Editorial
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Acute Coronary Syndrome: Diagnosis and Management

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Editorial

Acute Coronary Syndrome (ACS) is a syndrome (a group of signs and symptoms) caused by a reduction in blood flow in the coronary arteries, causing part of the heart muscle to stop working or die. The most typical symptom is crushing; central chest discomfort that often radiates to the left shoulder or angle of the jaw, and is accompanied by nausea and perspiration. Many persons with acute coronary syndromes, especially women, the elderly, and those with diabetes, have symptoms other than chest discomfort.

Acute coronary syndrome is classified into three categories based on the length of symptoms, the presence of ECG alterations, and the results of blood tests: ST elevation myocardial infarction (STEMI), non-ST elevation myocardial infarction (NSTEMI), and unstable angina (38 percent). In most cases, unstable angina occurs when symptoms last shorter than 30 minutes. Acute myocardial infarction is diagnosed when symptoms last for longer than 30 minutes. [1]

Stable angina occurs during physical activity or stress and resolves at rest, whereas ACS develops during physical activity or stress and resolves at rest. Unstable angina, as contrast to stable angina, strikes unexpectedly, typically at rest or with minimum exertion, or at lower levels of exertion than the individual's previous angina ("crescendo angina"). Because it indicates a new issue in a coronary artery, new-onset angina is also known as unstable angina.

Chest pain, which manifests as tightness around or over the chest and (often, but not always) extending to the left arm and left angle of the jaw, is the most common indication indicating critically reduced blood supply to the heart. Shortness of breath, diaphoresis (sweating), nausea, and vomiting are all possible symptoms. In many situations, the sensation is "atypical," with pain manifesting itself in a variety of ways or perhaps disappearing entirely (which is more likely in female patients and those with diabetes). Palpitations, worry, or a sensation of impending doom (angor animi), as well as a feeling of being terribly ill, may be reported by some. Because it is not specific for ACS, the description of chest discomfort as a pressure is useless in aiding diagnosis. [2, 3].

ACS is primarily linked to coronary thrombosis, although it can also be linked to cocaine usage. Deep anaemia, Brady- or tachycardia (excessively slow or rapid heart rate), low or high blood pressure, severe aortic valve stenosis (narrowing of the valve at the beginning of the aorta), pulmonary artery hypertension, and a variety of other conditions can all cause chest pain with cardiac origin (angina).

When compared to atheroma erosion (30%), atheroma rupture is more likely in patients with ACS, resulting in the production of thrombus, which blocks the coronary arteries. Plaque rupture causes 60% of ST raised myocardial infarction (STEMI), whereas plaque erosion causes 30% of STEMI, and vice versa for non-ST elevated myocardial infarction (NSTEMI) (NSTEMI). Plaque rupture results in lipid-rich, collagen-poor plaques with significant macrophage-dominated inflammation, all of which are capped by a thin fibrous cap. Meanwhile, in plaque erosion, extracellular matrix, proteoglycan, and glycol-amino glycan are abundant, but there are no fibrous caps, inflammatory cells, or a significant lipid core.

The ECG is the research that most accurately distinguishes between various causes of sudden chest discomfort. The ECG should be performed as soon as possible, preferably in the ambulance. If this signals acute cardiac injury (elevation in the ST segment, new left bundle branch block), urgent angioplasty or thrombolysis for a heart attack is recommended (see below). Without these modifications, it's impossible to tell the difference between unstable angina and NSTEMI.

Acute coronary syndrome frequently indicates a degree of atherosclerotic damage to the coronaries. Controlling risk factors, such as healthy eating, exercise, treatment for hypertension and diabetes, avoiding smoking, and controlling cholesterol levels, is the primary prevention of atherosclerosis. In patients with significant risk factors, aspirin has been shown to reduce the risk of cardiovascular events. In myocardial infarction, secondary prevention is considered. [4, 5]

In March 2006, Scotland implemented a smoking ban in all enclosed public spaces, which resulted in a 17 present reduction in hospital admissions for acute coronary syndrome. Non-smokers accounted for 67% of the decline.

Conflict Of Interest

None

References

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