

Acute Pulmonary Hemorrhage Following Coronary Angioplasty: A Rare but Life-Threatening Emergency

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ABSTRACT

Acute pulmonary hemorrhage is a rare but potentially fatal complication that can follow coronary angioplasty. It is characterized by bleeding into the alveolar spaces, which can lead to acute respiratory distress, hemoptysis, hypoxia, and hemodynamic instability. Early recognition and aggressive management are critical to patient outcomes. This article presents an in-depth review of a rare case of pulmonary hemorrhage post- angioplasty, with a focus on pathophysiology, diagnostic challenges, management strategies, and clinical implications for emergency physicians.

Keywords: Acute Pulmonary Hemorrhage, Coronary Angioplasty Complications, PCI, Emergency Medicine, Pulmonary Bleeding, Case Report

Introduction

Coronary angioplasty, or percutaneous coronary intervention (PCI), is a common procedure performed to manage coronary artery disease. Although generally safe, rare complications such as acute pulmonary hemorrhage can occur. Emergency physicians must maintain a high index of suspicion when patients present with respiratory distress post-procedure. The prompt diagnosis and treatment of this condition are essential for survival.

What is Acute Pulmonary Hemorrhage?

Pulmonary hemorrhage refers to bleeding within the lungs and alveoli.

It can result from various conditions including vasculitis, infections, coagulopathies, and procedures like coronary angioplasty.

Incidence After Coronary Angioplasty

Incidence is rare but increasing due to the complexity of cases

and use of anticoagulants. Reported rates vary from case reports; exact data are limited.

Pathophysiology

Bleeding occurs due to rupture of pulmonary capillaries or small vessels. Contributing factors include antiplatelet therapy, anticoagulation, and vascular injury.

Clinical Presentation

Hemoptysis (coughing up blood) Shortness of breath or acute respiratory distress Hypoxia and altered mental status Diffuse pulmonary infiltrates on imaging

Diagnosis

High-resolution CT scan of the chest Bronchoscopy for localization of bleeding source Laboratory tests: CBC, coagulation profile, ABG

Management Strategies

Immediate cessation of anticoagulants and antiplatelets Oxygen therapy or mechanical ventilation

Bronchial artery embolization in severe cases Steroids or immunosuppressants if vasculitis is suspected.

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Case Report Overview

A 62-year-old male developed respiratory distress within hours post-angioplasty. Initial evaluation showed diffuse infiltrates and falling hemoglobin. Management included cessation of anticoagulants, supportive care, and ICU monitoring. Patient recovered fully over 7 days.

Emergency Department Protocol

Recognition of symptoms early post-angioplasty. Rapid imaging and supportive management. Multidisciplinary coordination with cardiology and pulmonology.

Clinical Pearls

Always consider pulmonary hemorrhage in post-PCI respiratory distress. Avoid overuse of antiplatelets unless clearly indicated. Keep a low threshold for bronchoscopy in unclear cases.

Conclusion

Although rare, pulmonary hemorrhage post-angioplasty requires immediate attention. Emergency physicians must be aware of this possibility to improve outcomes through early diagnosis and treatment [1-13].

Call to Action

Emergency professionals should update protocols and training to include awareness of pulmonary hemorrhage as a post-PCI complication. More studies are needed to understand predictors and prevention strategies for this rare but critical event.

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