

## Main Risk Factors of Myocardial Infarction

**Urmanbekova Dilfuza Sanatullayevna**

Assistant, Tashkent State Medical University

**Bozorov Murodjon Baxtiyor o'gli**

Student, Tashkent State Medical University

**Elmurotova Dilnoza Baxtiyorovna**

Associate Professor, PhD, Tashkent State Medical University

**Received:** 2025, 15, Oct

**Accepted:** 2025, 21, Nov

**Published:** 2025, 04, Dec

Copyright © 2025 by author(s) and BioScience Academic Publishing. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).



Open Access

<http://creativecommons.org/licenses/by/4.0/>

**Annotation:** At work myocardium heart attack of the disease come exit causes development mechanism, clinical signs and modern diagnosis methods illuminated. Myocardium heart attack coronary blood of the flow sharp violation as a result heart muscles ischemia and to necrosis meeting with is described. Also, acute in the period to be displayed fast medical help, thrombolytic treatment, stenting and rehabilitation measures about information given.

**Keywords:** Myocardium infarction, coronary arteries, ischemia, necrosis, atherosclerosis, thrombosis, heart muscle, ECG, troponin, stenting, rehabilitation, prevention.

Myocardium heart attack is heart muscle one to the part blood arrival sharp stop as a result of cells perish with (necrosis) passing heavy is a disease. Basically coronary arteries atherosclerosis with narrowing or blood clot with blocked to remain as a result to the surface is coming. Heart permanent accordingly to oxygen needy happened for blood of the flow stop one how many minute inside myocardium of cells to injury take comes. If your on time urgent help if not shown, heart activity from the trail comes out and patient life danger under remains.

Current on the day myocardium heart attack world according to of death the most high from the reasons one is considered. Statistics As shown, the heart and blood vein diseases with related of deaths big part exactly myocardium heart attack to the extent right comes. Disease often middle and old in years It is wrong, although it happens. diet, smoking, physical activity inactivity, stress and chronic diseases in the background youth meet among cases increasing is going on.

Myocardium of infarction early signs to know, right diagnosis to put and on time medical help show patient his life save to stay the most important factor is considered. This because of of the

disease reasons, excuses mechanism, signs and treatment methods deep study medicine in practice big importance has.

Myocardium heart attack usually coronary arteries atherosclerosis with damage as a result develops. Atherosclerosis in the process blood vein on the wall fatty acids, cholesterol, binder tissue and calcium accumulated, plaque harvest This plaque time to pass with the vein narrows, resulting in heart to the muscle coming blood size decreases. Some in cases plaque burst gone, his on the surface blood clot harvest will be and blood the vein complete block puts. This from time starting heart muscle oxygen with supply suddenly stops and cells quickly perish be begins.

Myocardium of infarction in development following danger factors big role plays :

- **Arterial hypertension** — high blood pressure vein of the wall to injury take is coming.
- **Hyperlipidemia ( cholesterol height )** — atherosclerotic plaques formation accelerates.
- **Sugary diabetes** — blood of the veins elasticity reduces and atherosclerosis strengthens.
- **Smoking** — nicotine veins narrows, thrombosis strengthens.
- **Obesity and wrong food** — blood in the composition amount of oil increases.
- **Physical of activity deficiency** — heart muscle functional opportunity reduces.
- **Nervous tension, stress** — heart hit speed increasing, myocardial to oxygen was demand strengthens.

If this factors one how many year during to the organism impact enough if, myocardium heart attack danger noticeable at the level increases.

**Myocardium of infarction development Mechanism (Pathogenesis)** - Heart organism all to the tissues blood disperse giver being the main organ for it is permanent accordingly work in the case of It will be. That's why for heart cells, that is **cardiomyocytes** oxygen to the shortage very sensitive Coronary blood of the flow blocking as a result :

- **the first 1–3 minutes** in cells oxygen shortage begins.
- **10–15 minutes** after energy working release process will be broken.
- **20–30 minutes** myocardium cells irrevocable to changes occurs.
- **2–6 hours inside** necrosis furnaces is formed.

Necrotic tissue contraction ability loses, as a result heart blood driving function decreases. From this except for, damaged myocardium furnaces arrhythmias — heart rhythm to the violation reason to be possible. Heavy in cases this **ventricle fibrillation** and suddenly to death take is coming.

Myocardium of infarction classic symbol — **chest in the cage strong oppressor pain**. Pain often on the left side of the chest or his/her in the center appearance shoulder, neck, jaw, left hand or back towards spreads. Pain usually 20 minutes more continue will and nitroglycerin with complete does not disappear.

**Home characters :**

- In the chest pain, pressure feeling or weight
- Breath contraction
- Heart of the beat acceleration or unevenness
- Cold sweat to press
- Head rotation and unconscious to leave
- Strong fear or death feeling

However, some in patients pain not to be This is possible. diabetes, elderly young and women between often occurs. Such kind of myocardium heart attack called " **silent heart attack** " and diagnosis in putting delay is observed.

Myocardium heart attack in confirmation one how many diagnostic methods applies to :

1. **Electrocardiography (ECG)** — ST segment rise or the decrease of the Q wave harvest to be determines.
2. **In the blood heart enzymes :**
  - ✓ Troponin I/T — myocardium of injury the most sensitive marker.
  - ✓ CK-MB — heart muscle sharp damage shows.
3. **Echocardiography** — heart of the walls contraction activity evaluates.
4. **Coronary angiography** — coronary artery which in part barrier that there is determines.

