

**INCIDENCE OF CARDIOSCLEROSIS IN FORENSIC AUTOPSY  
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**Summary.** *Cardiovascular disease is one of the leading causes of death in people around the world. One of the chronic ischemic heart diseases is cardiosclerosis, which has recently become more common in many people and is attracting attention as a rejuvenating pathology. Cardiosclerosis is a pathology of the heart muscle tissue, characterized by the proliferation of connective tissue in the myocardium. Cardiosclerosis is a pathology caused by coronary atherosclerosis, ischemic heart disease, myocarditis of various origins and myocardial dystrophy. For this, a histopathological examination of the tissue of the cardiac myocardium is carried out according to the materials obtained during the autopsy of the corpses of patients who died from various diseases. The aim of the study is to supplement data on cardiac pathologies.*

**Key words:** *cardiomyocytes, cardiosclerosis, autopsy, heart attack.*

**СУД ТИББИЙ АУТОПСИЯ АМАЛИЁТИДА КАРДИОСКЛЕРОЗ**

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**Аннотация.** *Юрак – қон томир касаллеклари – бутун дунёда инсонлар учун асосий ўлим сабабларидан бири бўлиб келмоқда. Юракнинг сурункали ишемик касаллекларидан бири бу, кардиосклероз бўлиб, кейинги вақтда кўпгина инсонларда учраб туриши ва ёшариб келаётган патология сифатида эътиборни ўзига тортиб туриши билан аҳамият касб этмоқда. Кардиосклероз – юрак мускул тўқимаси патологияси бўлиб, миокардда қўшиувчи тўқиманинг ўсиб бориши билан характерланади. Кардиосклероз – коронар қон томирлар атеросклерози, юрак ишемик касаллиги, хар хил генезли*



миокардитлар ва миокардиодистрофиялар оқибатида вужудга келадиган патологиядир. Шу мақсадда турли касалликлардан ўлган беморларда ўтказилган аутопсия жараёнида олинган материалларда келган юрак миокард түқималари патогистологик ўрганиб чиқилди. Ишдан мақсад юрак патологиялари бўйича маълумотларни тўлдириши ҳисобланди.

**Калим сўзлар:** кардиомиоцит, кардиосклероз, аутопсия, инфаркт.

## ВСТРЕЧАЕМОСТЬ КАРДИОСКЛЕРОЗА В ПРАКТИКЕ СУДЕБНО-МЕДИЦИНСКОГО ВСКРЫТИЯ

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**Резюме.** Сердечно-сосудистые заболевания - одна из основных причин смерти людей во всем мире. Одним из хронических ишемических заболеваний сердца является кардиосклероз, который в последнее время стал более распространенным у многих людей и привлекает внимание как омолаживающая патология. Кардиосклероз - это патология ткани сердечной мышцы, характеризующаяся разрастанием соединительной ткани в миокарде. Кардиосклероз - патология, вызванная коронарным атеросклерозом, ишемической болезнью сердца, миокардитом различного генеза и дистрофией миокарда. Для этого проводят патогистологическое исследование ткани сердечного миокарда по материалам, полученным при вскрытии трупов больных, умерших от различных заболеваний. Цель исследования - дополнить данные о сердечных патологиях.

**Ключевые слова:** кардиомиоциты, кардиосклероз, вскрытие, инфаркт.

### Relevance.

Many types of heart disease end with the death of the patient, and in some cases, heart pathologies occur in the body unrelated to the death of the patient and are found at autopsy as an additional disease. Examples of such pathologies are atherosclerotic (small heart) cardiosclerosis, post-infarction cardiosclerosis, chronic aneurysm of the heart. Knowing the main diseases of the heart and

complications of the underlying disease, cardiac pathologies that come as an additional disease, pathologists and forensic experts have the opportunity to cite heart pathologies as the main, additional, background disease in the post-autopsy diagnosis, to receive practical advice on correct completion of the death certificate.

### **Goals and objectives.**

The aim of the study is to identify the most common cardiac pathologies in the Bukhara region and, based on pathohistological findings, to develop which pathologies are more common, their consequences and preventive measures. ) and macroscopic and microscopic analysis in the pathohistology department of the Bukhara Regional Bureau of Forensic Medicine. A total of 24 dead patients underwent heart tissue examination.

