Practical skills in pathological anatomy-2

MODULE: CARDIOVASCULAR SYSTEM

Topic №2. Myocardial infarction, pathological anatomy, complications, causes of death. The relationship of atherosclerosis and IDH. Essential and symptomatic hypertension. Morphological characteristics, outcomes, causes of death.

Prepared by:
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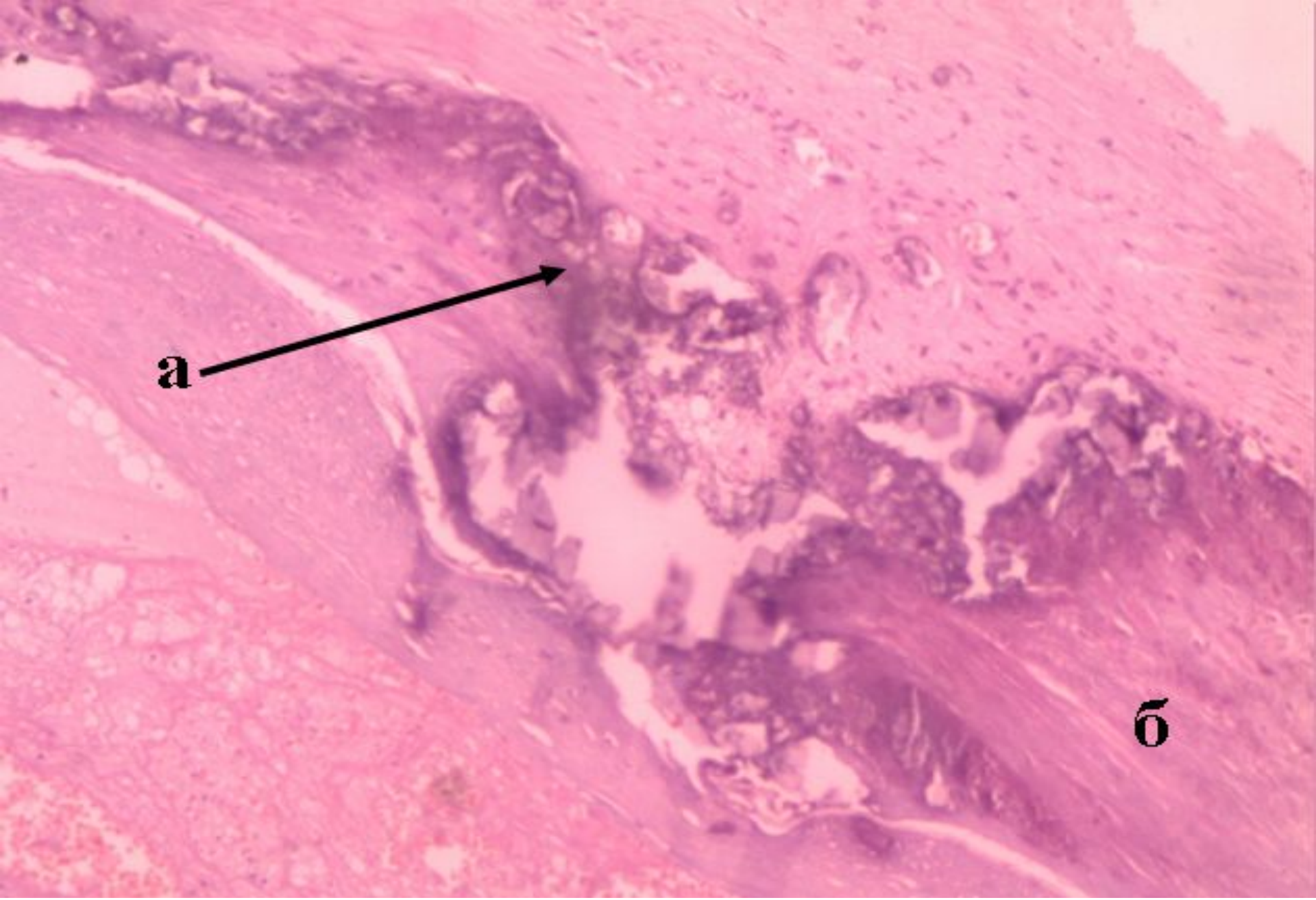
The purpose

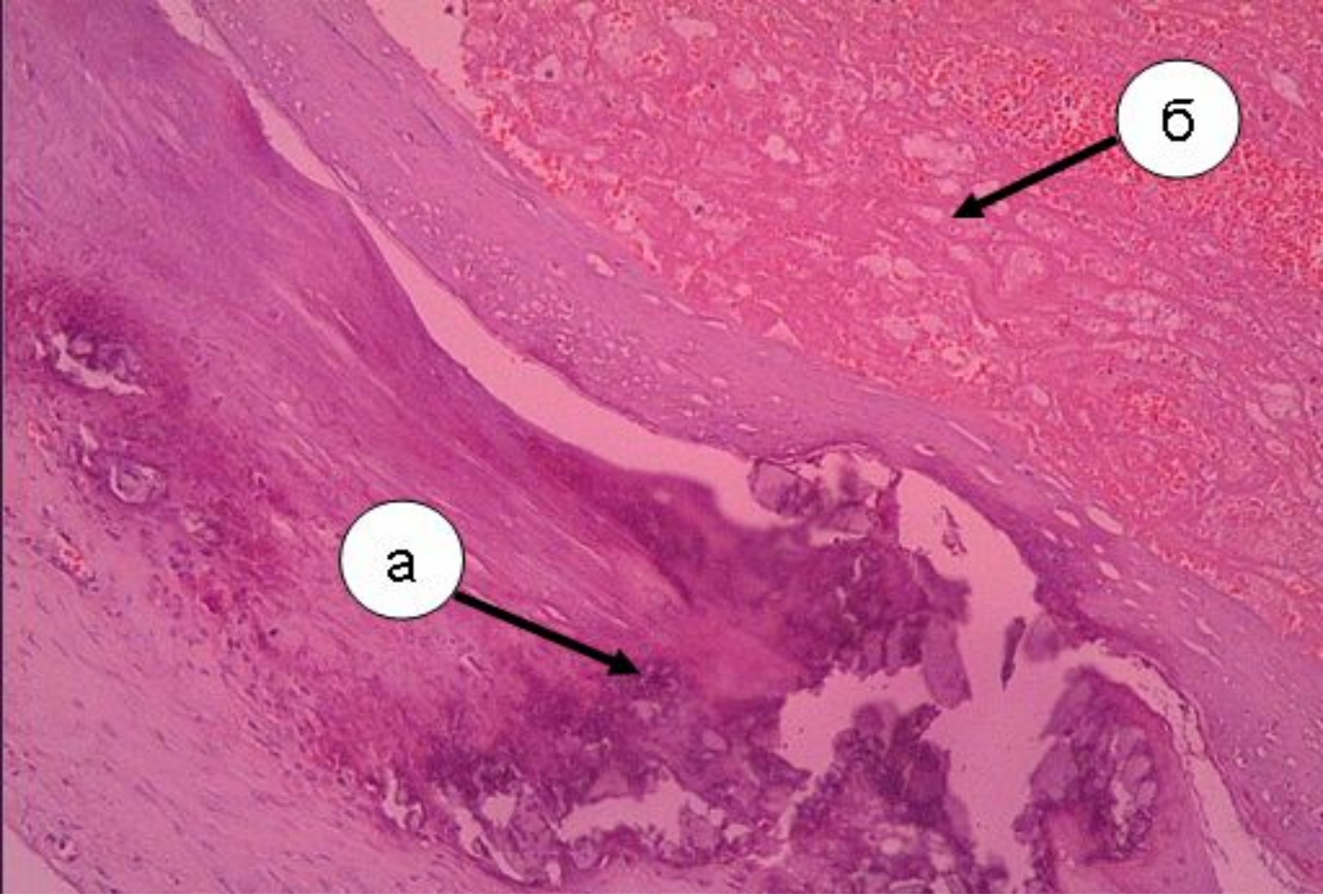
- Secure the knowledge of the mechanism of formation of atherosclerotic plaque and arterial hypertensions

Learning objectives:

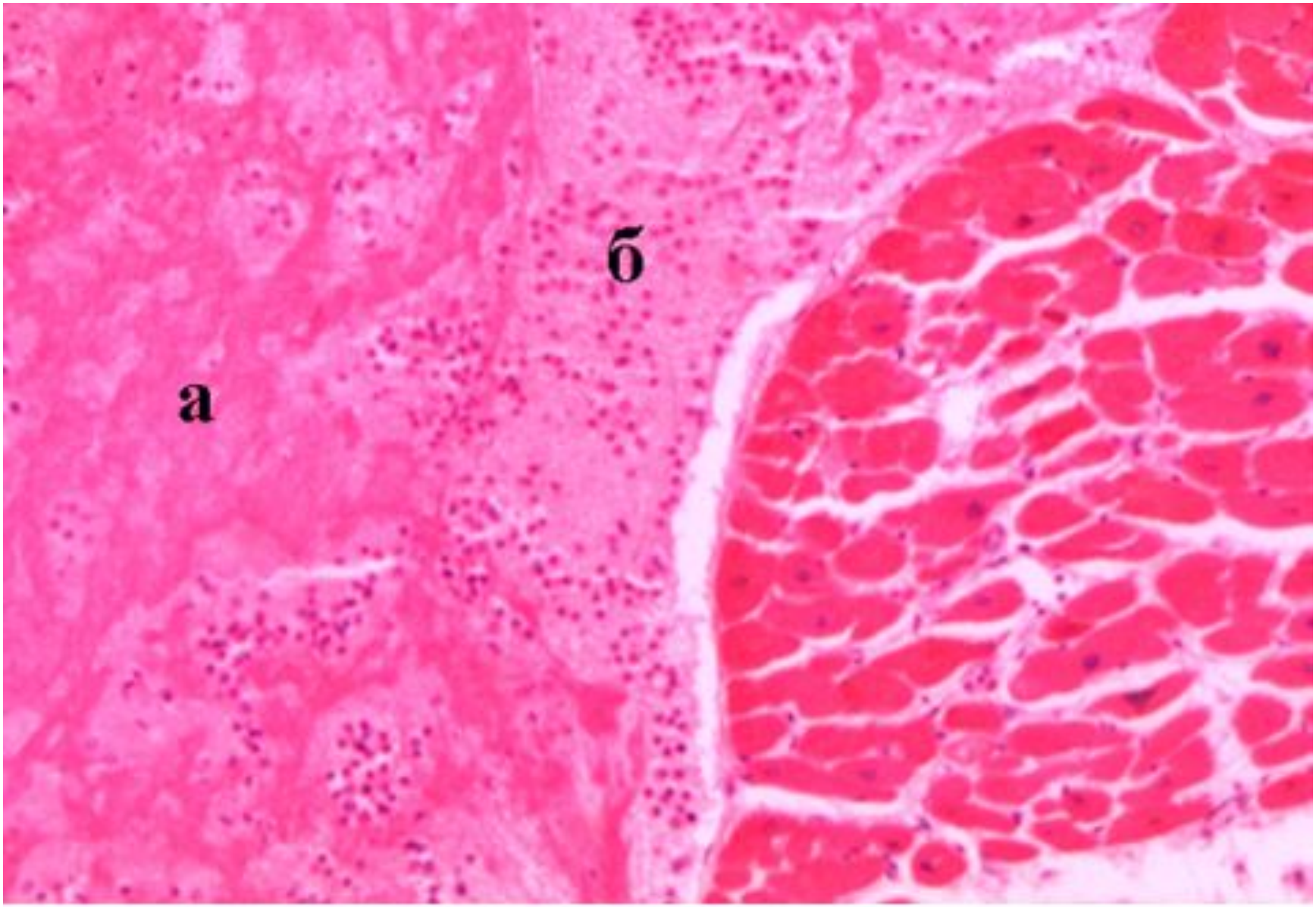
- **The student should know:**
- etiology, pathogenesis and pathological anatomy of IDH. Periods and complications of IDH. Etiology, pathogenesis, morphology and morphogenesis of atherosclerosis, to differentiate clinical and morphological forms of atherosclerosis and complications. Determination of essential hypertension (EH). Be able to describe the stages of HD, the morphology of benign and malignant hypertension. To differentiate the various forms of HD based on clinical and morphological signs.
- **The student should be able to:**
- diagnosed by macro- and micropreparations clinical and morphological forms of IDH, to be able to allocate the main etiological factors and pathogenesis of IDH. Diagnosing of macro- and micropreparations stages of atherosclerosis and various forms of HD based on clinical and morphological signs.



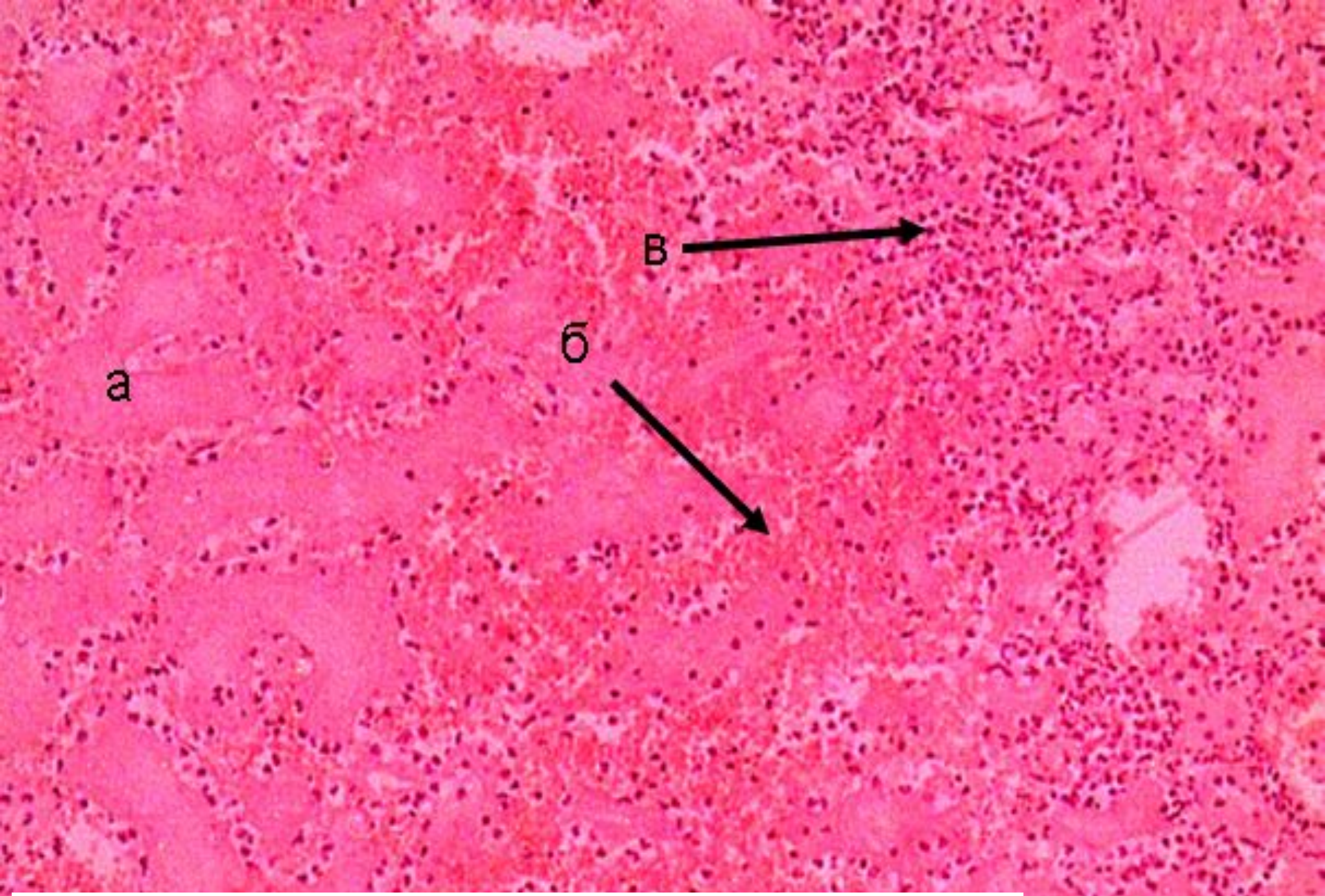
Arteriosclerosis with calcification of the iliac artery.
а - calcium salt (blue colour)
б - proliferation of connective tissue



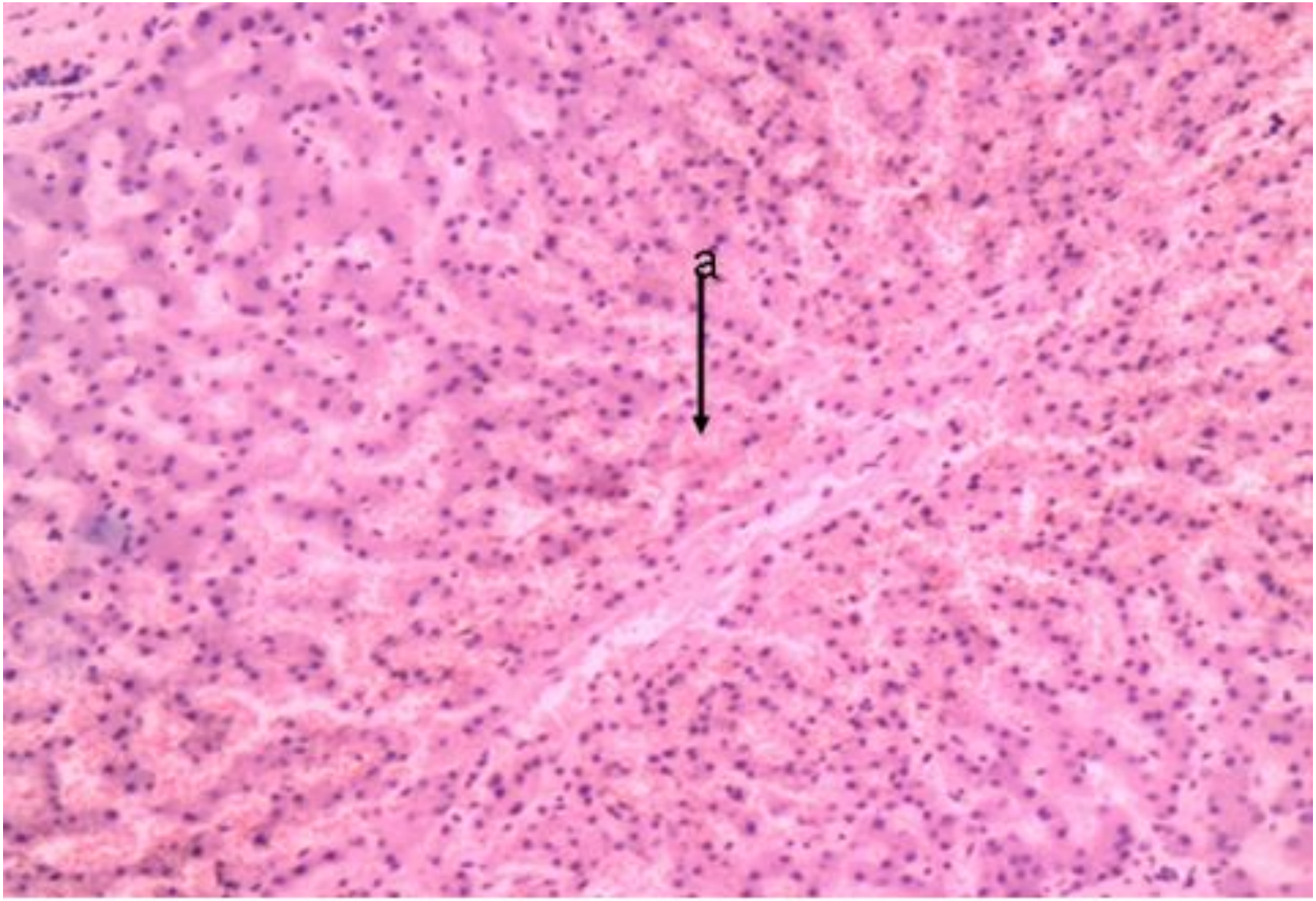
Arteriosclerosis with calcification of the iliac artery and thrombosis.
а - calcium salt (blue colour)
б - thrombus