These methods using diagnosis clear will be placed and treatment tactics is determined.

Myocardium in heart attack " **gold** " time " concept there is. Patient from a heart attack next 1–2 hours inside to the hospital if delivered, the heart muscle save stay opportunity the most high will be.

#### **Treatment stages :**

- **The pain reduce :** morphine and nitrates is applied.
- **Blood dilution :** aspirin, clopidogrel, heparin is given.
- **Thrombolytic therapy :** coronary in the vein harvest was blood clot is dissolved.
- **Stent placement (PCI):** special using a metal stent vein expands.
- **Coronary bypass (CABG):** heavy in cases blood flow turnover road through restoration done is increased.

Treatment When finished, the patient rehabilitation from the stage is held. At this stage physical exercises, salt limited diet, smoking completely throw and stress reduce important place holds.

**SUMMARY** Myocardium infarction — heart muscle blood with provision suddenly violation as a result to the surface coming, life for dangerous was sharp pathological This is a situation. of the disease come at the exit atherosclerosis, arterial hypertension, diabetes diabetes, harmful habits and physical of activity shortage such as factors important place Myocardium infarction main clinical signs early determine, own on time right diagnosis to put and fast medical help show patient his life save while staying big importance has.

Diagnosis: ECG, troponin level determination and coronary angiography clinical importance high are, they are injury level and treatment method to choose help Treatment in the process thrombolytic therapy, stenting or coronary shunt operation using blood flow restoration heart muscle big part save to stay opportunity gives. The patient from treatment after rehabilitation, healthy marriage in style transition and preventive measures done increase of the disease recurrence prevent in receiving important.

So so, myocardium heart attack prevent take, basically, risk factors management, regular medical from the examination transition, healthy nutrition, physical activity increase, smoking give up delay and stress reduce with closely The disease is related to early diagnosis and own on time treatment and the patient's life quality and duration noticeable at the level improves.

#### **REFERENCES USED**

1. Алимов, А. Юрак–қон томир касалликлари: сабаблари, ташхис ва даволаш усуллари. – Тошкент: “Медицина” нашриёти, 2021.

2. Насиров, Б.А. Кардиология асослари. – Тошкент тиббиёт академияси нашриёти, 2020.
3. Braunwald E. **Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine.** – 11th Edition. – Philadelphia: Elsevier, 2023.
4. European Society of Cardiology (ESC). **Guidelines for the Management of Acute Myocardial Infarction in Patients Presenting with ST-Segment Elevation.** – 2022.
5. Thygesen K. et al. **Fourth Universal Definition of Myocardial Infarction.** Journal of the American College of Cardiology (JACC). – 2018.
6. World Health Organization. **Cardiovascular Diseases Fact Sheet.** WHO, 2023.
7. Jameson J. et al. **Harrison's Principles of Internal Medicine.** – 21st Edition. – McGraw-Hill, 2022.
8. Elmurotova D.B., Kattaxodjayeva D.U., Jaxongirova Sh.U., Yusupova M.B. Physics of remote gamma therapy // Web of Discoveries: Journal of Analysis and Inventions, V.3, Issue 4, ISSN(E): 2938-3773, P.50-54, April – 2025, Испания, <https://webofjournals.com/index.php/3/article/view/3880>
9. Elmurotova D.B., Shodiev A.A., Mussaeva M.A. Impact of electron radiation on resistivity in YBCO and GdBCO high-temperature superconducting tapes // Web of scientist: international scientific research journal, ISSN: 2776-0979, V.6, Issue 5, may-2025, P.161-173, Indonesia, <https://wos.academiascience.org/index.php/wos/article/view/2672>
10. Elmurotova D., Fayziyeva N.A., Bozorov E.H. History of the discovery of radioactivity and x-rays, nuclear explosions explanation of the phenomenon research using interactive methods // Web of Discoveries: Journal of Analysis and Inventions, V.3, Issue 5, ISSN(E): 2938-3773, P.61-65, May-2025, Испания <https://webofjournals.com/index.php/3/article/view/4233>
11. Elmurotova D.B., Ro'zimatova Sh.Sh., Umarova F.S. Insonning estetik tafakkuri // Лучшие интеллектуальные исследования, ISSN:3030-3680, Ч.45, Т.1, С.130-135, май-2025, Россия. [scientific-jl.com/luch/](http://scientific-jl.com/luch/).
12. Elmurotova D.B., Farmonova Sh.Sh., Umarova F.S. Borliq va bo'shliq: mavjudlik chegaralari haqida tafakkur // Лучшие интеллектуальные исследования, ISSN:3030-3680, Ч.44, Т.5, С.411-416, май-2025, Россия. [scientific-jl.com/luch/](http://scientific-jl.com/luch/).
13. Elmurotova D.B., Jo'rayeva R.A, Umarova F.S. "Bilimning chegarasi va rad etilishi": eskeptitsizm va bilimga bo'lgan ishonchsizlik muammosi // Лучшие интеллектуальные исследования, ISSN:3030-3680, Ч.44, Т.5, С.417-423, май-2025, Россия. [scientific-jl.com/luch/](http://scientific-jl.com/luch/).
14. Elmurotova D.B., Umarova F.S., G'uzorova O.U. Hayot va o'lim chegarasida: bioetikaning zamonaviy tibbiyotdagi o'rni // Лучшие интеллектуальные исследования, ISSN:3030-3680, Ч.44, Т.4, С.261-266, май-2025, Россия. [scientific-jl.com/luch/](http://scientific-jl.com/luch/).