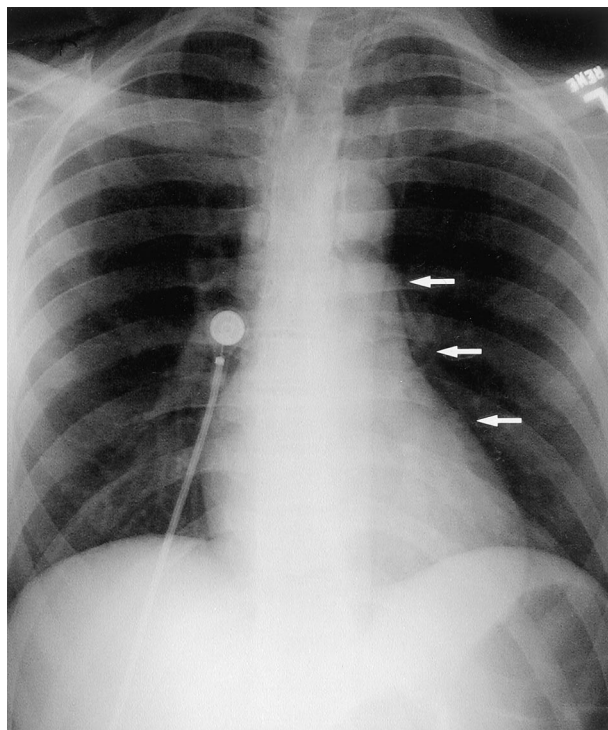


Figure 2. On admission, chest x-ray shows linear detachment along silhouette of left ventricle and left atrium (marked with arrows). At time of this x-ray, the patient had a loud pericardial rub.

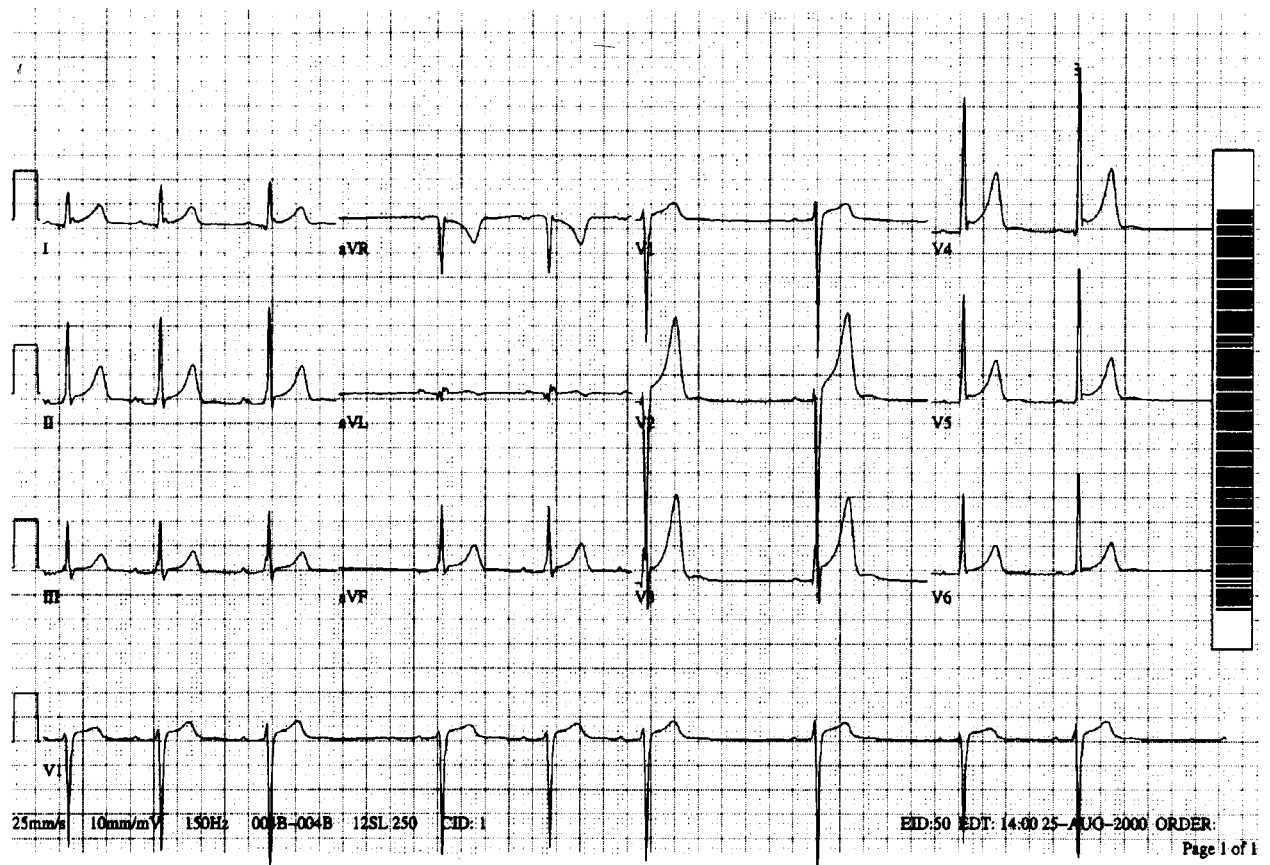


Figure 3. This ECG, which was performed on fourth hospital day, shows ST-segment elevation with improvement in bipolar leads and is consistent with clinical resolution of pneumopericardium.

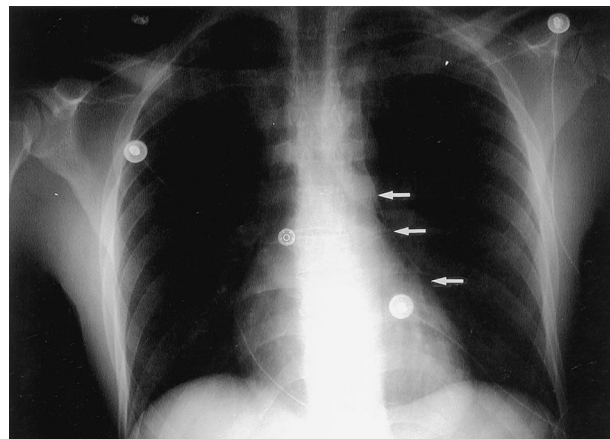


Figure 4. On discharge, x-rays showed improvement of detached pericardium and, on auscultation, the pericardial rub could no longer be heard. Arrows indicate silhouette of left ventricle and left atrium.

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