Инфаркт миокарда
а – зона некроза; б – лейкоцитарная инфильтрация

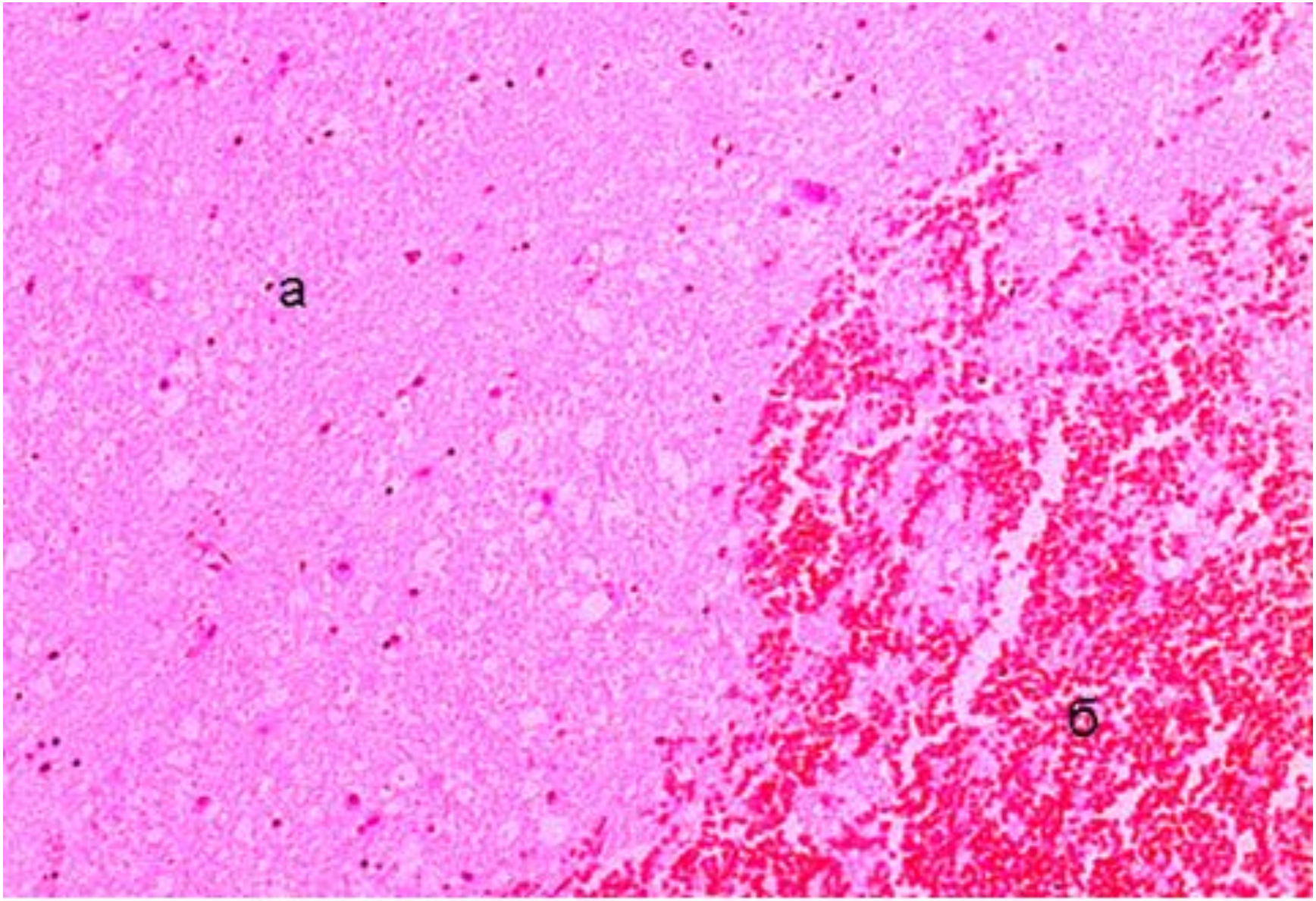


Ischemic infarction of kidney with area of demarcation inflammation
а - necrosis; б - hemorrhage; в - accumulation of leucocytes



Мускатная печень
а – диапедез эритроцитов

Гипертрофия миокарда
а – гипертрофированные кардиомиоциты

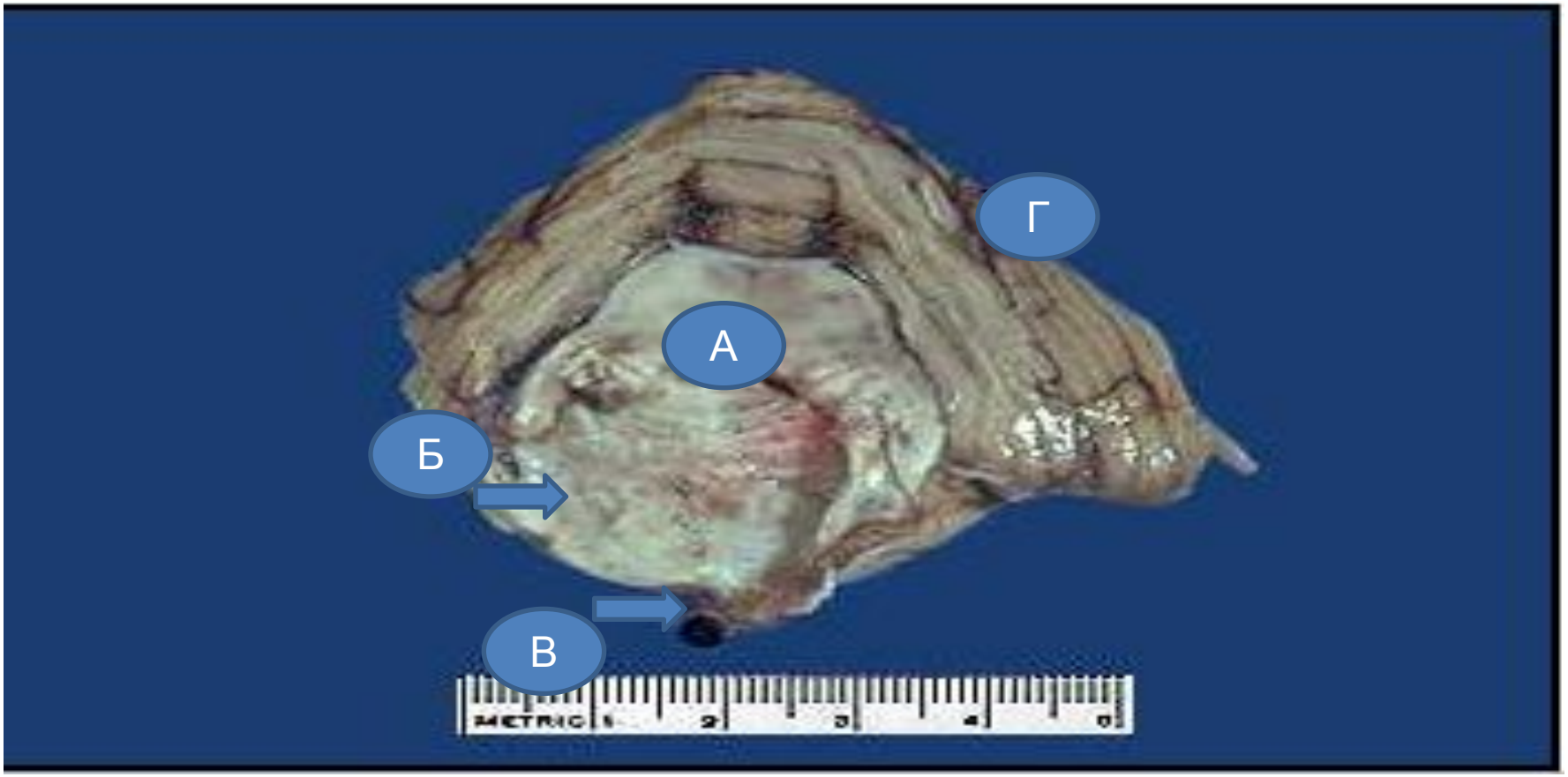


Кровоизлияние в мозг
а – ткань головного мозга; б – очаг кровоизлияния

Ischemic infarction

A. Area of ischemic infarction

Cerebral infarction



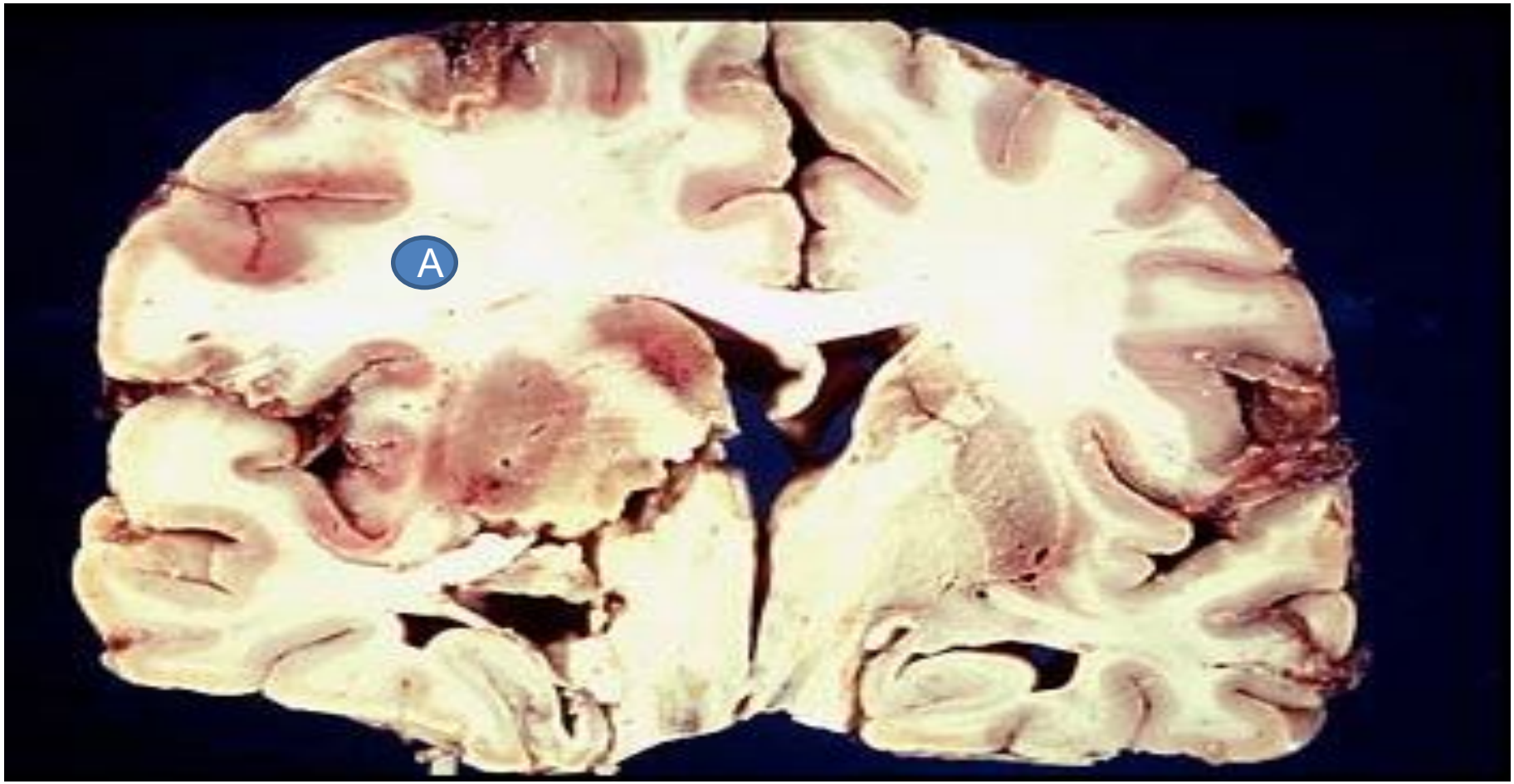
А. BRIDGE

Б. AREA OF INFARCTION

В. THROMBOSIS OF BASILAR ARTERY

Г. CEREBELLUM

Cerebral infarction in the middle cerebral artery

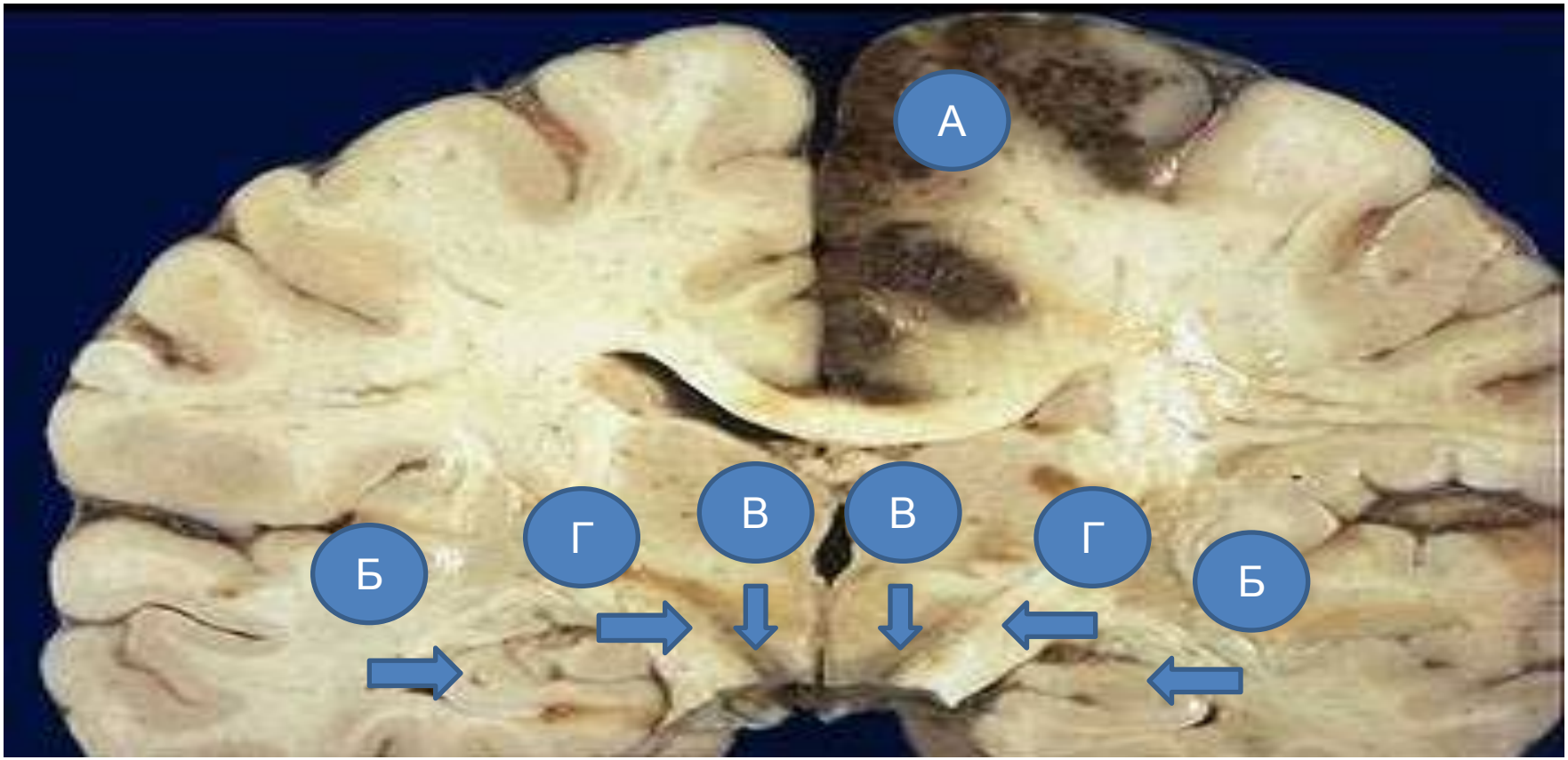


A. AREA of FRESH INFARCTION

Organization of the infarction

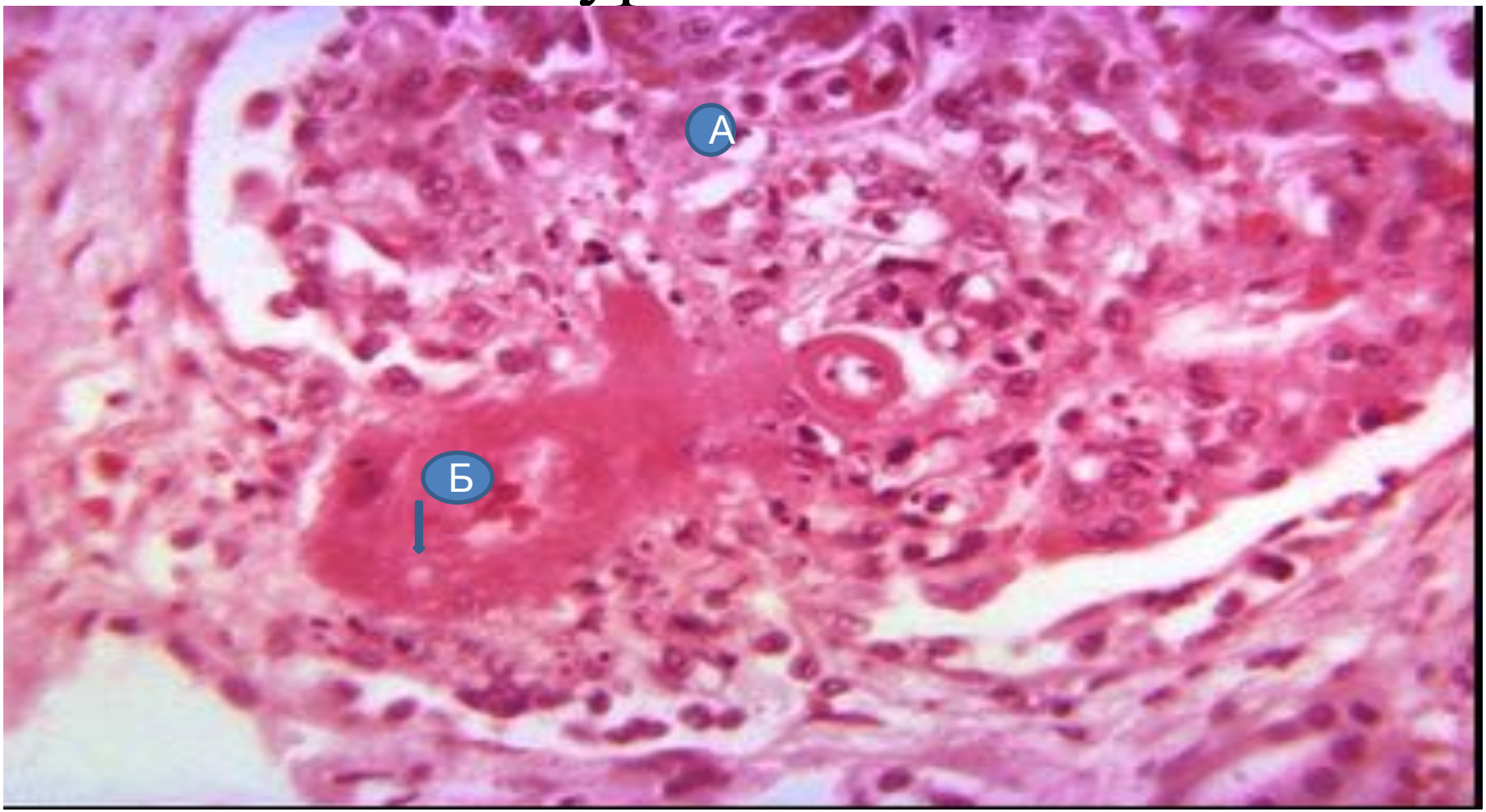
A. Area of organization of the infarction

