

## Acute myocardial infarction

The acute myocardial infarction is the total obstruction of a coronary artery through the formation of a thrombus (blood clot) that usually occurs in an atheroma (fat and calcium deposit in the vascular wall). The total obstruction of the vein leads to a lack of blood and oxygen in the area irrigated by said vein and the accumulation of toxic products that cause intense anterior chest pains (pressure, burning, heaviness) that can radiate to other areas ( neck, arms, shoulders, shoulder blades, epigastrium). Moreover, it extends over 30 minutes and does not stop after sublingual administration of nitroglycerin. Pain can also be accompanied by other signs/symptoms: nausea, vomiting, suffocating sensation, sweat, agitation, palpitations etc.

Most of the time, changes will occur on the rest-EKG, i.e. the affection of the function in certain areas that can be observed through an echocardiography and the changes of the blood test values (the increased values of certain markers, which indicates the destruction/death of myocardial cells).

This is a major issue, since the only efficient treatment involves the quick re-establishing of blood flow in the affected area, i.e. opening the vein obstructed by the thrombus, as quickly as possible, from the beginning (in the first few hours).

On average, a third of the patients come in with a painless myocardial infarction (especially in diabetic patients). In these situations, the patient might arrive with the other symptoms that he/she might dismiss or interpret as part of another condition. Generally, the presence of myocardial infarction is perceived only after the acute moment, after undergoing cardiologic investigations (ECG, echocardiography).

Setting the diagnosis of myocardial infarction, even without the presence of symptoms, requires additional investigations, i.e. assessing the coronary arteries through a coronary catheterisation and administering treatment based on the results. The evolution of the condition and the risk of complication is the same for all patients, no matter if they display any symptoms or not.

**Herein under are the complications of an inadequately treated myocardial infarction in patients who have survived the acute moment:**

- Death
- Affection of the mitral valve, the tear of a heart wall
- Severe rhythm irregularities
- Occurrence, in time, of cardiac insufficiency due to the increasing size of the heart cavities
- Post-infarction angina: occurrence and reoccurrence of pain during effort and/or rest, which severely affects the quality of life
- Cerebrovascular accident (stroke) or other types of vascular accidents

The evolution depends on the severity of the infarction, on whether it is unique or it overlaps with another infarction, on the state of the coronary arteries, on the possibility of treating the lesions through intervention/surgery, on the associated diseases and on the control of the risk factors.