



Title: ACUTE CHEST PAIN. ACUTE CORONARY SYNDROME

Author: C. Araguás MD, J. Font MD

Internal Medicine Service, Emergency Department

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- Abstract -

Acute nontraumatic chest pain, understood as any pain of recent onset located between the neck and the diaphragm, is one of the most common causes of emergency department consultations (accounting for 5%-20%). The diagnosis of acute nontraumatic chest pain is important because it is associated with various life-threatening conditions. The most common serious cause of acute chest pain is the acute coronary syndrome (ACS).

The pathophysiology of ischemic heart disease is complex and multifactorial. On the one hand, a constant, practically irreversible process (atherosclerosis) causes slow gradual narrowing of the lumen of the arteries; on the other hand, a dynamic, potentially reversible process modifies this slow progression toward a sudden, unpredictable partial or complete occlusion of a coronary artery (*thrombosis, vasospasm, microembolization*).

The management of ACS requires a thorough diagnostic workup (based on the clinical history, EKG, and markers of myocardial damage) to classify patients into one of two large diagnostic groups: a) ST-elevation myocardial infarction (STEMI) ACS / newly appearing left bundle branch block (LBBB) or b) non-STEMI ACS. From this point, the key lies in the correct stratification of risk to optimize treatment and prevent complications. Although the cardinal symptom in both groups is pain, there are pathophysiological differences between the two groups of patients that will influence the choice of treatment and the prognosis.

Two treatment strategies are available for patients diagnosed with ACS: drug therapy and interventional therapy. Both have proven efficacious and they are complementary. Drug therapy is mainly based on antithrombotic drugs (antiplatelet drugs – aspirin, thienopyridines like clopidogrel and glycoprotein IIb/IIIa inhibitors, - and anticoagulants – sodium heparin, enoxaparin, and fondaparinux) and anti-ischemic drugs (nitrates, calcium blockers, and calcium antagonists). The interventional strategy aims to open the artery and prevent reobstruction. This objective can be reached with percutaneous treatment or open surgery (coronary bypass).