Hemorrhagic cerebral infarction

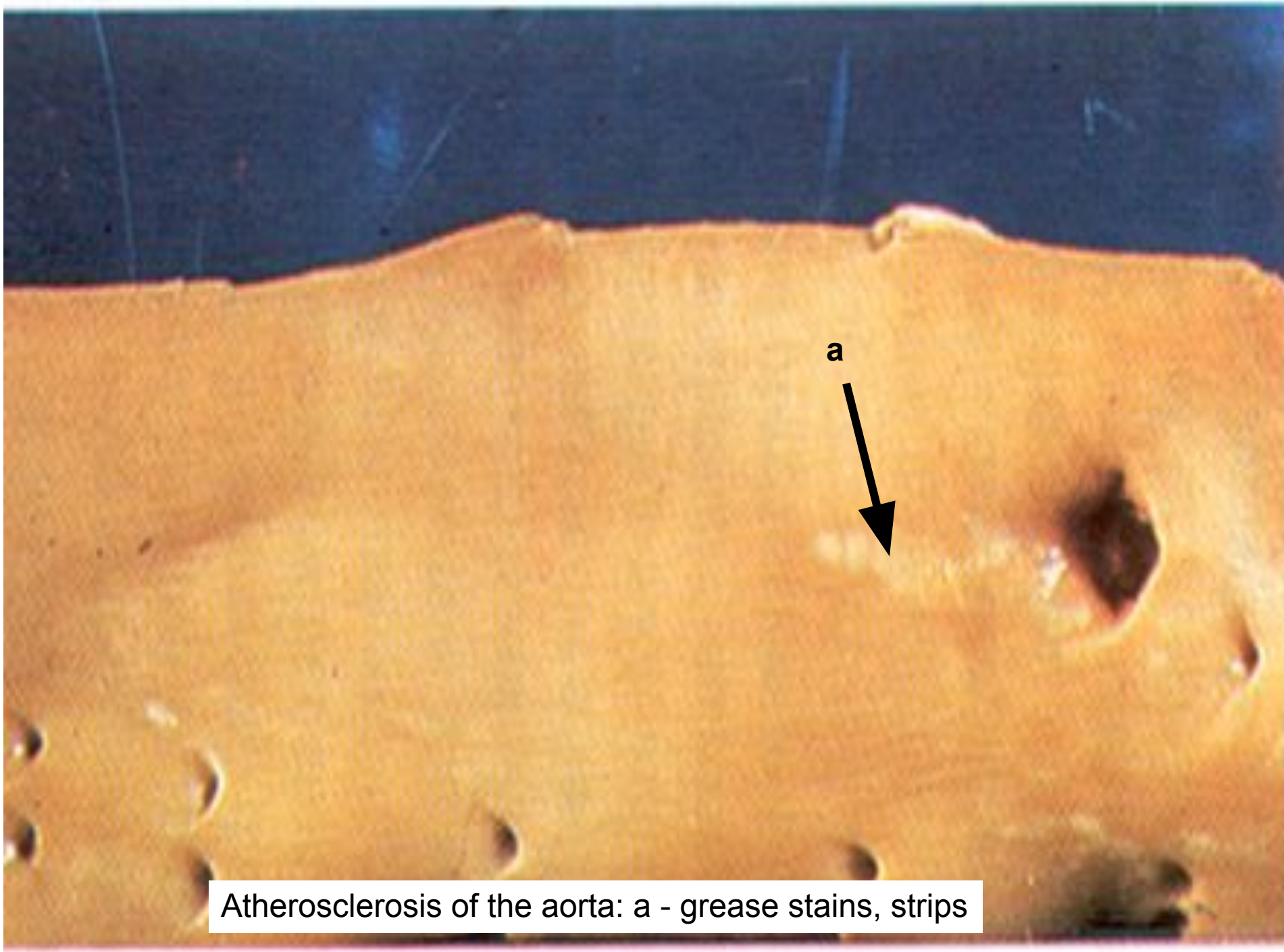


- А. Hemorragic infarction
- Б. GIPPOKAMP
- В. BLACK SUBSTANCE
- Г. Tootsy

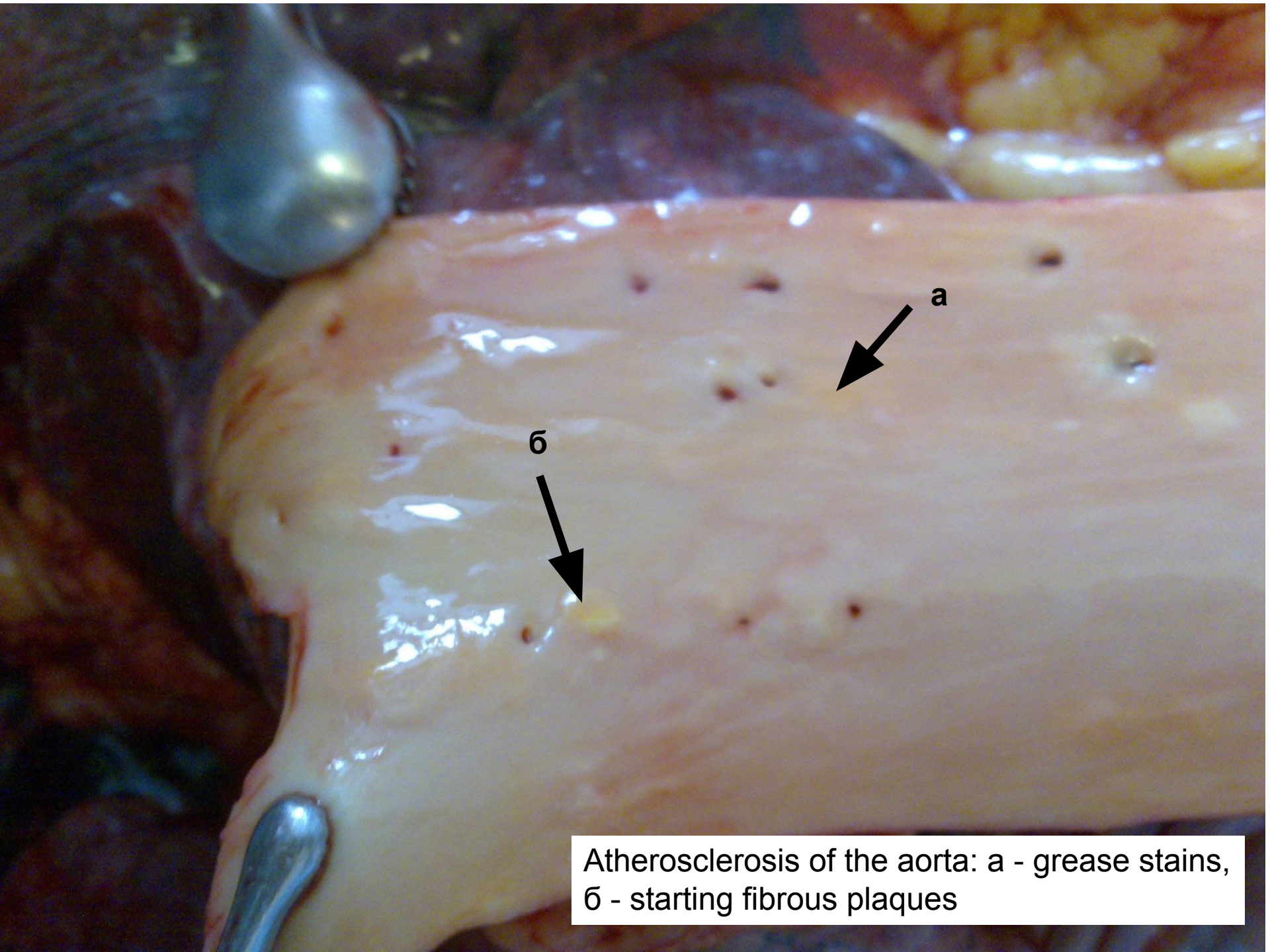
Fibrinoid necrosis during malignant hypertension



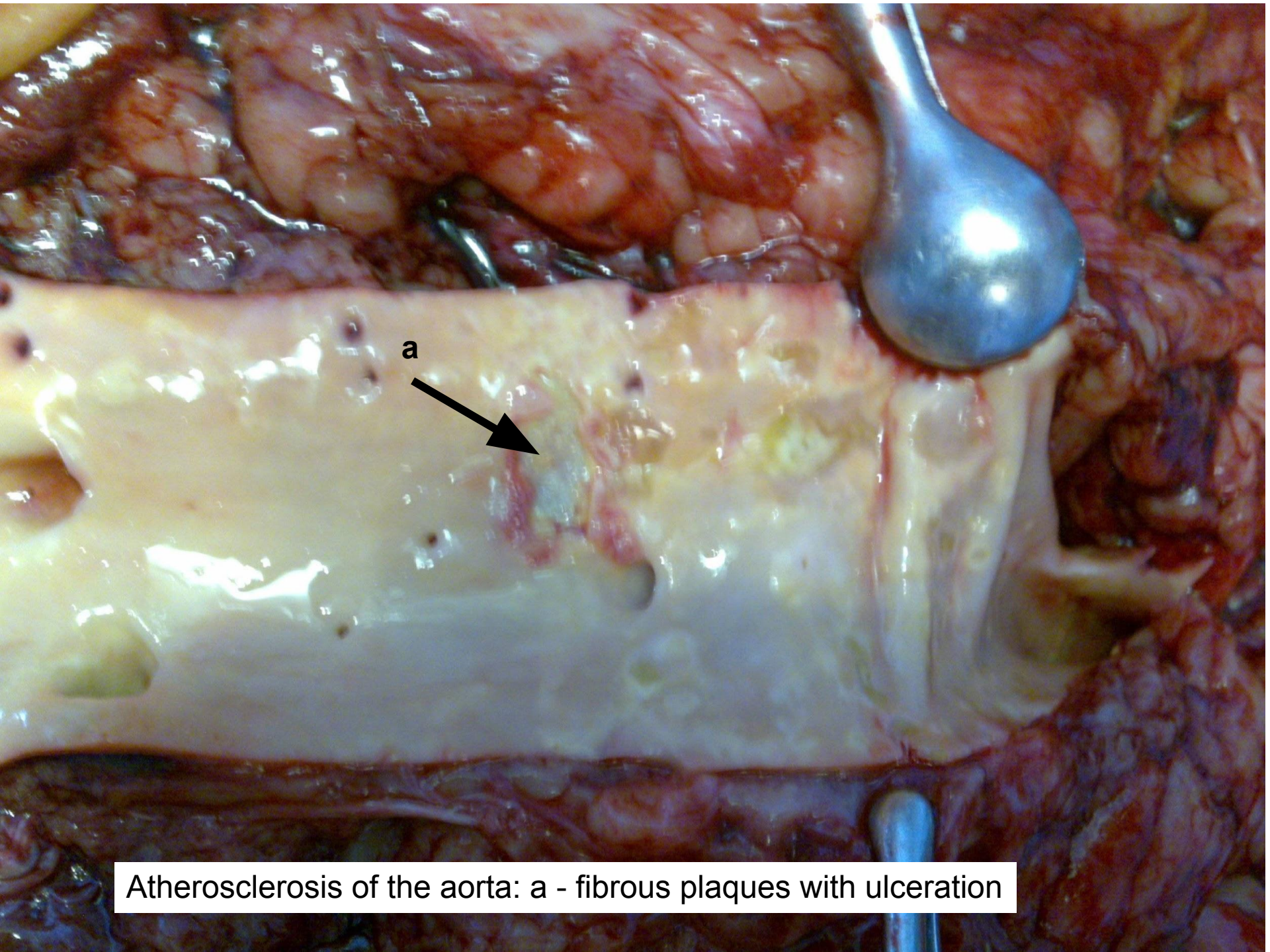
- А. glomerular loops
- Б. fibrinoid necrosis



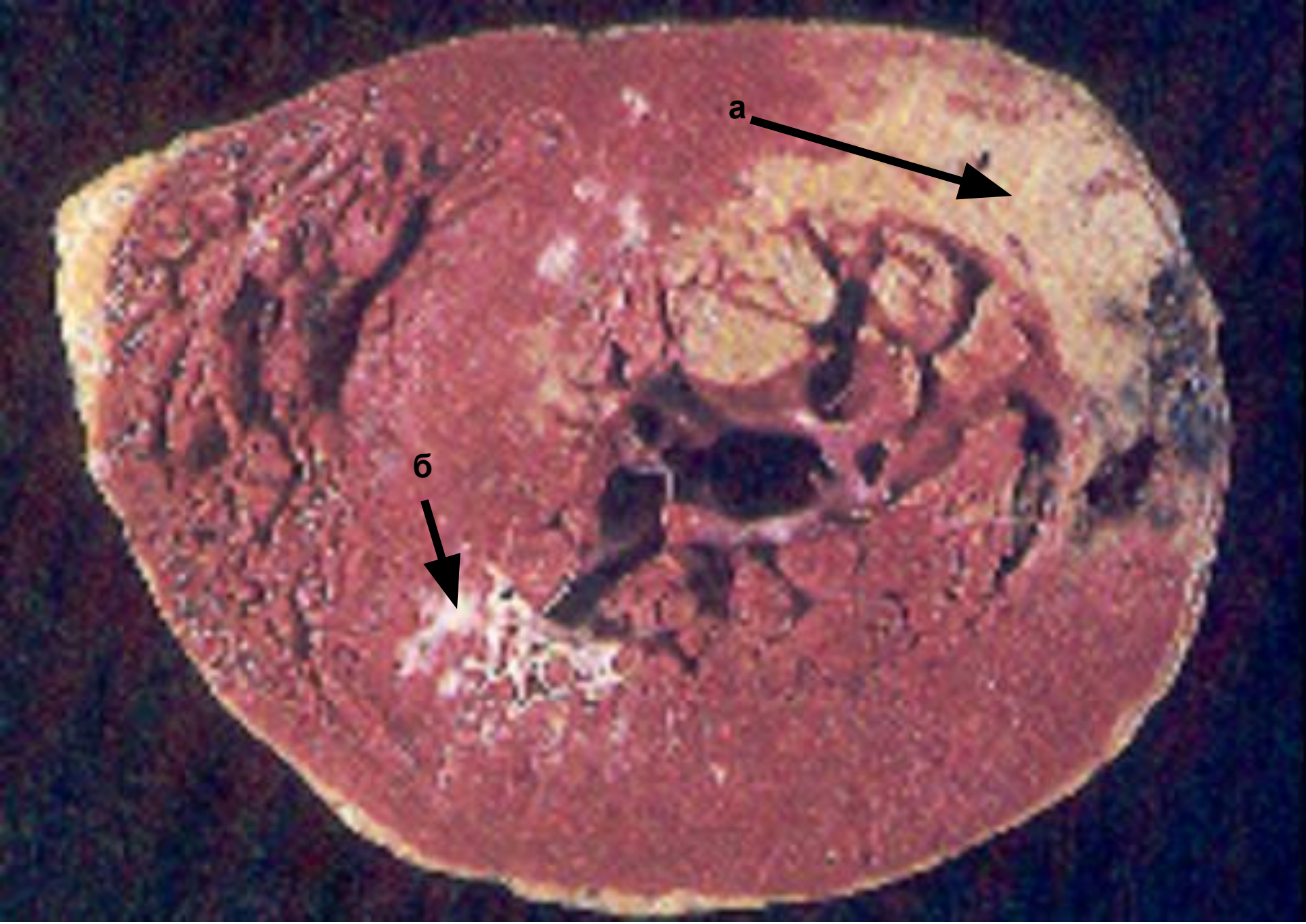
Atherosclerosis of the aorta: a - grease stains, strips



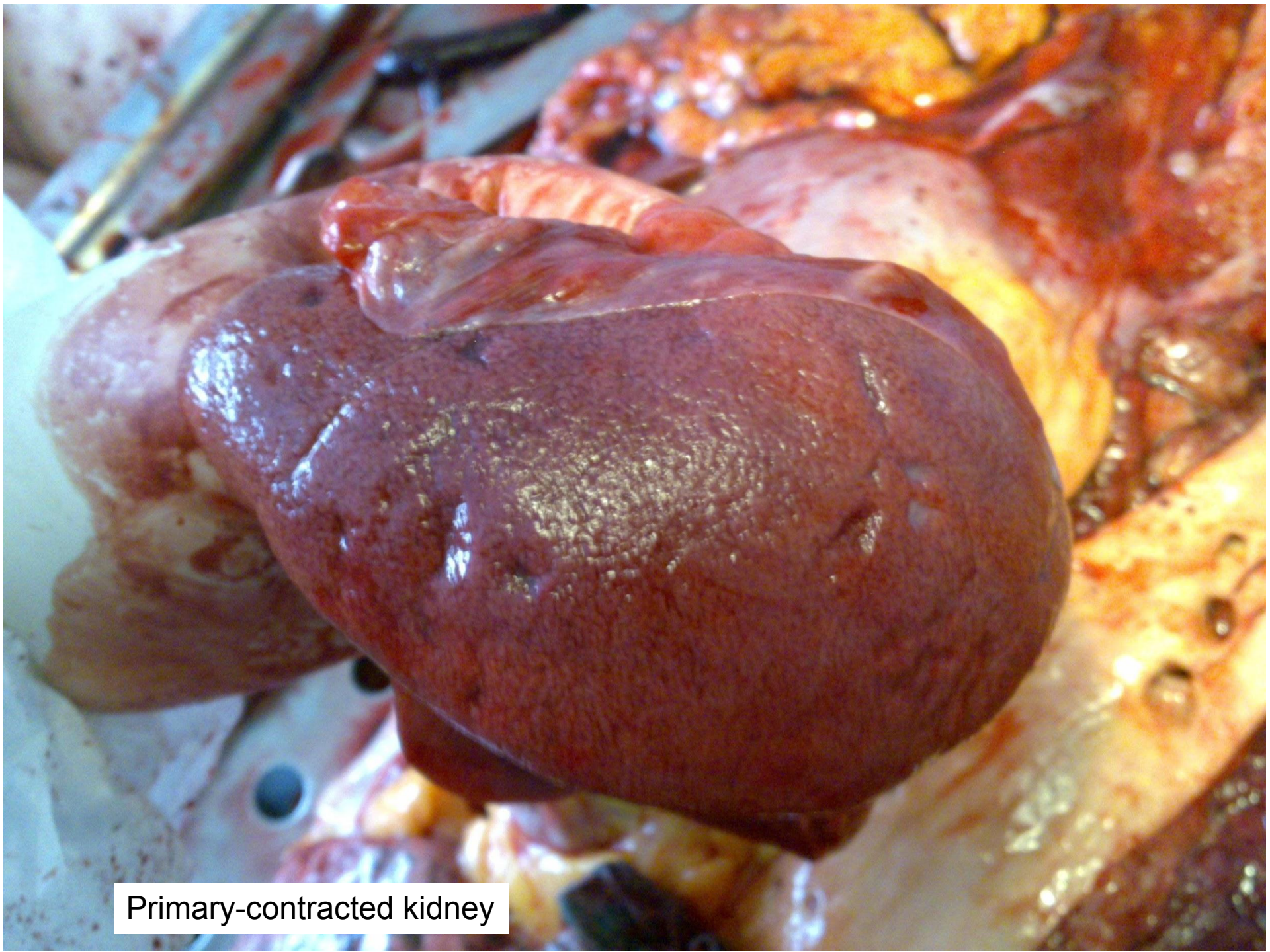
Atherosclerosis of the aorta: а - grease stains, б - starting fibrous plaques



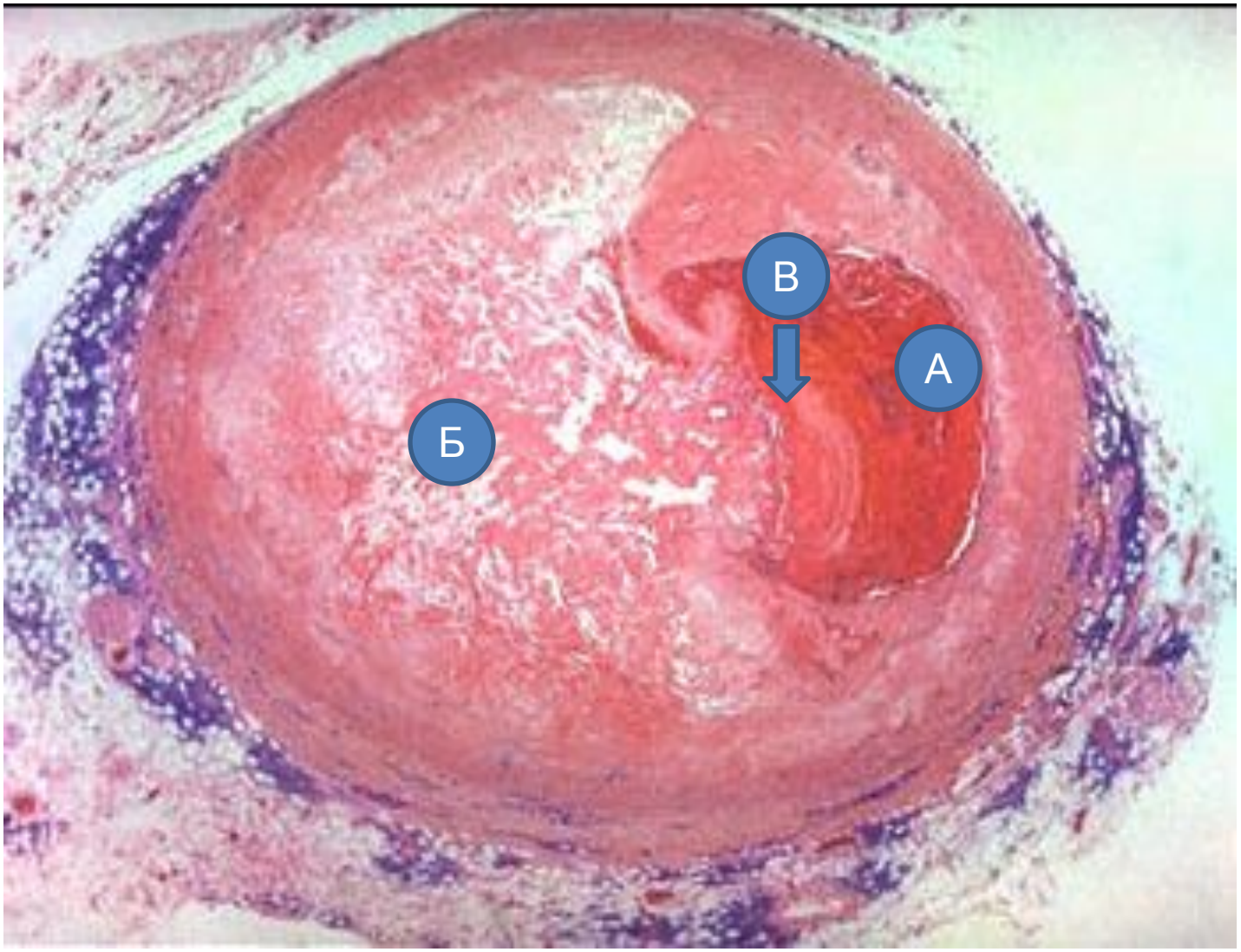
Atherosclerosis of the aorta: a - fibrous plaques with ulceration



