



CARDIAC ASTHMA

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Article history:	Abstract:
Received: 6 th April 2025 Accepted: 4 th May 2025	Cardiac asthma is an acute manifestation of left ventricular heart failure characterized by pulmonary interstitial and alveolar edema. It presents clinically with sudden onset dyspnea, orthopnea, tachycardia, and cyanosis. This article discusses the key etiological factors, clinical features, differential diagnosis, and resuscitative management of cardiac asthma.

Keywords: cardiac asthma, left ventricular failure, pulmonary edema, resuscitation, morphine, furosemide, bronchial asthma

INTRODUCTION

Cardiac asthma is a clinical condition caused by acute left ventricular failure, leading to blood accumulation in the pulmonary circulation and subsequent pulmonary edema. Although its presentation may resemble bronchial asthma, its etiology and treatment differ significantly. Cardiac asthma is a life-threatening emergency that requires rapid diagnosis and immediate intervention.

Etiology

The main underlying causes of cardiac asthma include:
Arterial hypertension – increased afterload on the heart
Myocardial infarction – impaired left ventricular contractility
Interstitial pulmonary edema – due to venous congestion
Cardiovascular diseases – especially chronic heart failure
Atherosclerosis – reduced coronary perfusion
Unstable angina – acute ischemic episodes
Cardiomyopathies – structural and functional myocardial disorders
Ventricular aneurysm – reduced cardiac output due to ventricular wall deformation

Clinical Features

Cardiac asthma typically presents during nighttime while the patient is at rest or asleep. The hallmark symptoms include:

Severe inspiratory and expiratory dyspnea
Intense sense of anxiety and fear
Profuse cold sweating
Cyanosis (bluish discoloration of lips and extremities)
Tachycardia (rapid heart rate)
Hypotension (low blood pressure)
Audible wet rales in the lungs

Emergency Resuscitative Management

Immediate medical intervention is critical. Management includes both positional and pharmacological therapy.

Initial Measures:

Position the patient in a semi-sitting posture (45°). Provide oxygen therapy, preferably humidified with 70% ethanol if pulmonary edema is severe.

Pharmacological Therapy:

1. Furosemide 1% – 4.0 mL IV (loop diuretic to relieve pulmonary congestion)
2. Strophanthin 0.025% – 1.0 mL + 0.9% NaCl – 10.0 mL IV (cardiotonic effect)
3. Morphine 1% – 1.0 mL IV (relieves dyspnea and anxiety)
4. Dexamethasone 1.0 mL IV (anti-inflammatory and membrane stabilizing effects)
5. Nitroglycerin – 1 tablet every 10 minutes (reduces preload and pulmonary congestion)

In critical cases

0.9% NaCl – 10.0 mL + 70% Ethanol – 2.5 mL IV, administered very cautiously (reduces surface tension in alveoli and helps oxygenation)

Differential Diagnosis: Cardiac Asthma vs. Bronchial Asthma

Feature Cardiac Asthma Bronchial Asthma

Type of Dyspnea Inspiratory Expiratory

Lung Sounds Moist rales Wheezing (dry rales)

Allergic Background Usually absent Commonly present

Patient's Posture 45° semi-sitting 90° sitting upright

Pulmonary Edema Present Absent

CONCLUSION

Cardiac asthma is a severe and potentially fatal complication of acute left-sided heart failure. Prompt recognition, differentiation from bronchial asthma, and rapid administration of appropriate therapy are crucial to improving prognosis and reducing mortality. A structured emergency protocol significantly increases the chances of patient survival.

REFERENCES



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1. Braunwald E. Heart Disease: A Textbook of Cardiovascular Medicine. 11th Edition. Elsevier, 2018.
2. European Society of Cardiology Guidelines (ESC, 2021): Acute Heart Failure.
3. Zipes DP, Libby P, Bonow RO, Mann DL. Braunwald's Heart Disease, 2019.
4. Gheorghide M et al. Acute heart failure syndromes: pathophysiology and treatment. J Am Coll Cardiol. 2005;46(4):669–676.