

**Chest Pain in a Middle-Aged Smoker with Heart Failure and Missing Lung**

**Authors:** Aldo Barajas-Ochoa, MD, Afif Hossain, MD, Sarah Hossain, BA, Michael A. Jaker, MD

**Case Presentation:** A 45-year-old man presented with sharp, left-sided chest pain of one-hour duration that radiated to the right chest and back, and started two hours after snorting cocaine. He was an active smoker and his medical history included pulmonary embolism on anticoagulation, heart failure with reduced ejection fraction of 9% with an implantable cardioverter-defibrillator, and cocaine use disorder. A chest x-ray showed the absence of pulmonary vascular markings in the right lung apex. Computerized tomography of the chest showed large bullae, consistent with vanishing lung syndrome.

**Methods:** All patient information was de-identified and patient consent was obtained. Literature review for vanishing lung syndrome was conducted and all citations are available for review.

**Discussion:** Vanishing lung syndrome is defined as the presence of giant bullae in one or both lungs, occupying at least one third of the hemithorax and compressing surrounding normal lung parenchyma. The disease usually affects young male smokers with a history of cannabis use or alpha-1 antitrypsin deficiency, and it is frequently unilateral. The condition is progressive, with continuous enlargement of the bullae that results in further compression of the adjacent lung parenchyma and worsening dyspnea. Its management includes optimizing of the medical conditions, and surgical interventions such as bullectomy or endobronchial valve insertion. Indications for bullectomy include severe dyspnea, pneumothorax, pain, infection, and/or hemoptysis.

**Conclusion:** This patient was admitted to the hospital for evaluation for acute coronary syndrome, which was negative, and his chest pain resolved spontaneously. A review of the patient's previous imaging findings revealed progressive expansion of the right apical bullae over one year. The patient did not undergo surgical evaluation for bullectomy due to his end-stage heart failure and decision to continue smoking.