Myocardial infarction: а - necrotic zone б - zone of cardiosclerosis

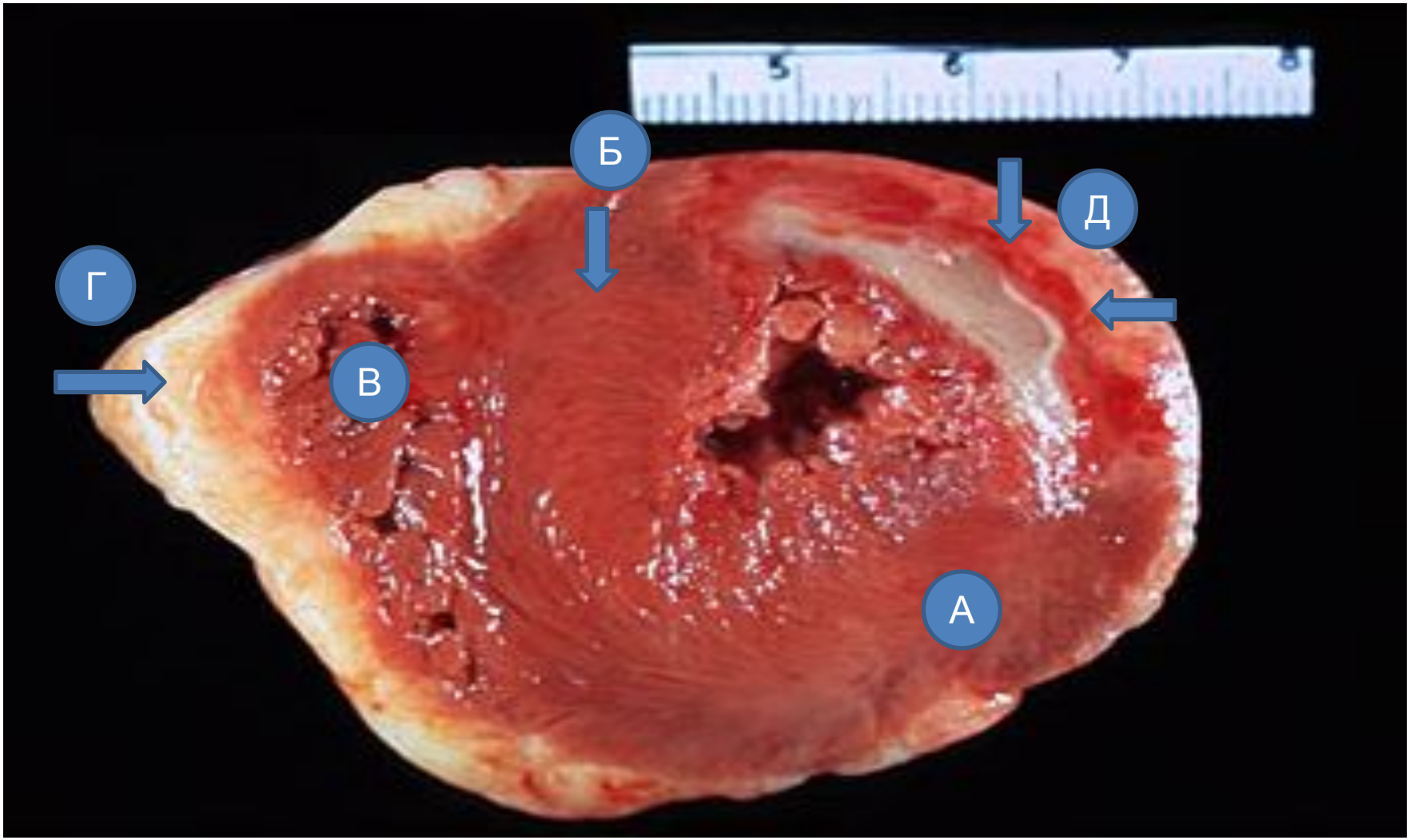

Primary-contracted kidney

Atherosclerosis of coronary artery



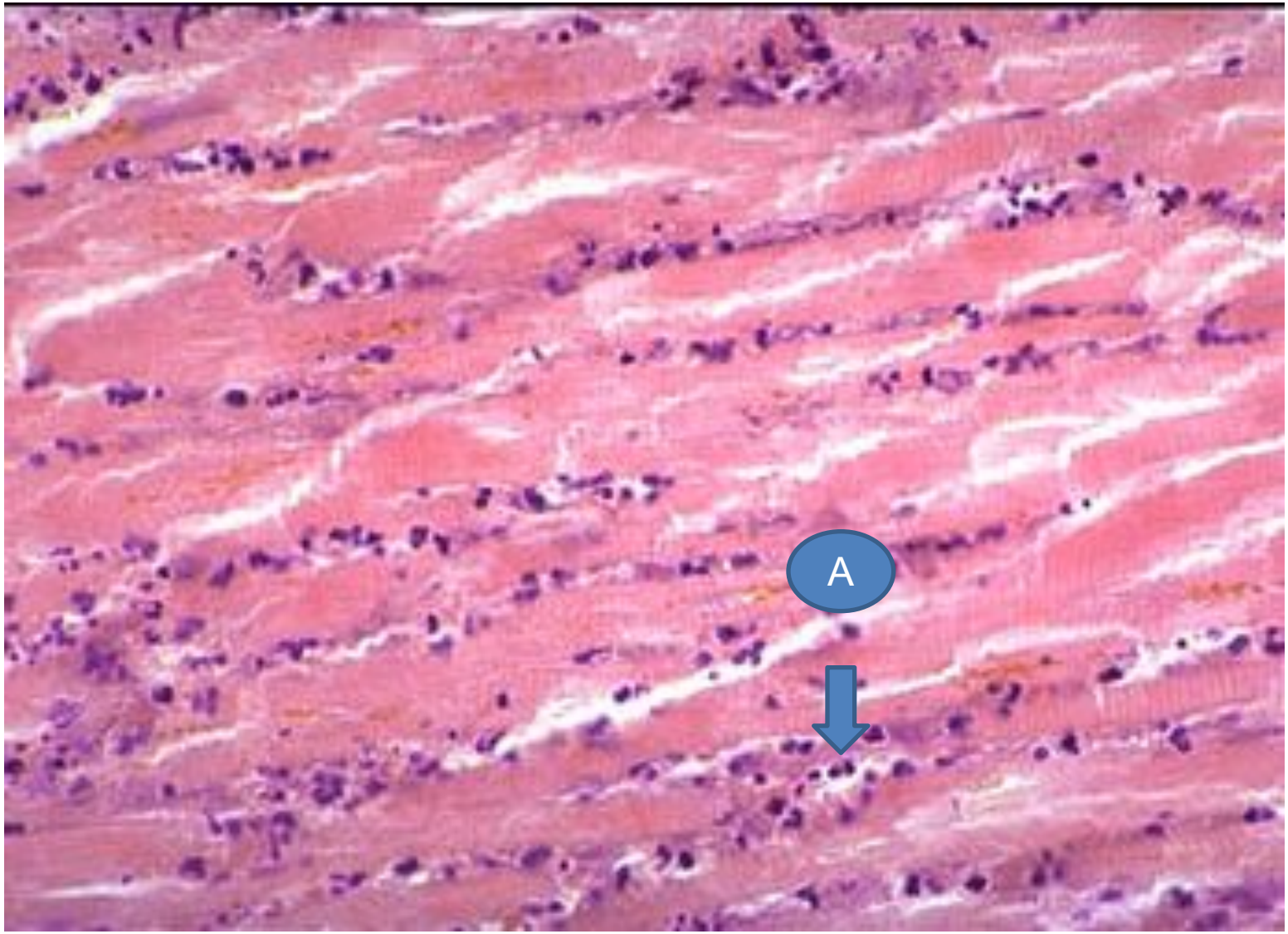
А. Lumen by obturated thrombus
Б. atherosclerotic plaque
В. AREA of plaque rupture

Acute myocardial infarction



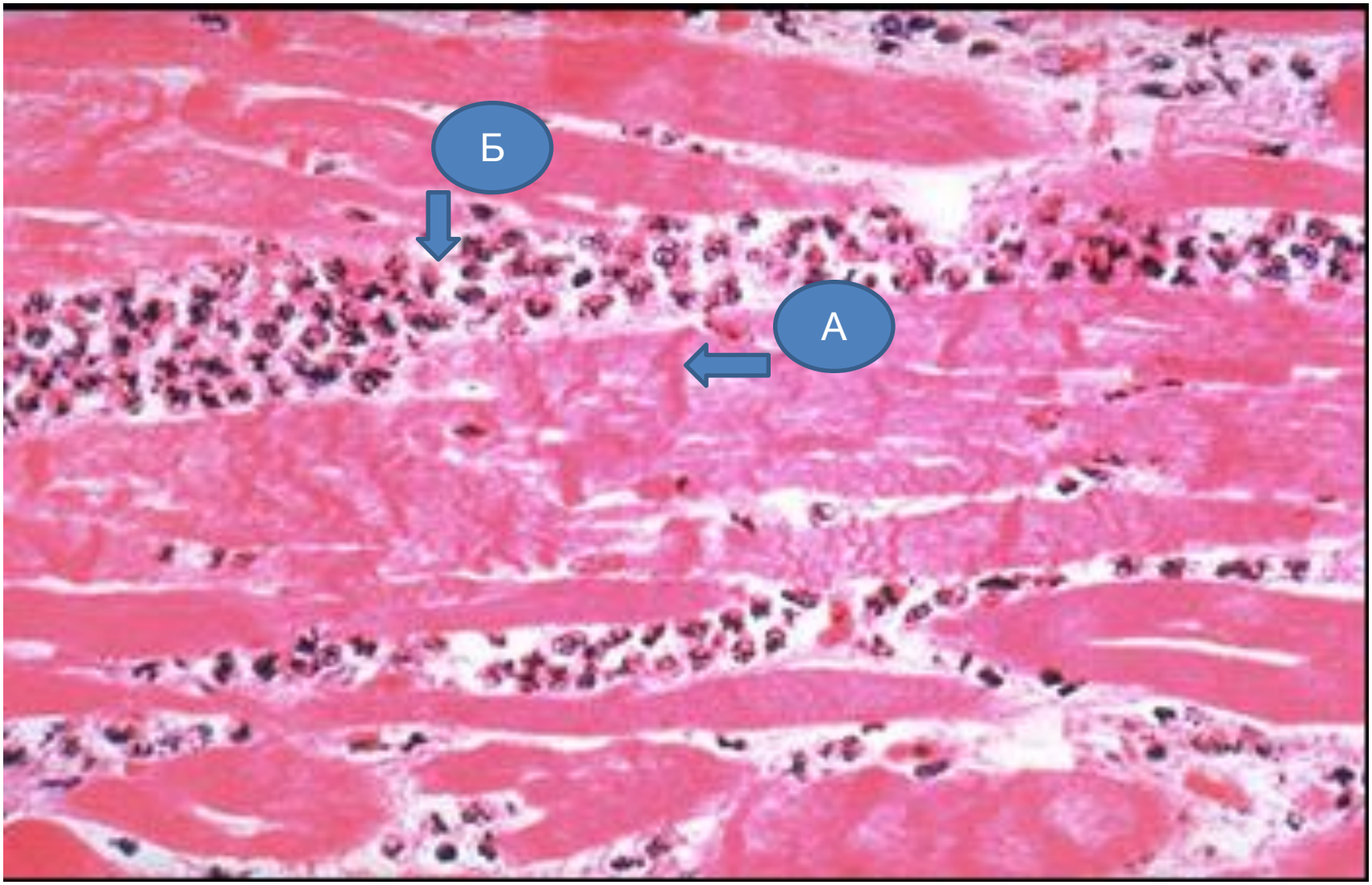
- А. The left ventricle
- Б. interventricular septum
- В. Right ventricle
- Г. epicardial adipose tissue
- Д. infarct zone

Acute myocardial infarction



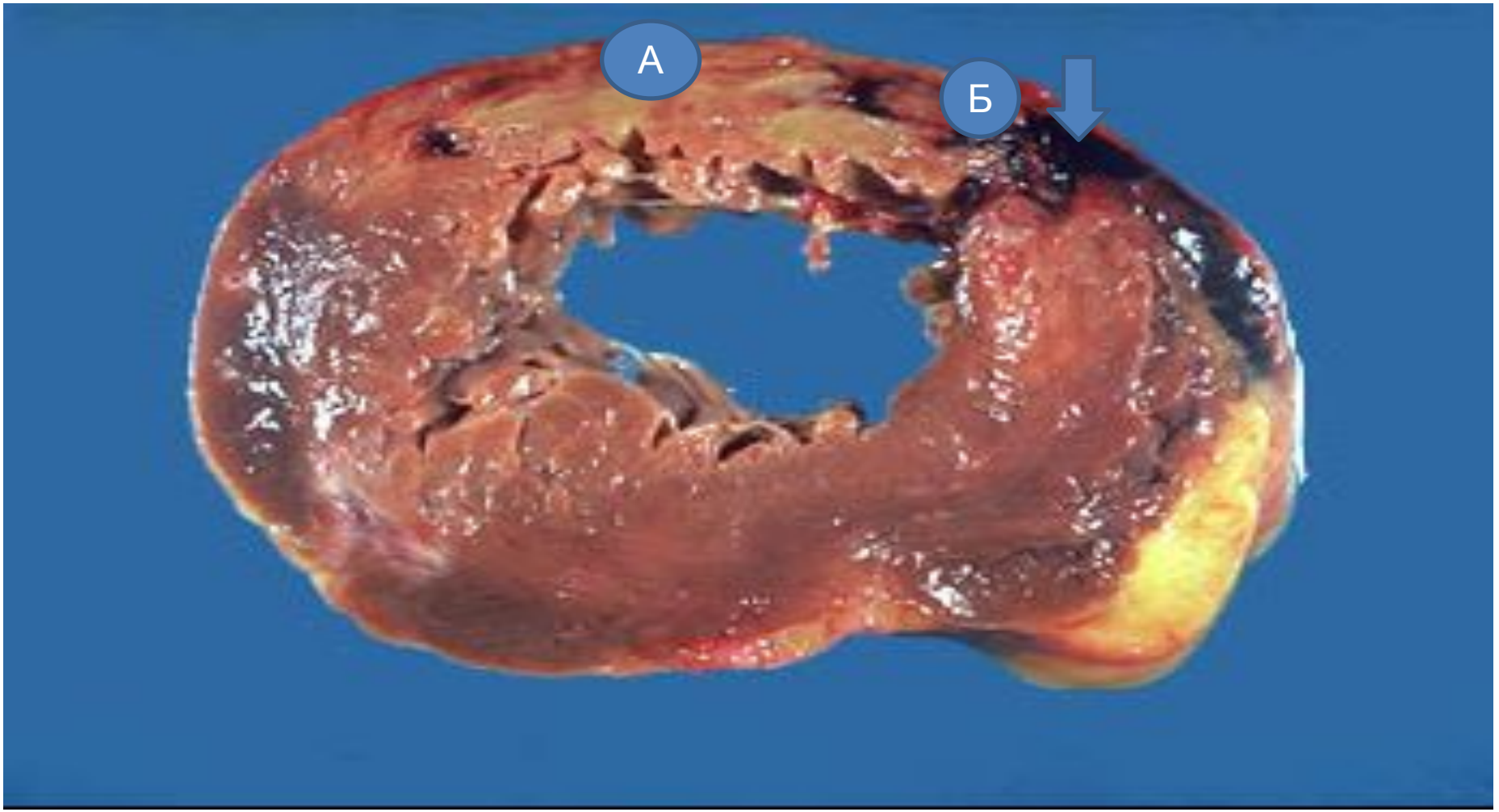
A. neutrophil

Myocardial infarction



- А. Contractured fibers
- Б. Neutrophils

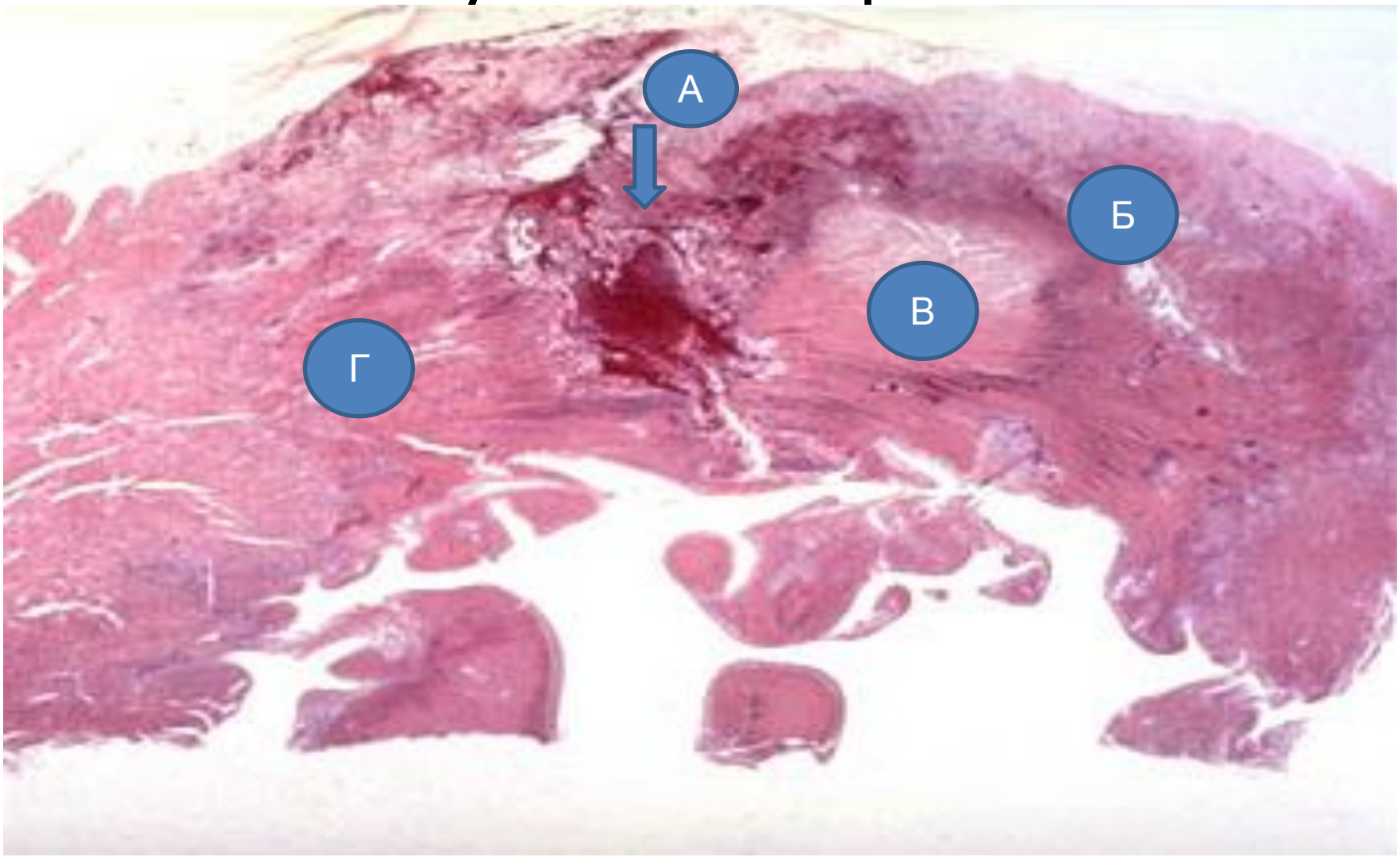
Postinfarction rupture of the wall of left ventricular