### **Materials and methods.**

Based on macroscopic and microscopic studies of cardiac tissue during the study, a total of 24 cardiac tissue pathogistologic studies were performed. For general morphology, 2 pieces from each heart, ie 1.5x1.5 cm from the upper and middle part, were cut and solidified in 10% neutralized formalin. After washing for 2-4 hours in running water, it was dehydrated in increased concentrations of alcohols and xylene, then paraffin was poured and the blocks were prepared. Incisions of 5–8  $\mu\text{m}$  were made from paraffin blocks and stained with hematoxylin and eosin. The examination revealed the following pathologies:

### **Results and conclusions.**

The results of pathohistological examinations of the heart showed that in most cases atherosclerotic (small hearth) cardiosclerosis was observed in the heart, followed by post-infarction cardiosclerosis and chronic aneurysm pathology of the heart.

Atherosclerotic (capillary) cardiosclerosis is characterized by the appearance of flowable perivascular foci and the parallel placement of these foci around the cardiomyocytes. This condition is caused by the growth of connective tissue in the myocardium. The connective tissue serves to replace cardiomyocytes in the cardiac myocardium that die as a result of hypoxia, dystrophy, and atrophy.

Post-infarction cardiosclerosis - occurs in the organizational phase of infarcted myocardial tissue, arises from the growth of connective tissue into the myocardium that is involved in the replacement of lost cardiomyocytes, and is mainly referred to as large-hearted cardiosclerosis.

Chronic aneurysm of the heart is caused by large focal cardiosclerosis and is clinically manifested by enlargement of the heart wall.

When making a post-autopsy diagnosis, pathologists and forensic medical experts have the opportunity to cite cardiac pathologies as the main, additional, background disease, to receive practical advice on the correct completion of the death certificate.

The underlying disease is a nosological unit that causes death by itself or through complications.

Background disease is a disease that is important in the emergence and development of the underlying disease, although it does not depend on the etiology of the underlying disease.

Concomitant (additional) disease is a nosological unit that is not etiologically and pathogenetically related to the underlying disease and its complications, does not affect its course and does not lead to death.

- These data open up the real prospect of a significant reduction in cardiac pathologies and consequent mortality, and provide the necessary information not only for pathologists, but also for all specialists involved in the diagnosis, prevention and treatment of heart disease.

- This information can help to improve the performance of medical institutions at any level

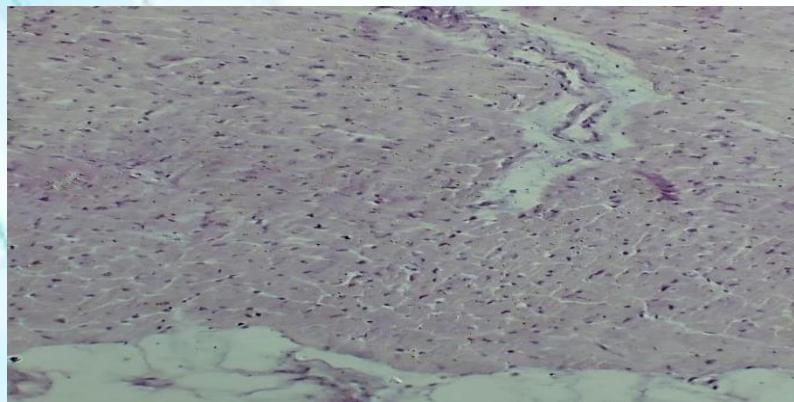


Figure 1. Growth of white connective tissue in the myocardium, narrowing of blood vessels as a result of fibrous tissue growth. Dye hematoxylin - eosin.