А. Zone of infarction

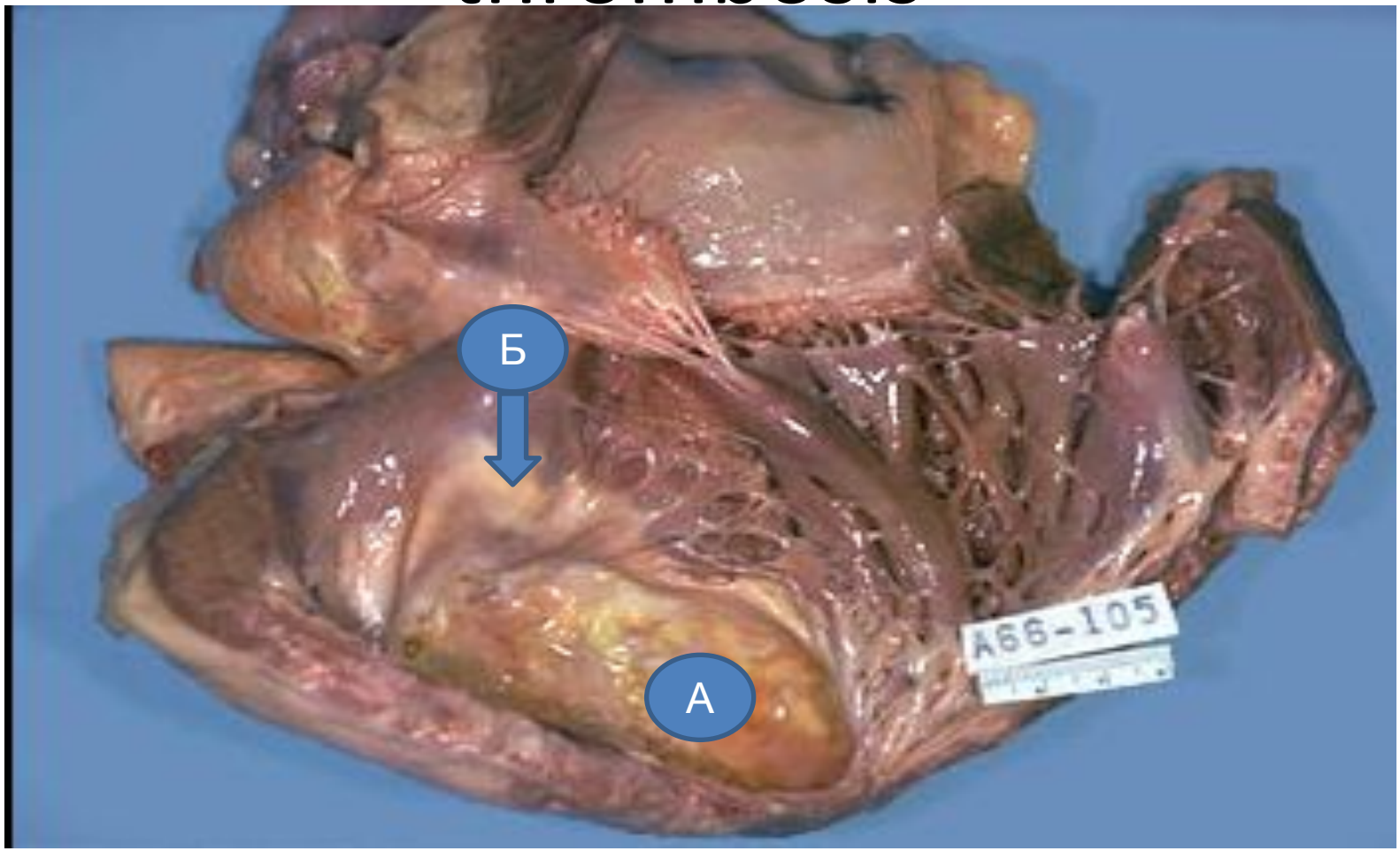
Б. Zone of rupture

Myocardial rupture



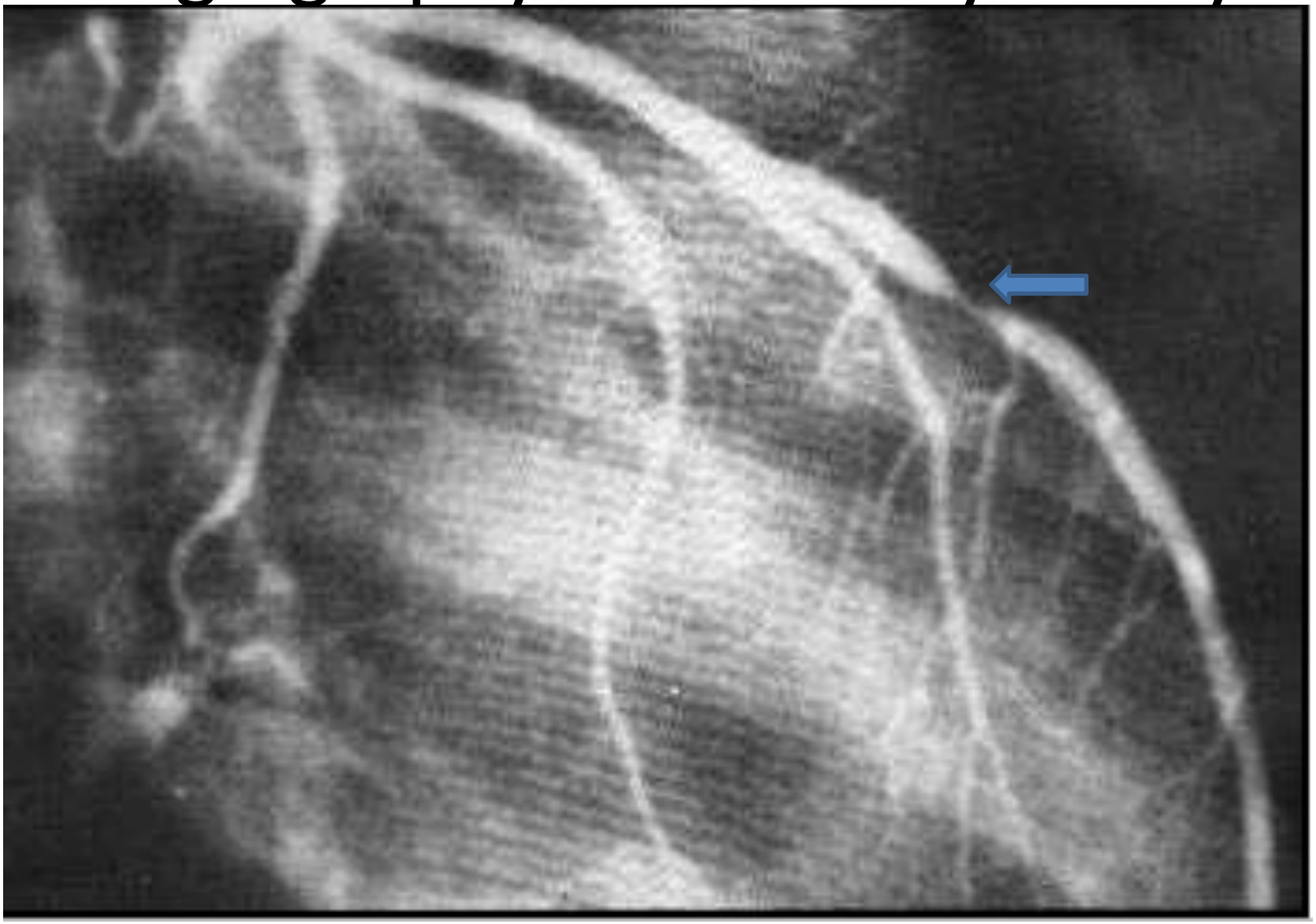
- А canal of rupture
- Б. Zone of transmural myocardium
- В. zone of coagulation infarction
- Г. Field of unchanged myocardium

Left ventricular aneurysm, thrombosis



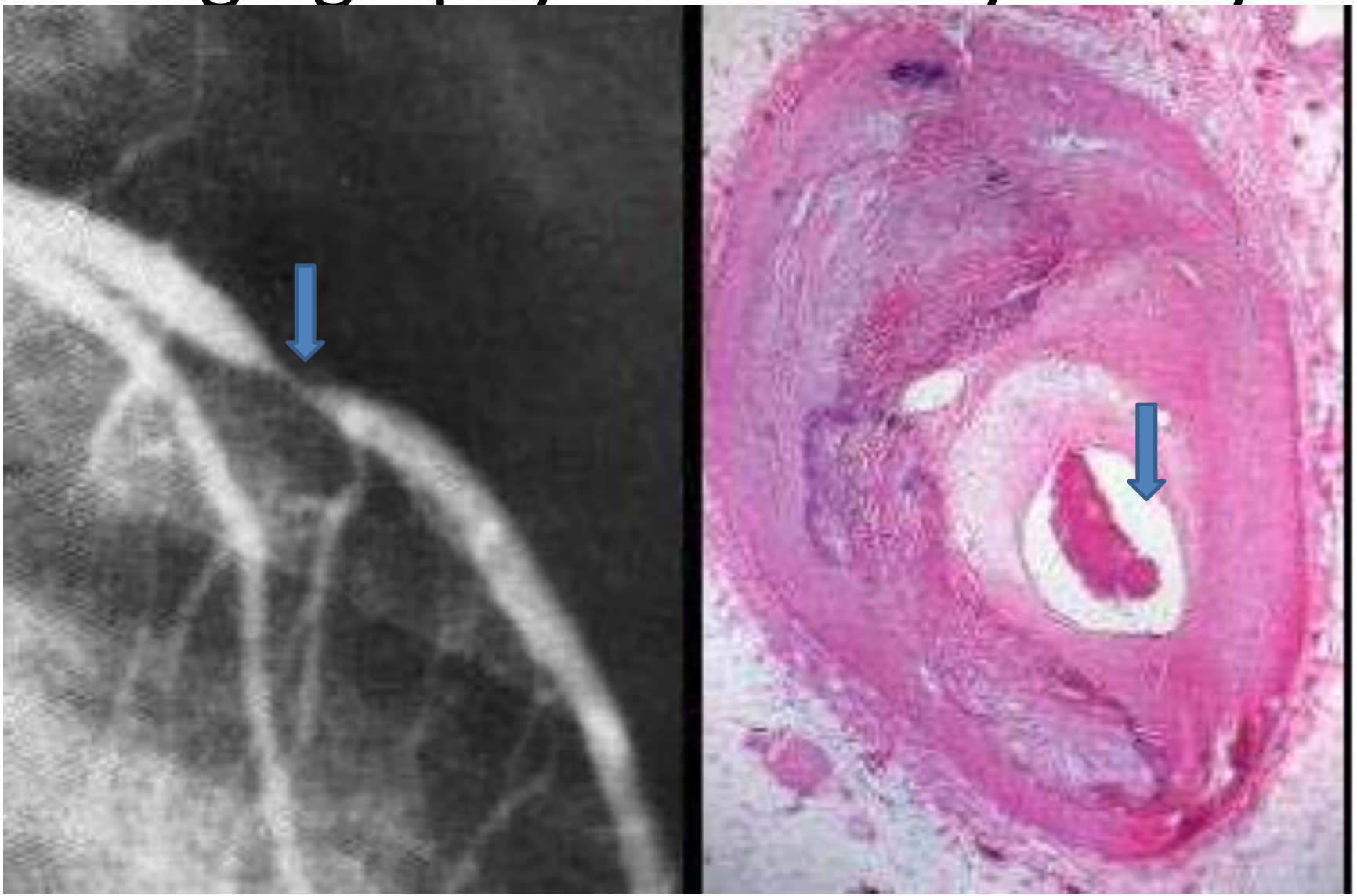
- А. aneurysm and thrombosis
- Б. subendocardial scars

Angiography of coronary artery



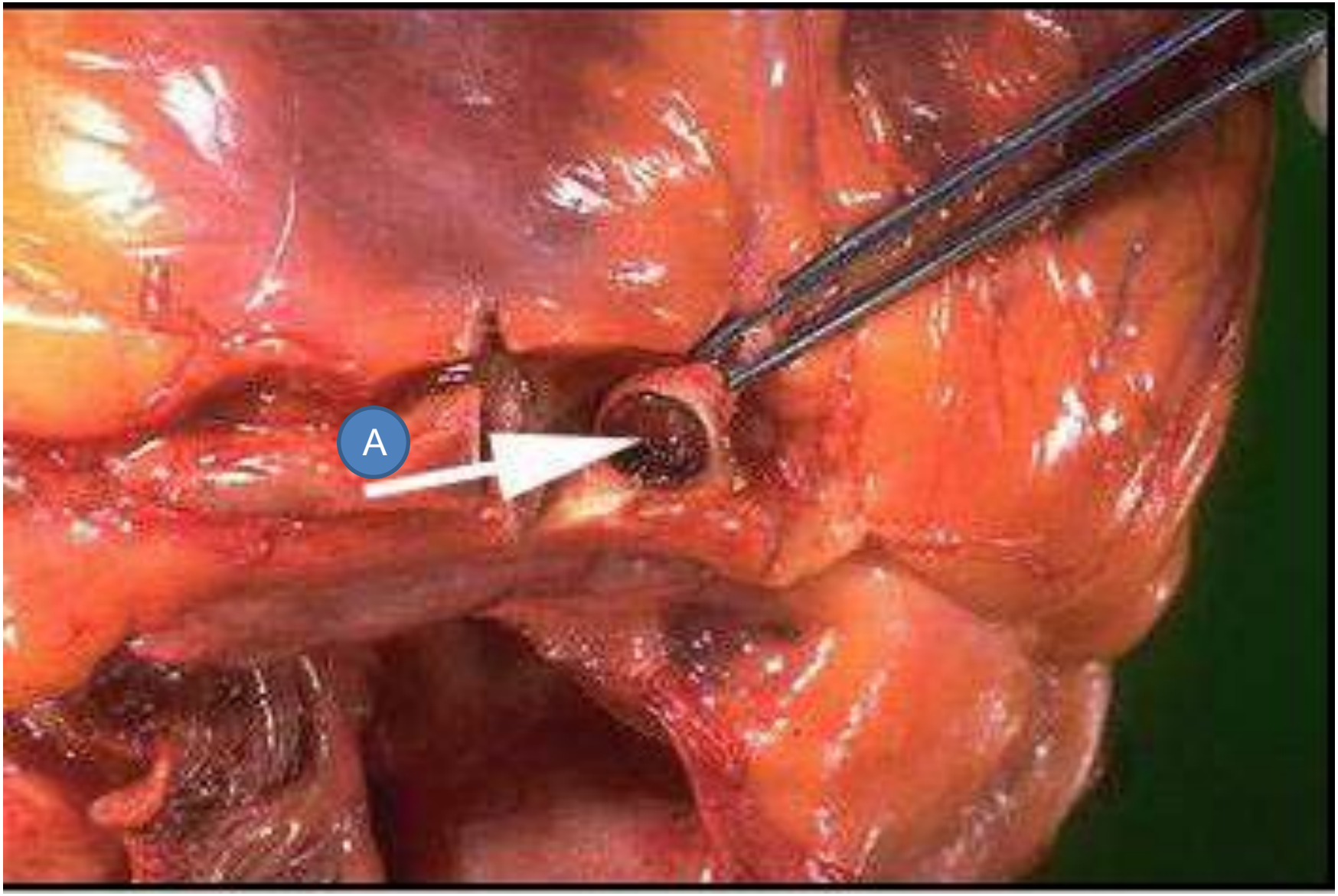
- A. constriction of a coronary artery

Angiography of coronary artery



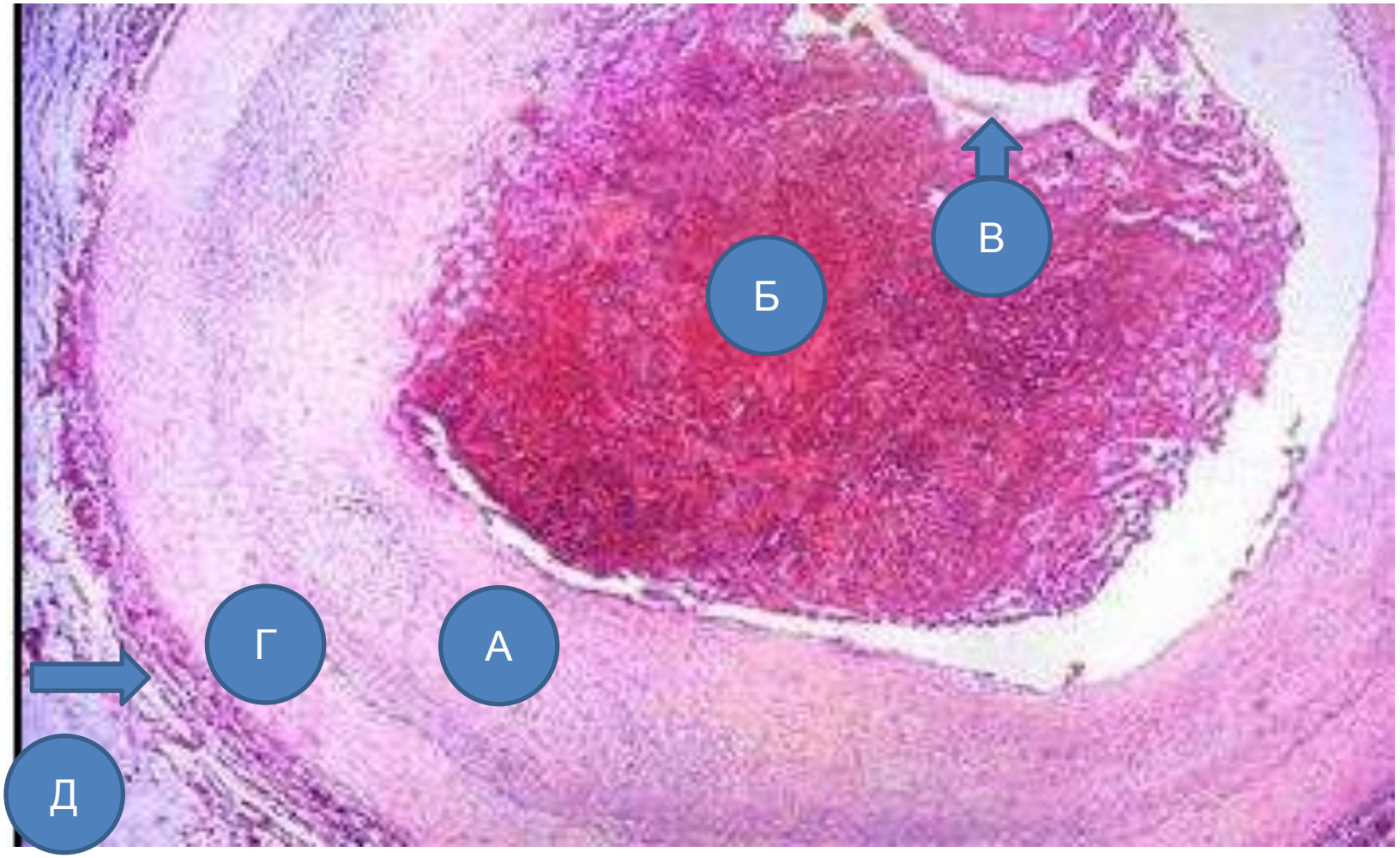
Constriction of lumen of the coronary artery

Atherosclerosis and thrombosis of coronary artery



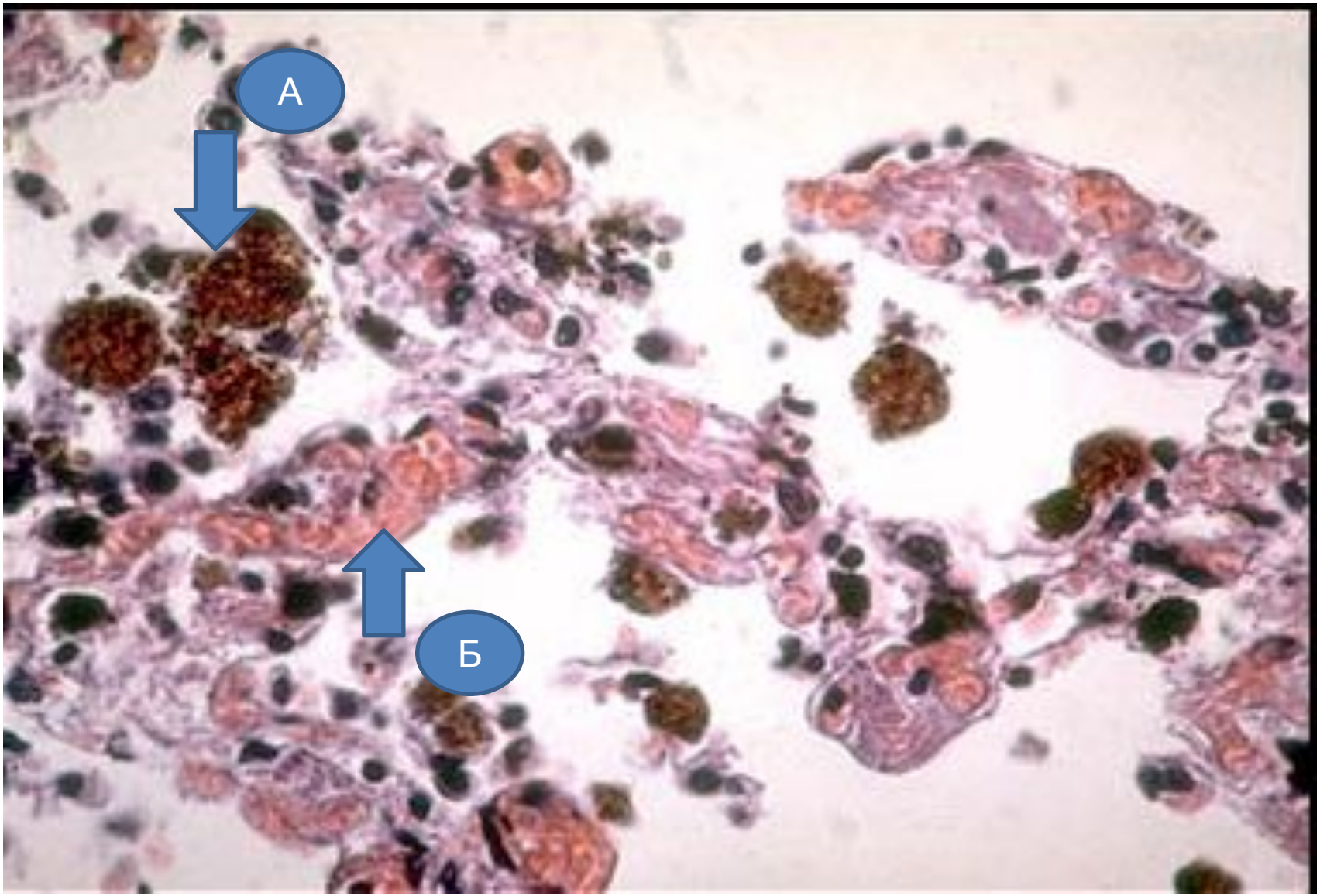
A. The thrombus in the lumen of the coronary artery

Thrombosis of coronary artery



- A. Intima
- Б. Thrombosis
- В. Recanalization
- Г. Middle membrane
- Д. Adventitia

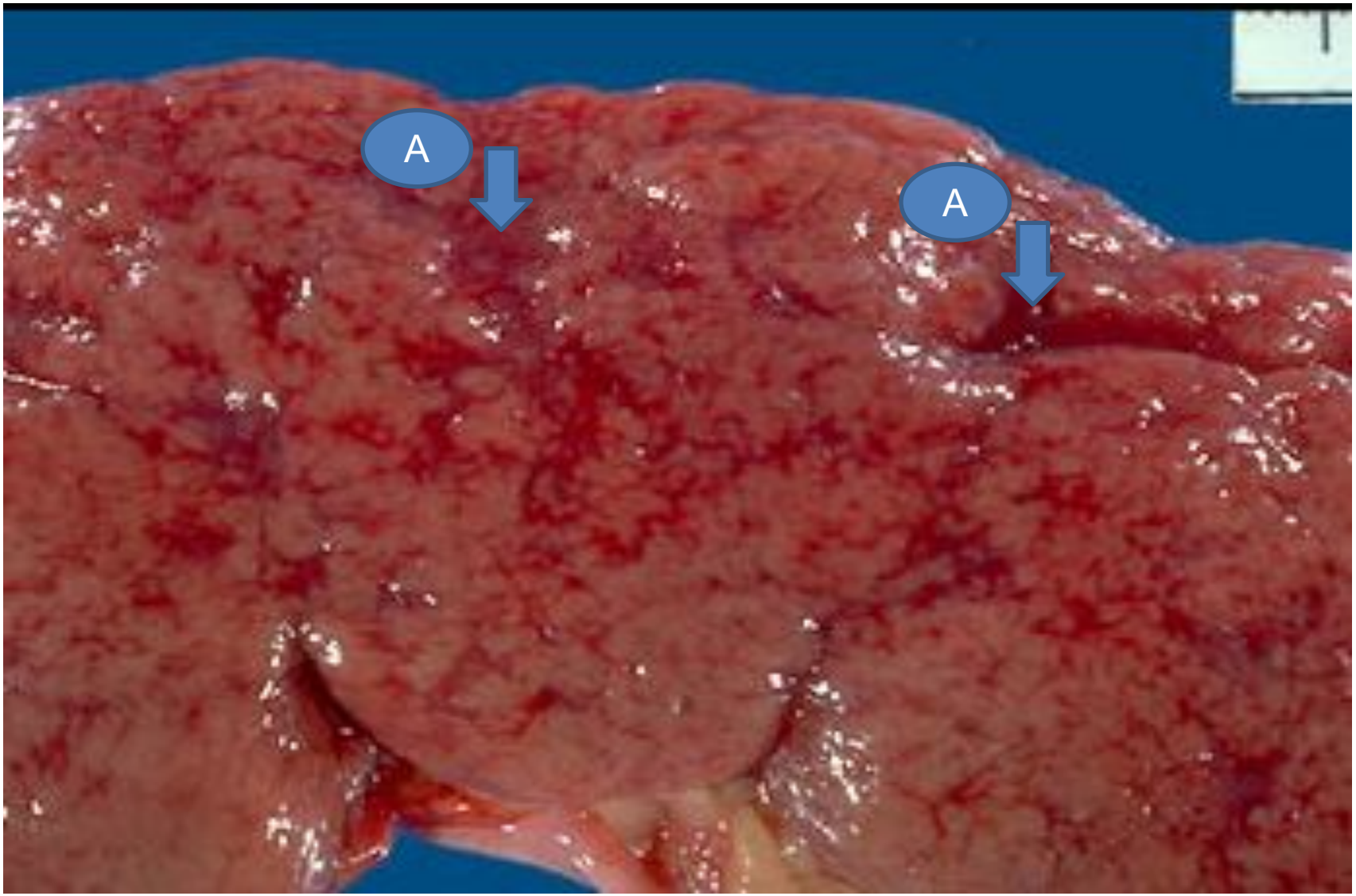
LOADED MACROPHAGES BY HEMOSIDERIN



А. Macrophages loaded by hemosiderin

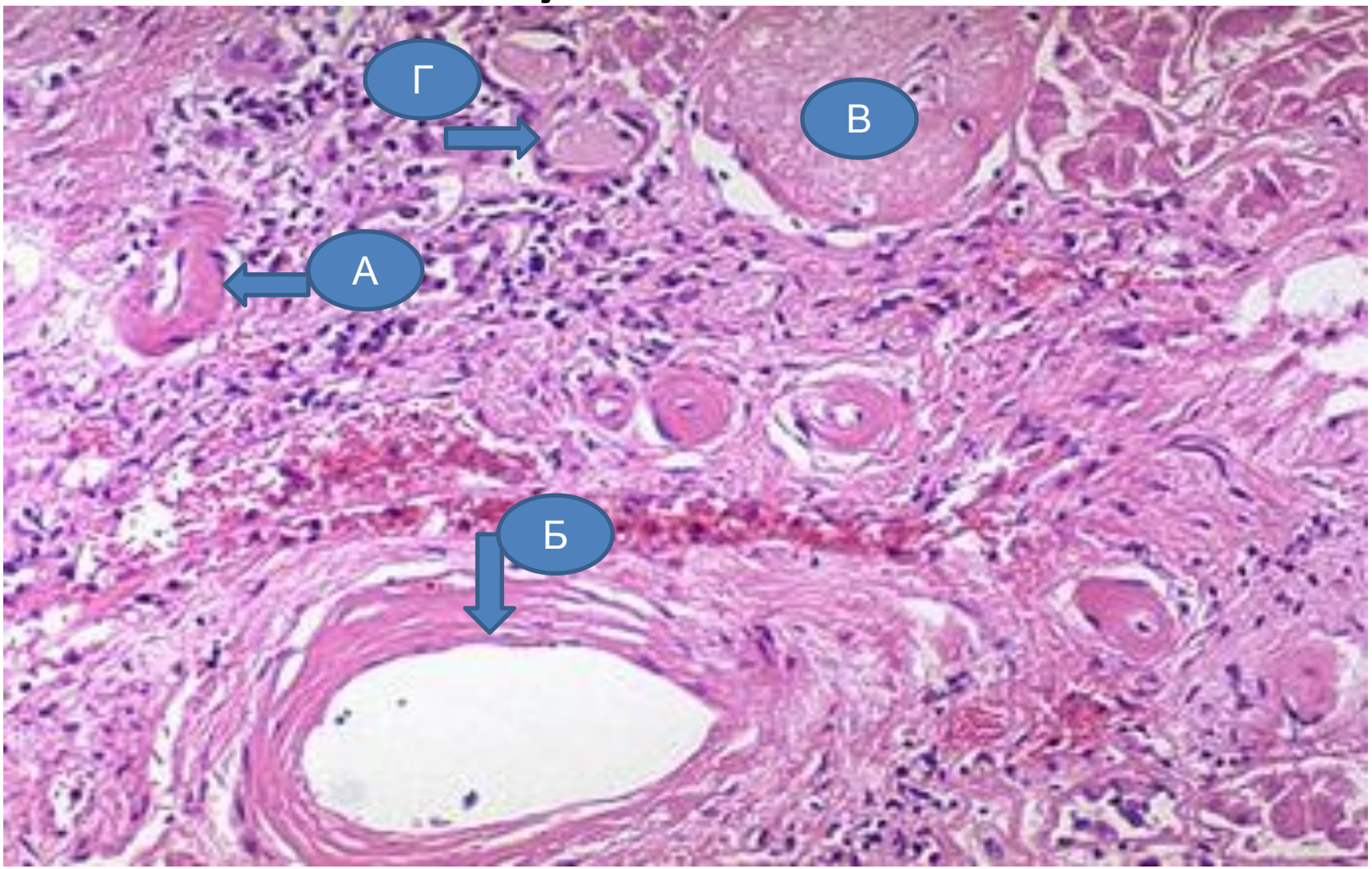
Б. Hyperemic capillaries in the alveolar wall

Kidneys. Arterio- and atherosclerosis



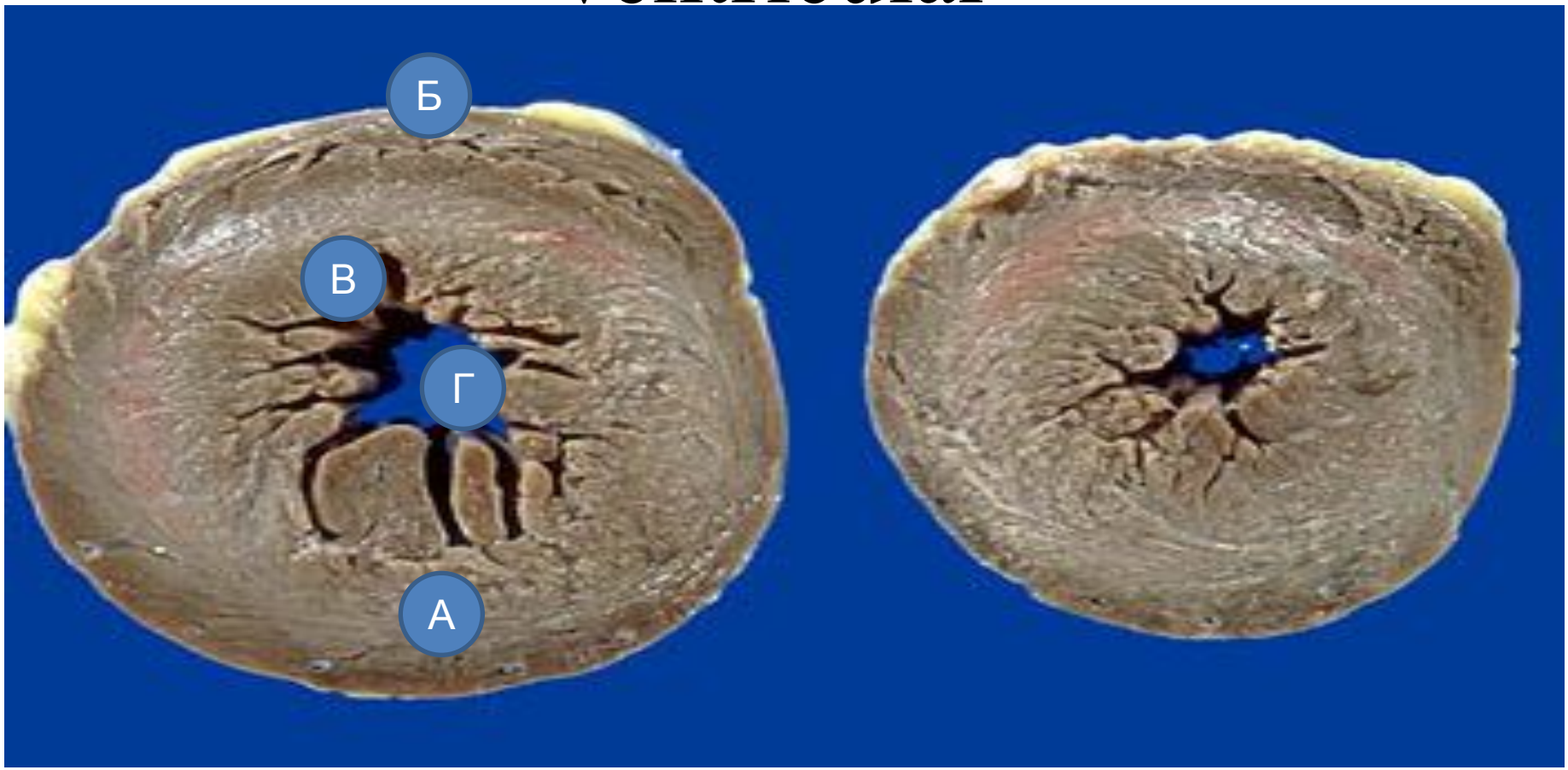
- A. CORTICAL SCARS

The kidneys, atherosclerosis.



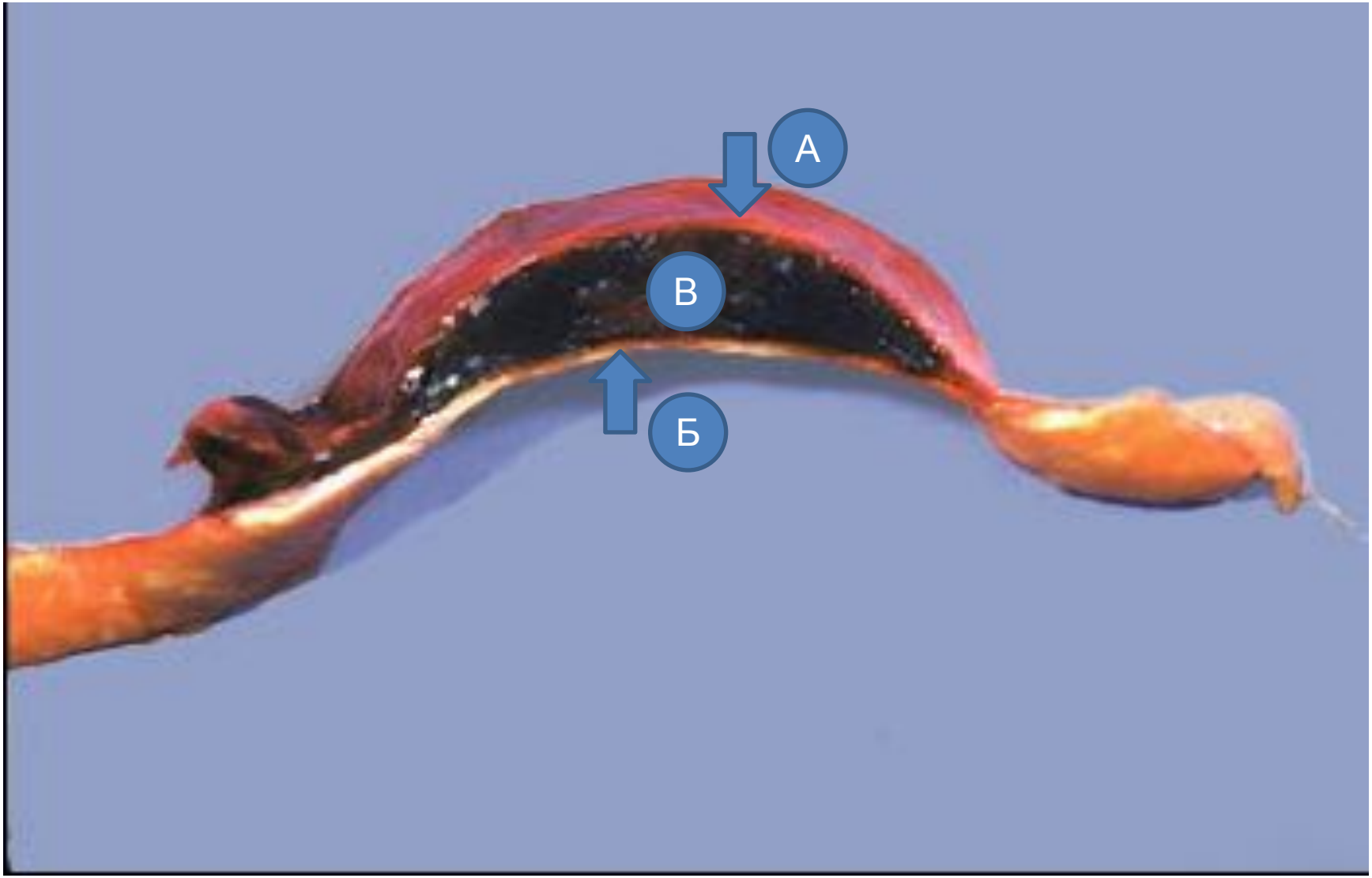
- А. Hyalinized VESSELS
- Б. FIBROSIS OF INTIMA
- В. SCLEROSIS of glomeruli
- Г. Tubular atrophy

Concentric hypertrophy of the left ventricular



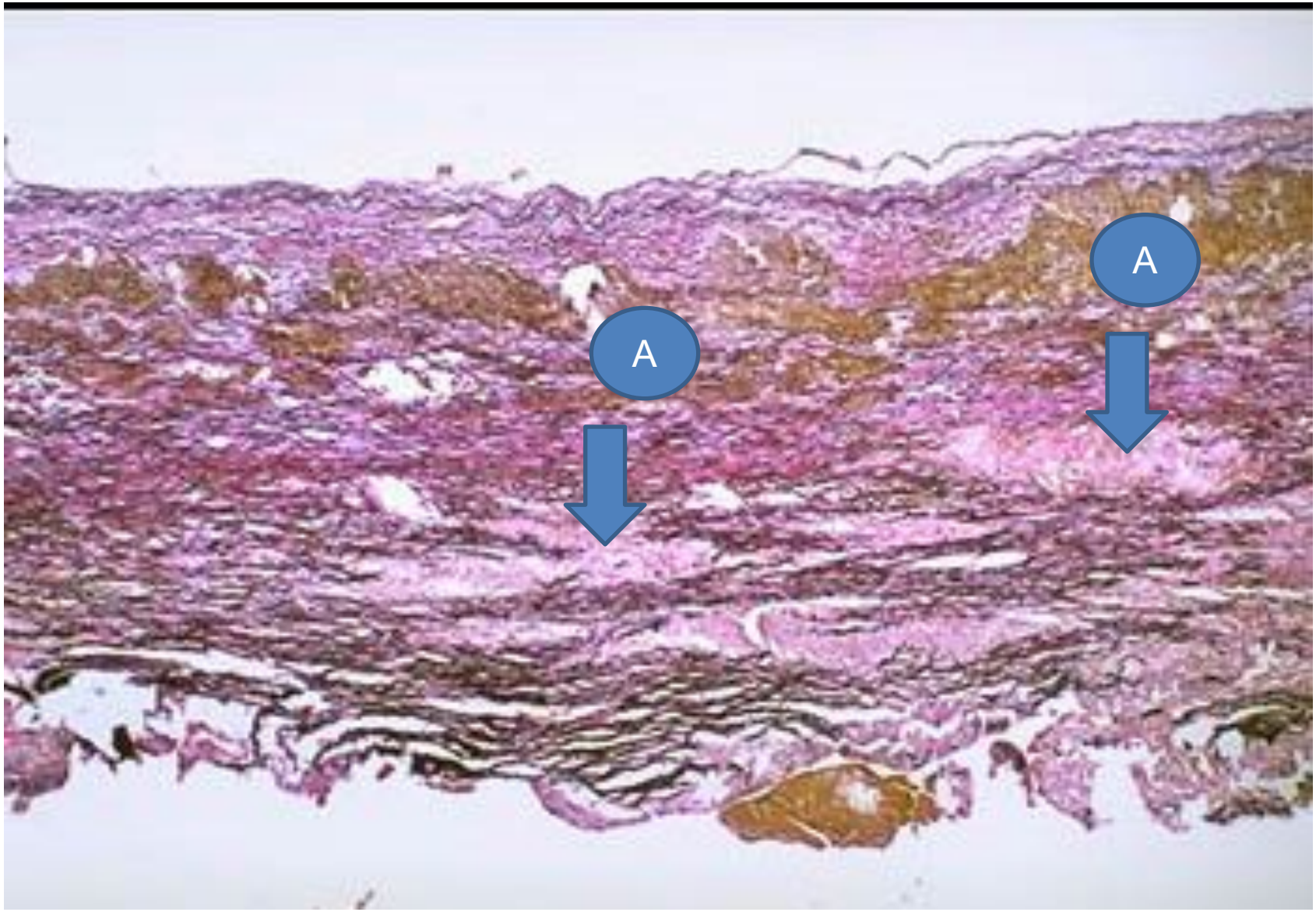
- A. left ventricle
- B. right ventricle
- B. PARTITION
- Г. Decrease of cavity of left ventricular