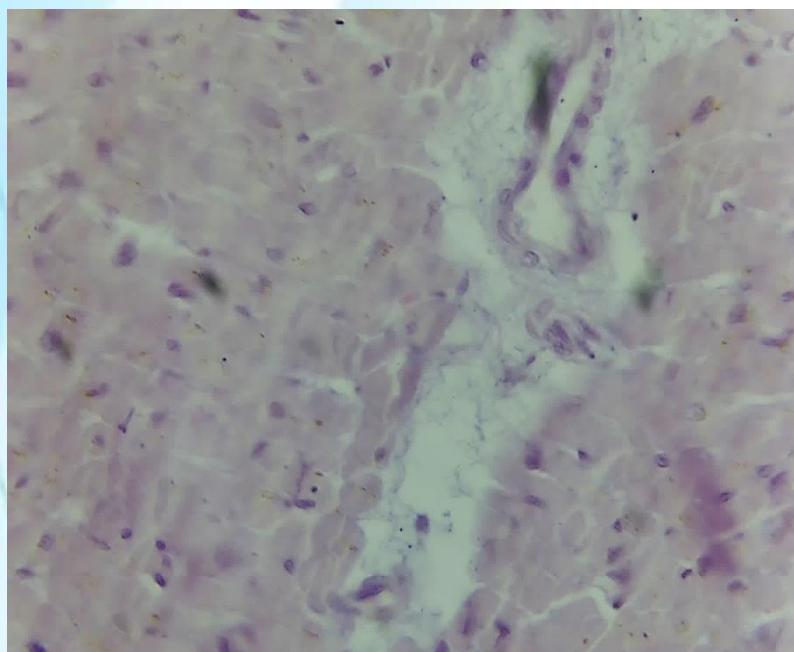


Figure 2. Narrowing of the vascular cavity as a result of fibrous tissue growth. The dye is hematoxylin-eosin.

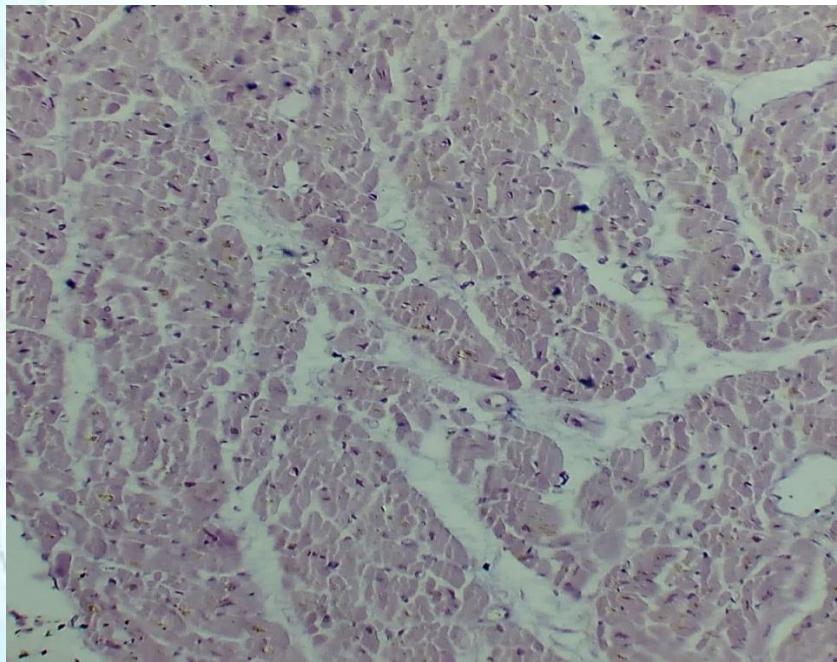


Figure 3. Diffuse cardiosclerosis. Growth of connective tissue. Hypertrophy of some cardiomyocytes. The dye is hematoxylin-eosin.

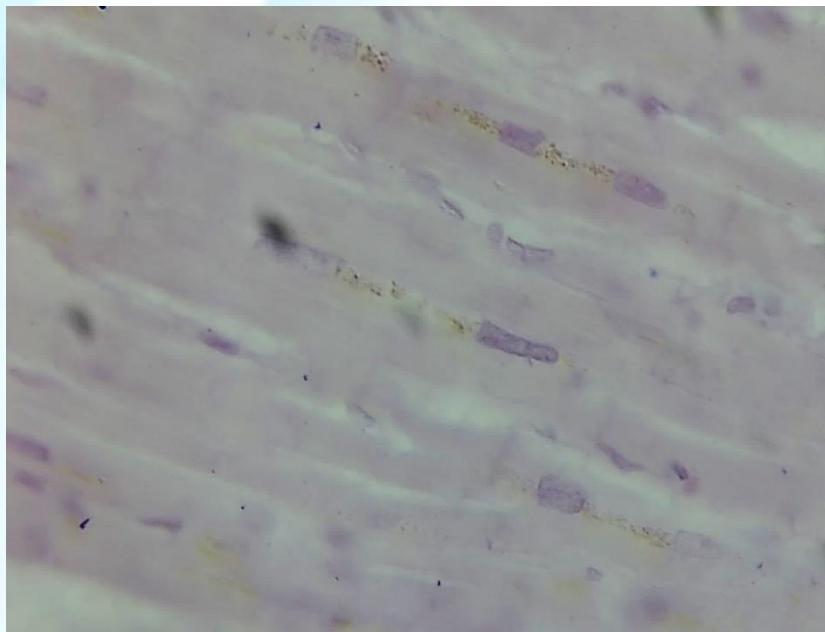


Figure 4. Cardiomyocyte focal atrophy and lipofuscinosis. The dye is hematoxillin-eosin.

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