Excision of aortic



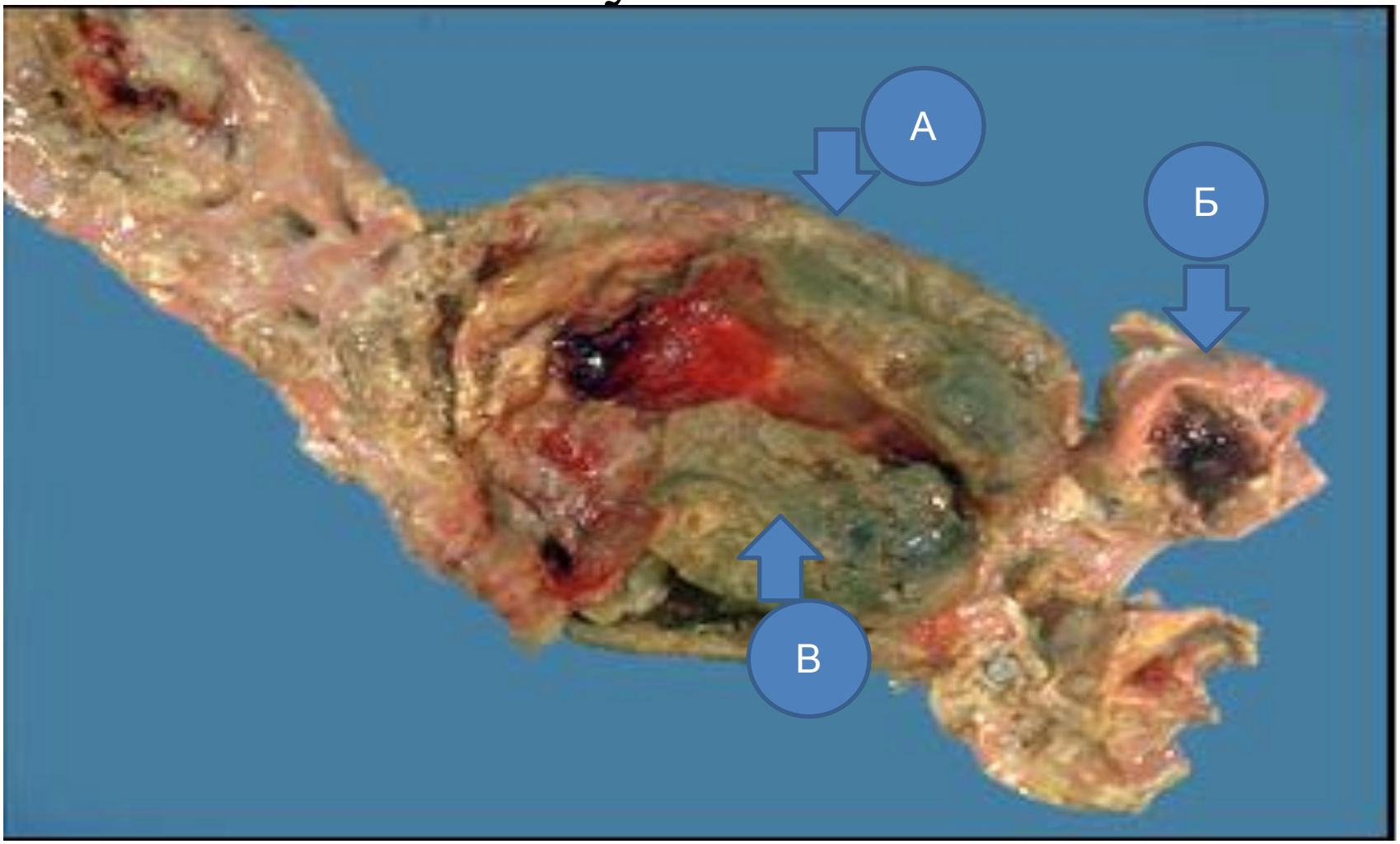
- А. adventitia
- Б. aortic intima
- В. hematoma dissecting tunica

NECROSIS of tunica aorta



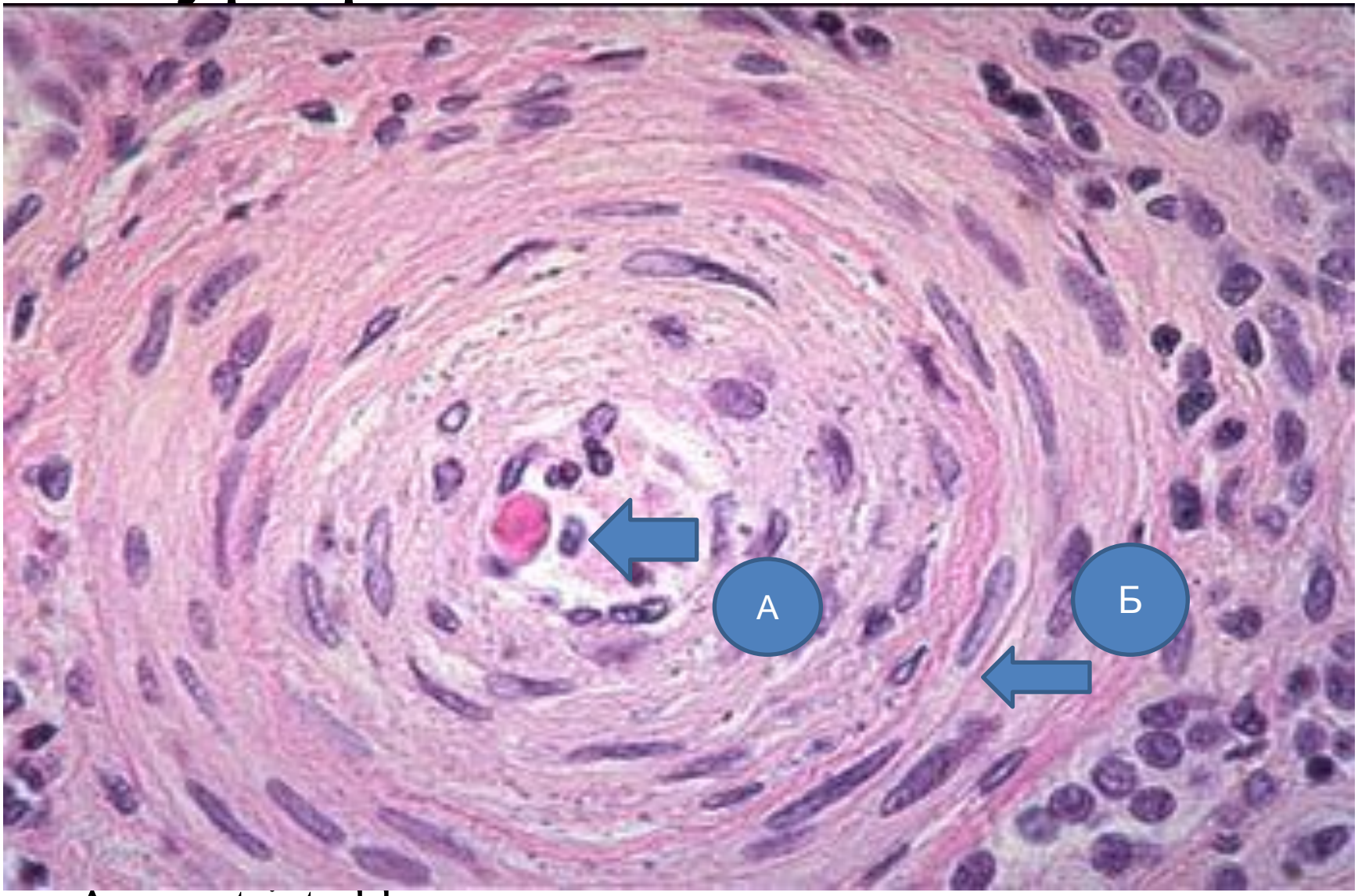
- A. Zone of necrosis

Atherosclerotic aneurysm of the abdominal aorta



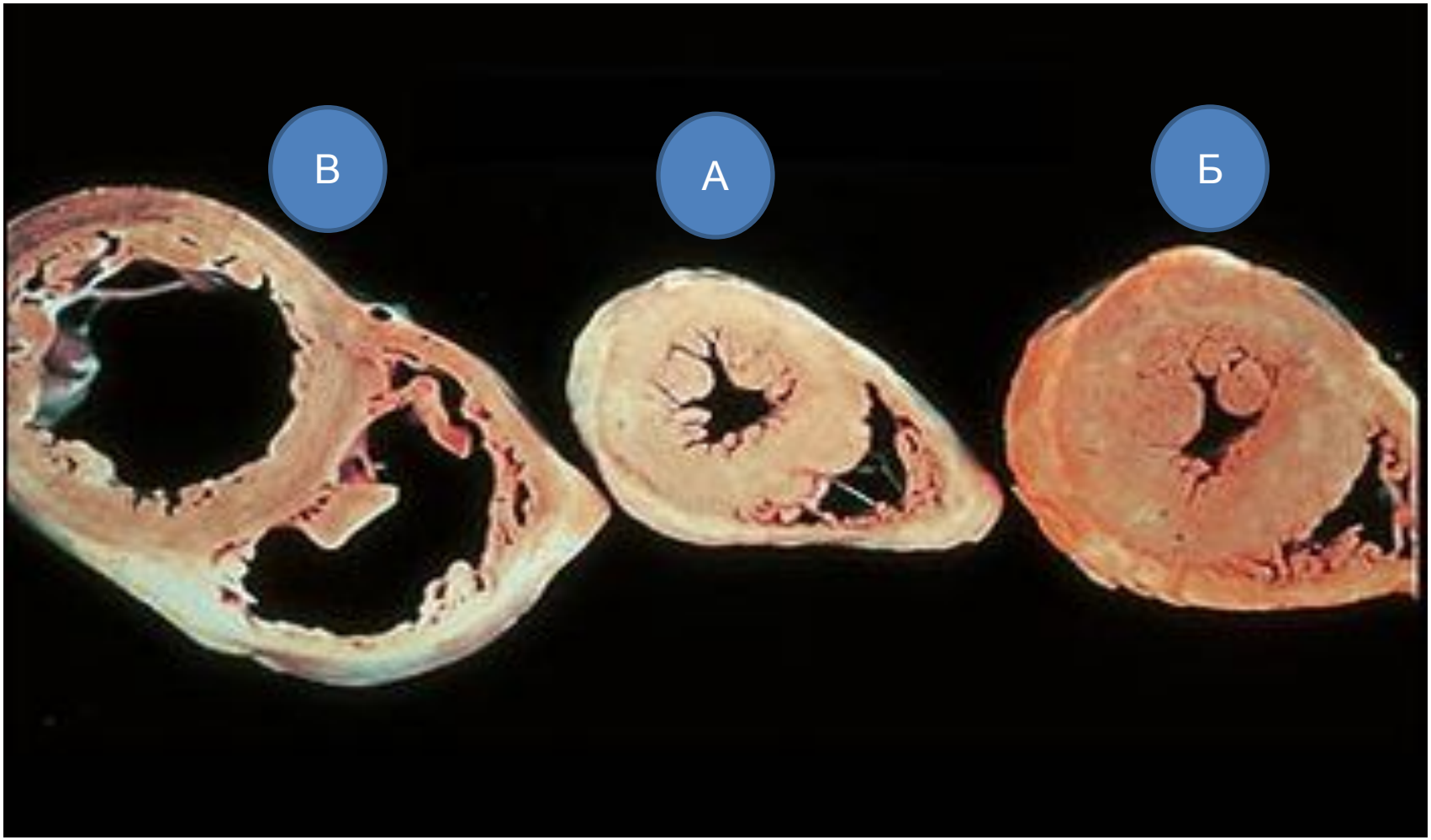
- А. mushroom ANEURYSM
- Б. iliac artery
- В. Large thrombus in the lumen

Hyperplastic arteriosclerosis



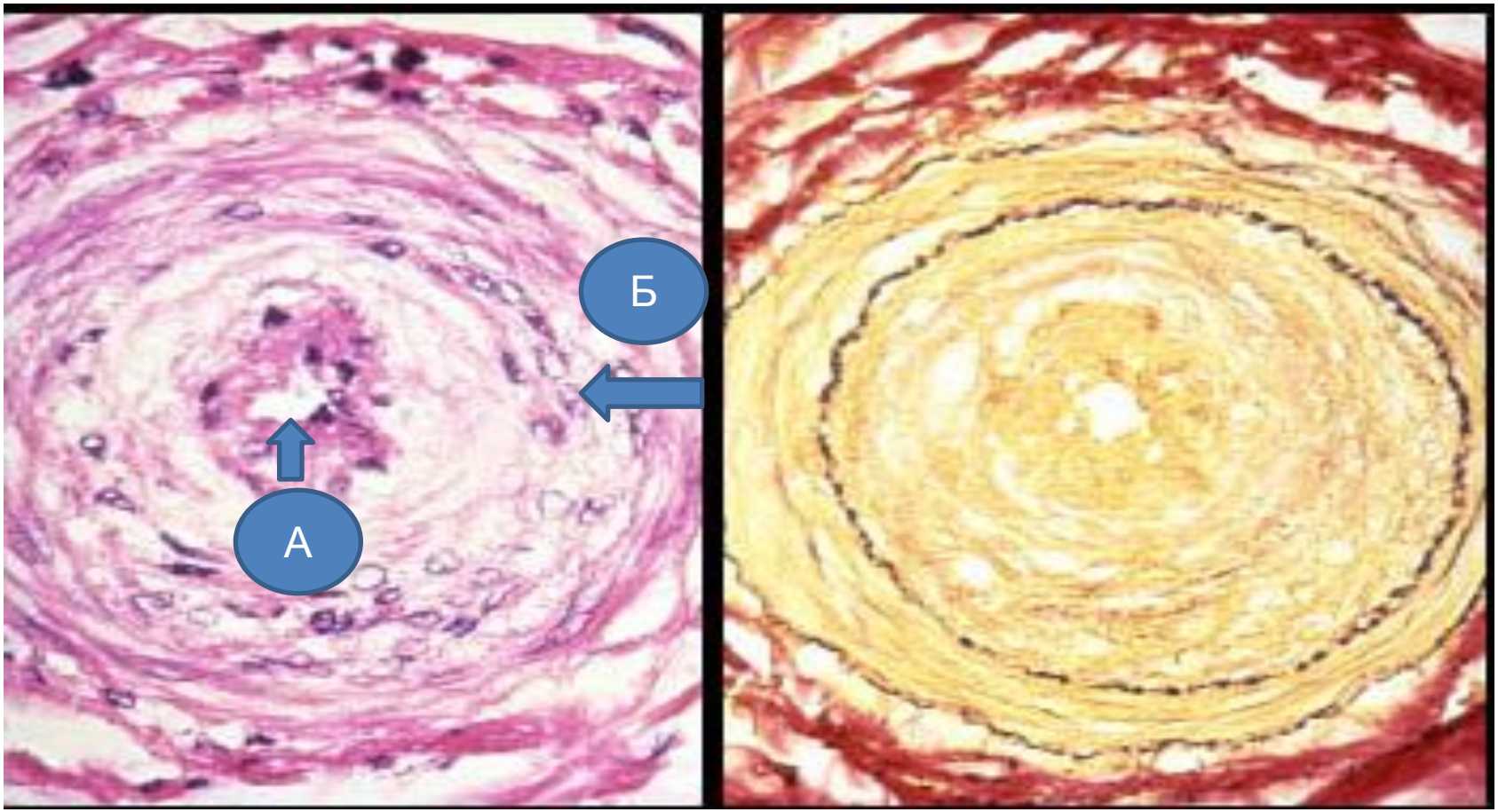
- A. constricted lumen
- B. hyperplasia of smooth muscle cells

Myocardial hypertrophy



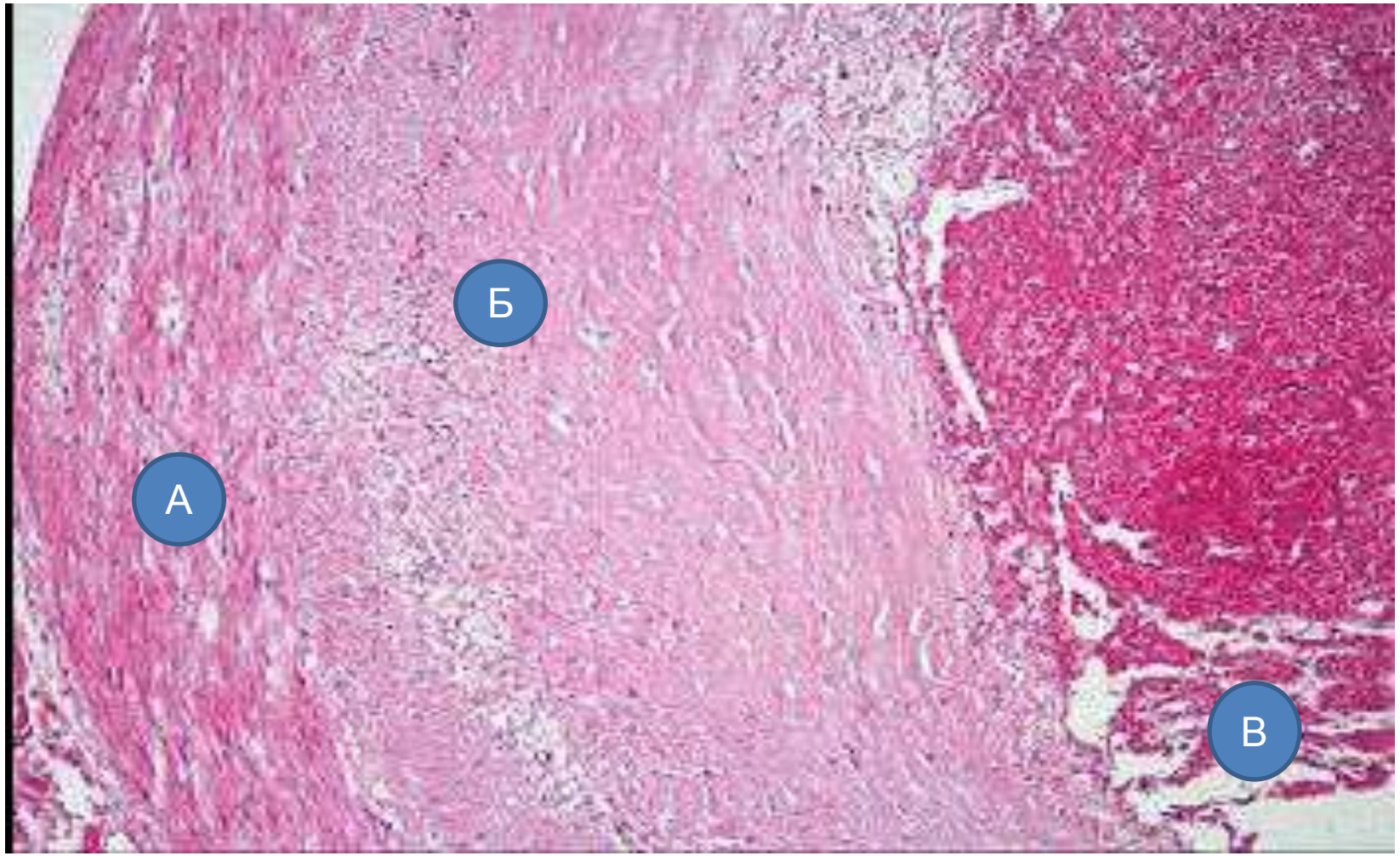
- А. Unchanged heart
- Б. Concentric hypertrophy
- В. Dilation of the ventricles

Changed vessels during congenital heart insufficiency



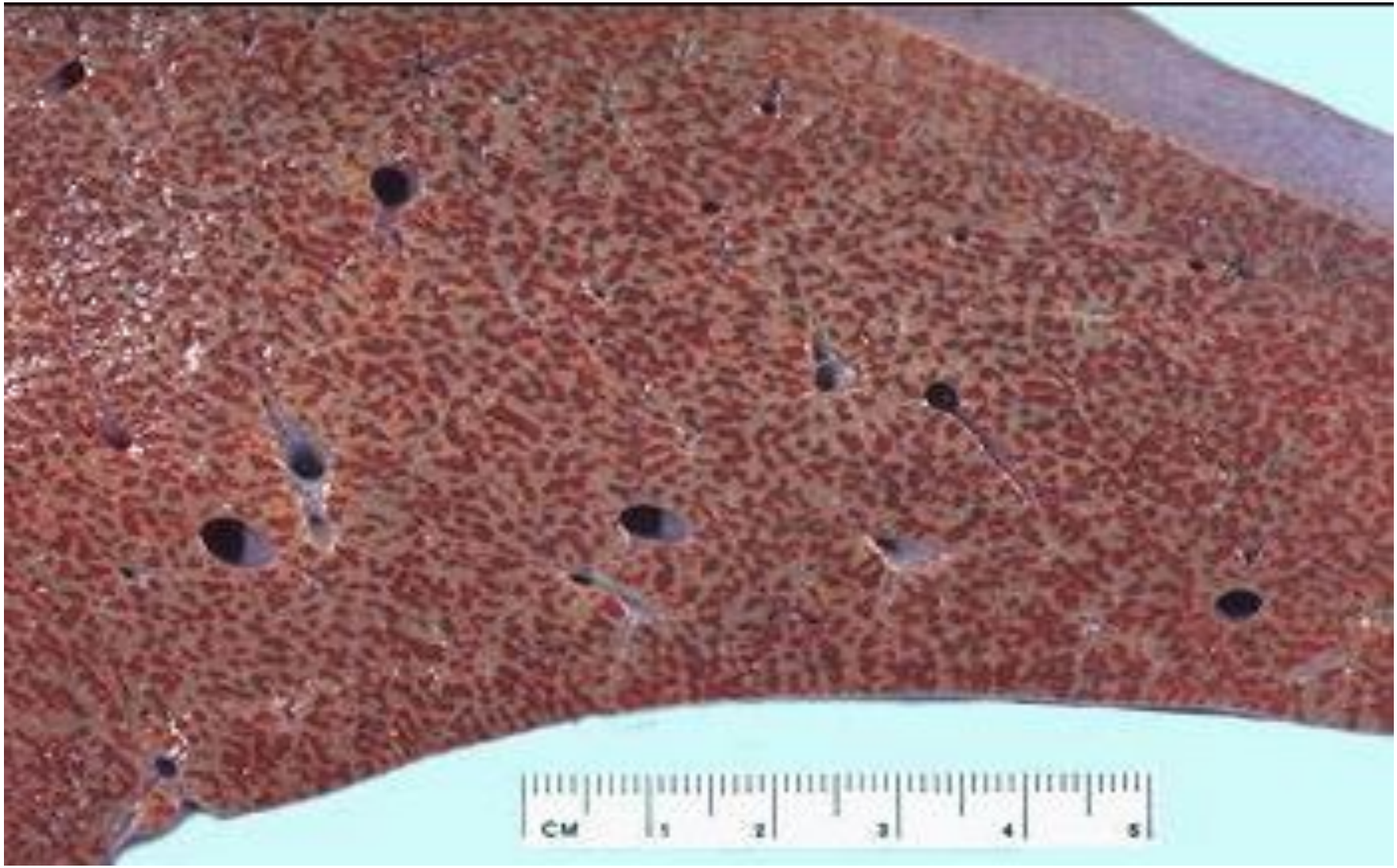
- A. Stenotic foramen
- B. Hypertrophy of smooth muscle cells

Thrombosis of coronary artery

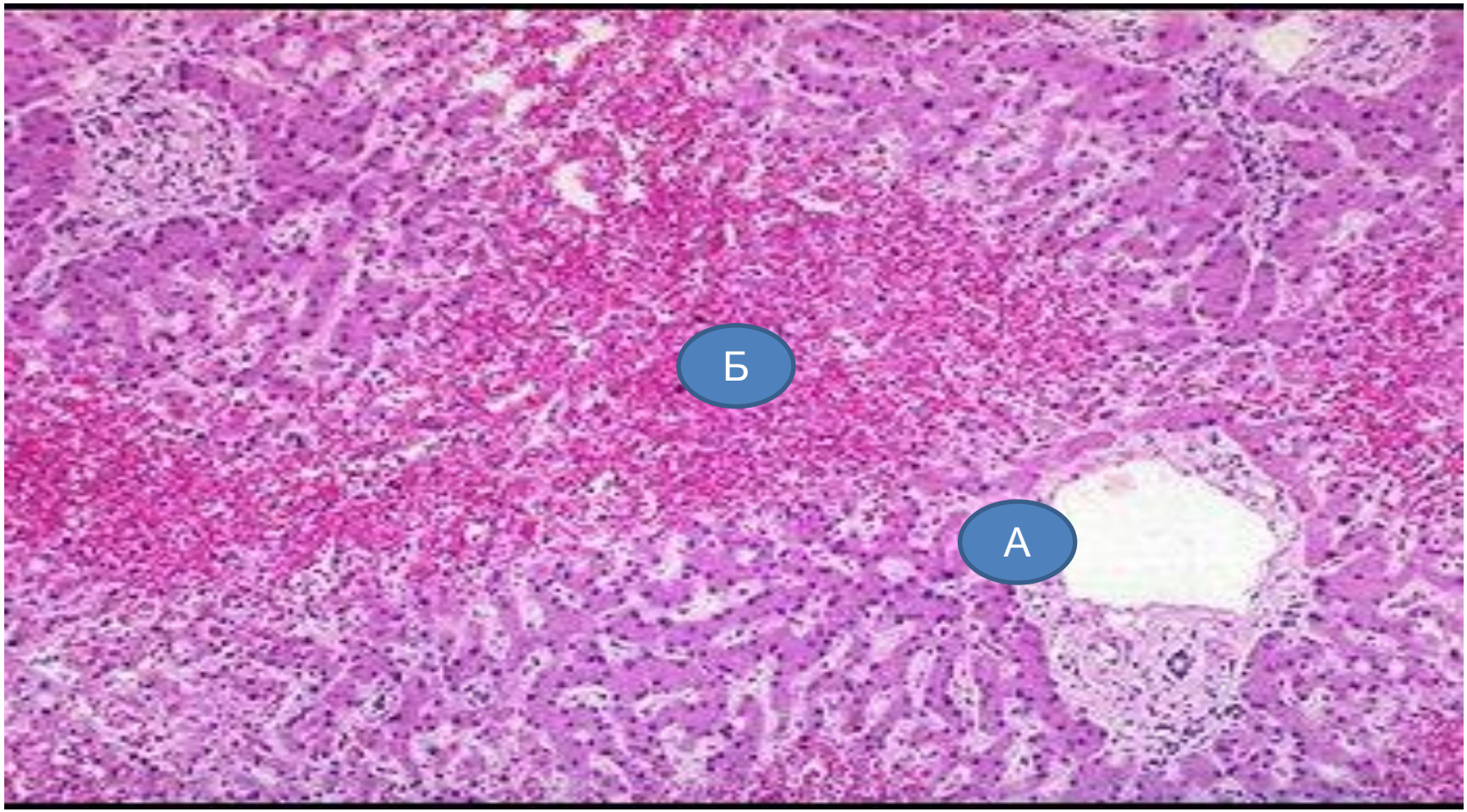


А. tunica
Б. intima
В. lumen

General chronic venous congestion



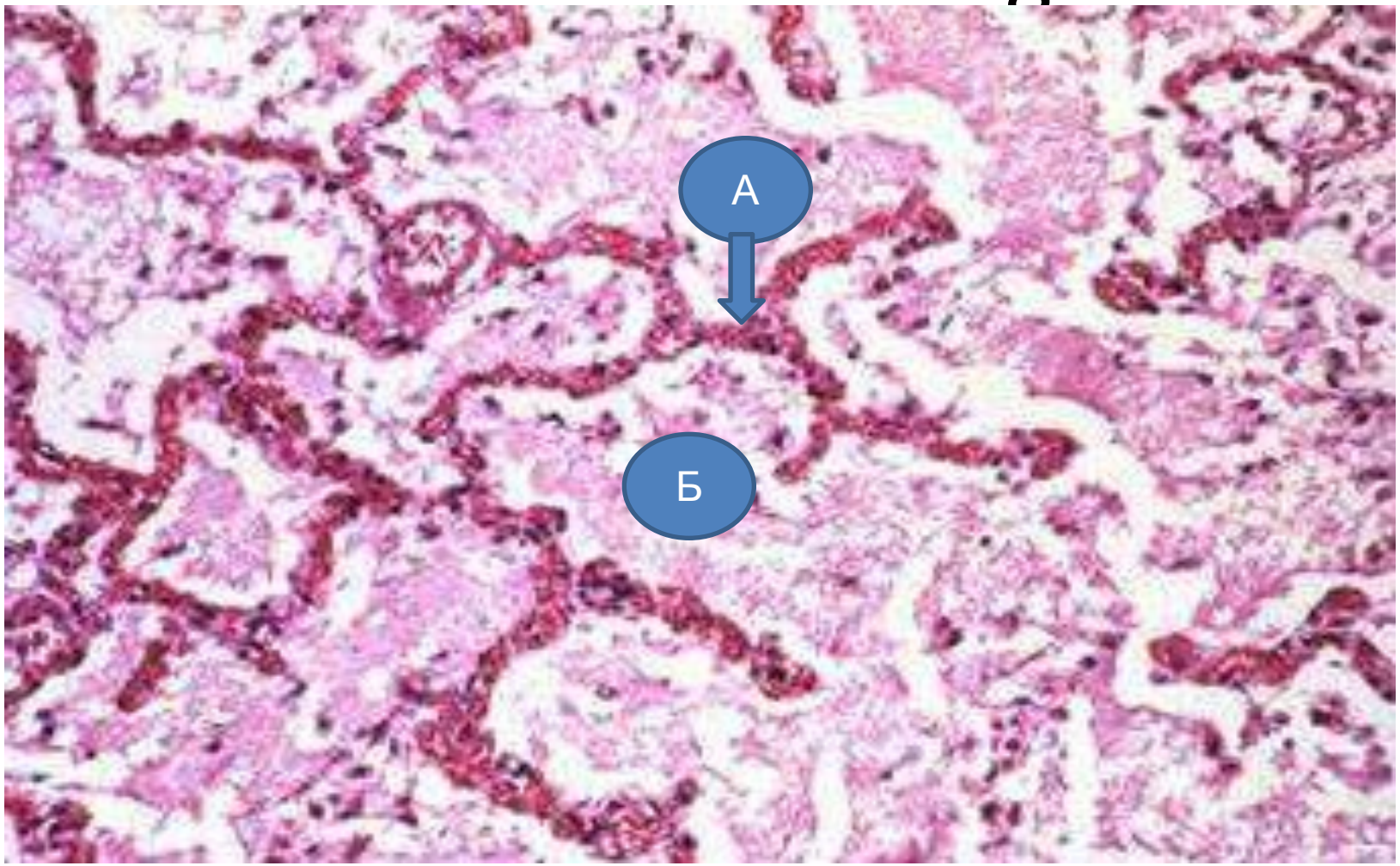
General chronic venous congestion



- А. Triad
- Б. Congestion

Lung during chronic venous congestion

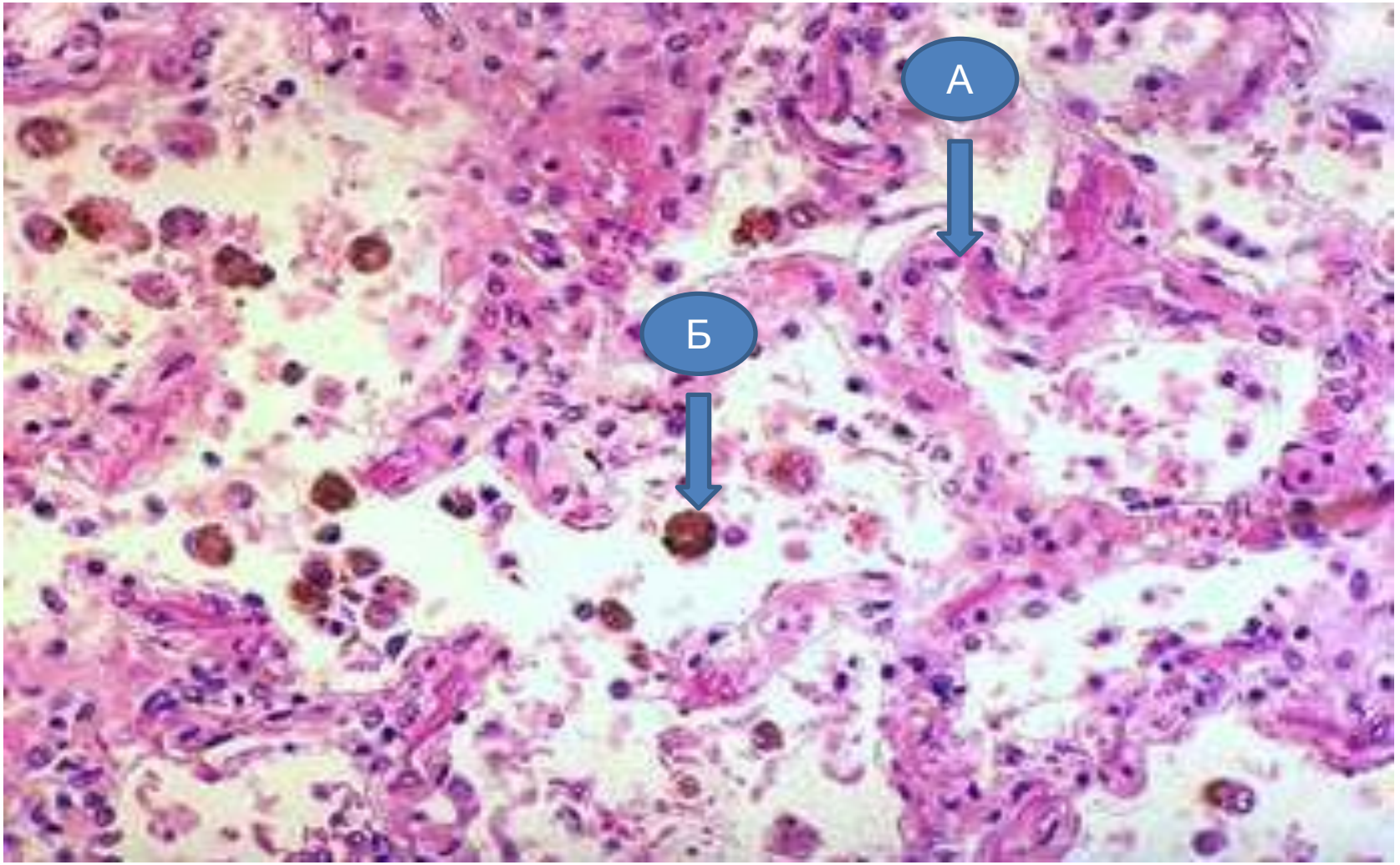
Edema of the lung



А. hyperemic intra alveolar septa

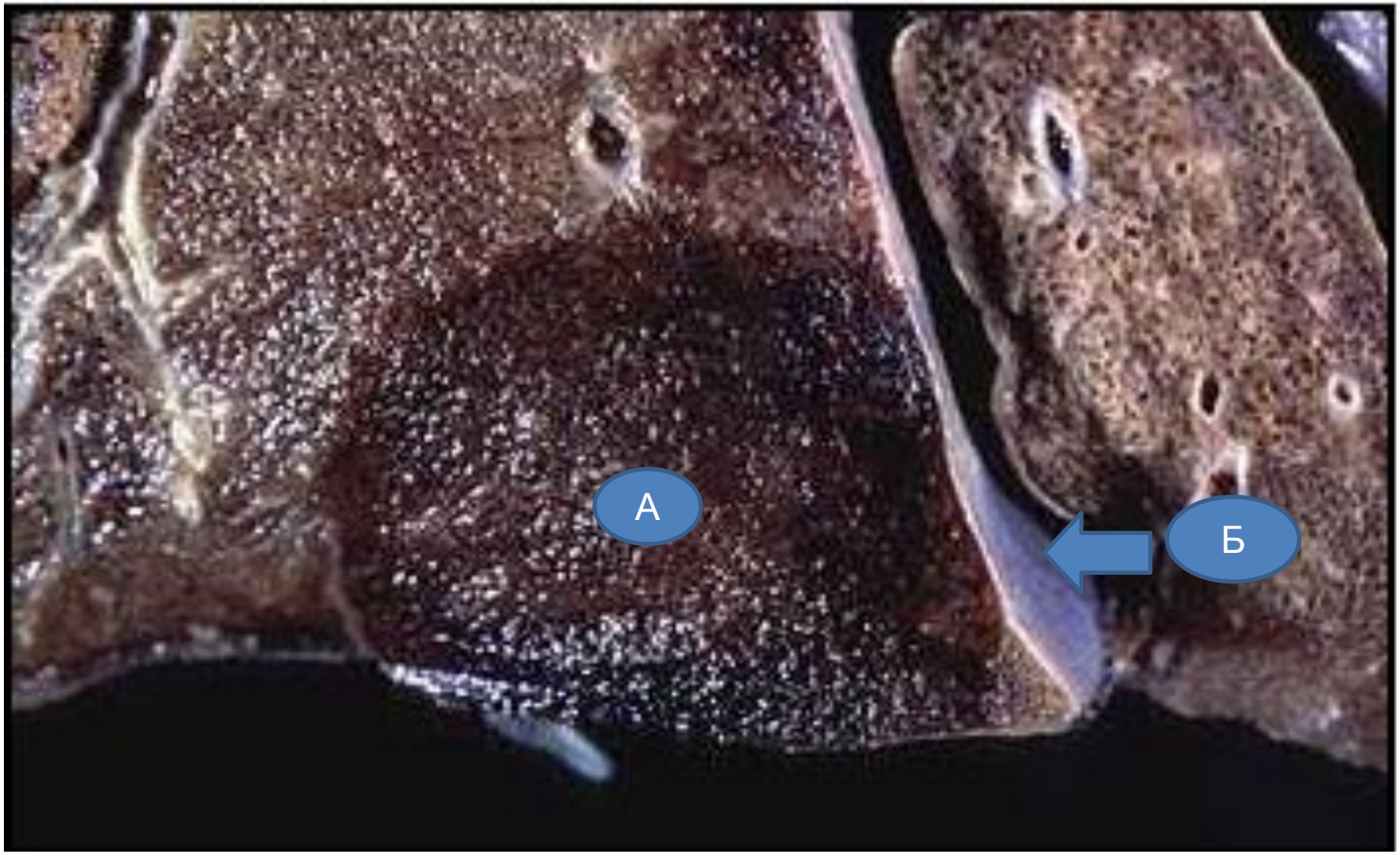
Б. intra alveolar transudate

Chronic venous congestion



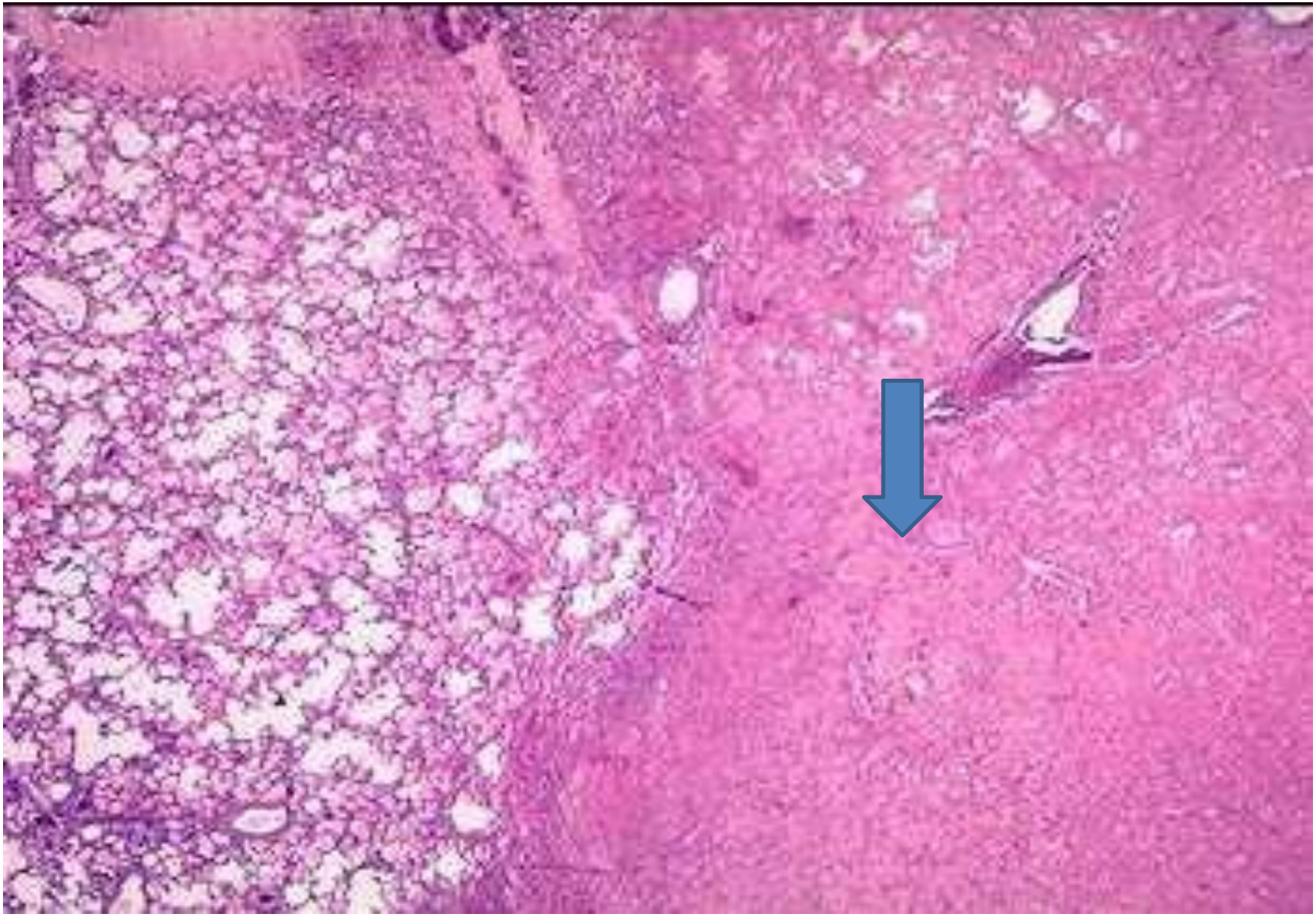
- А. alveolar septa
- Б. macrophages with hemosiderin

Infarction of lung



- А. Infarction
- Б. Pleura

Infarction of lung



Infarction of lung