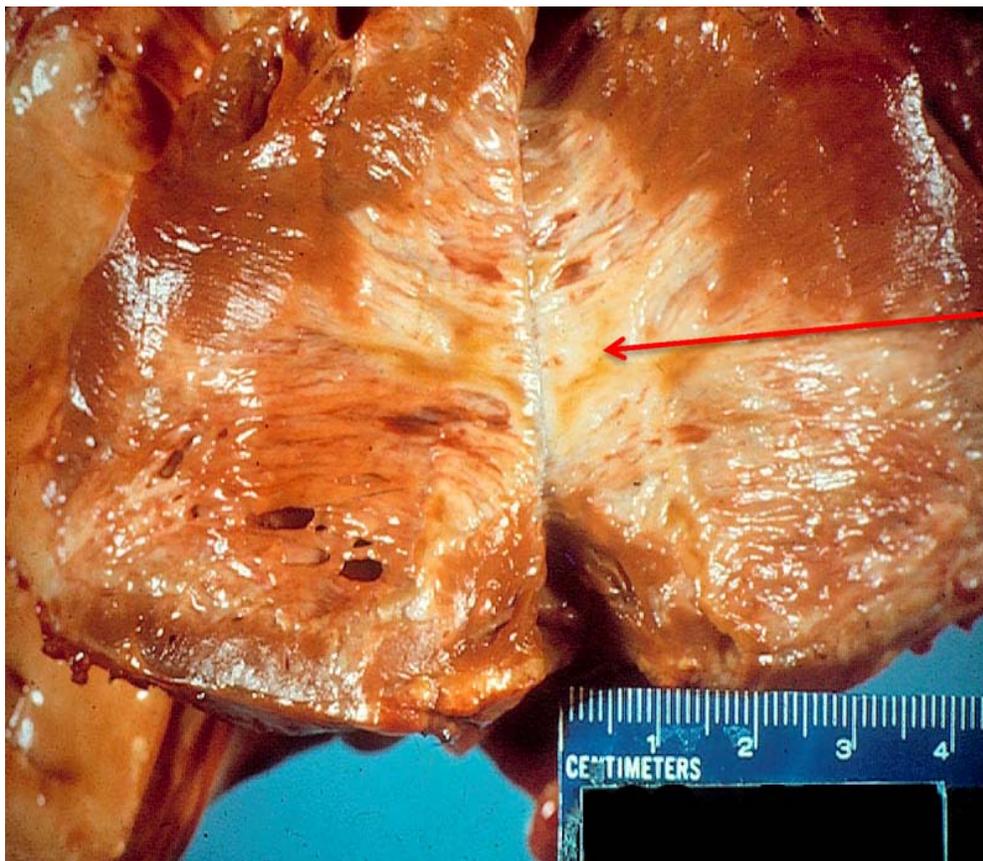


Small Group Session I - Case 2

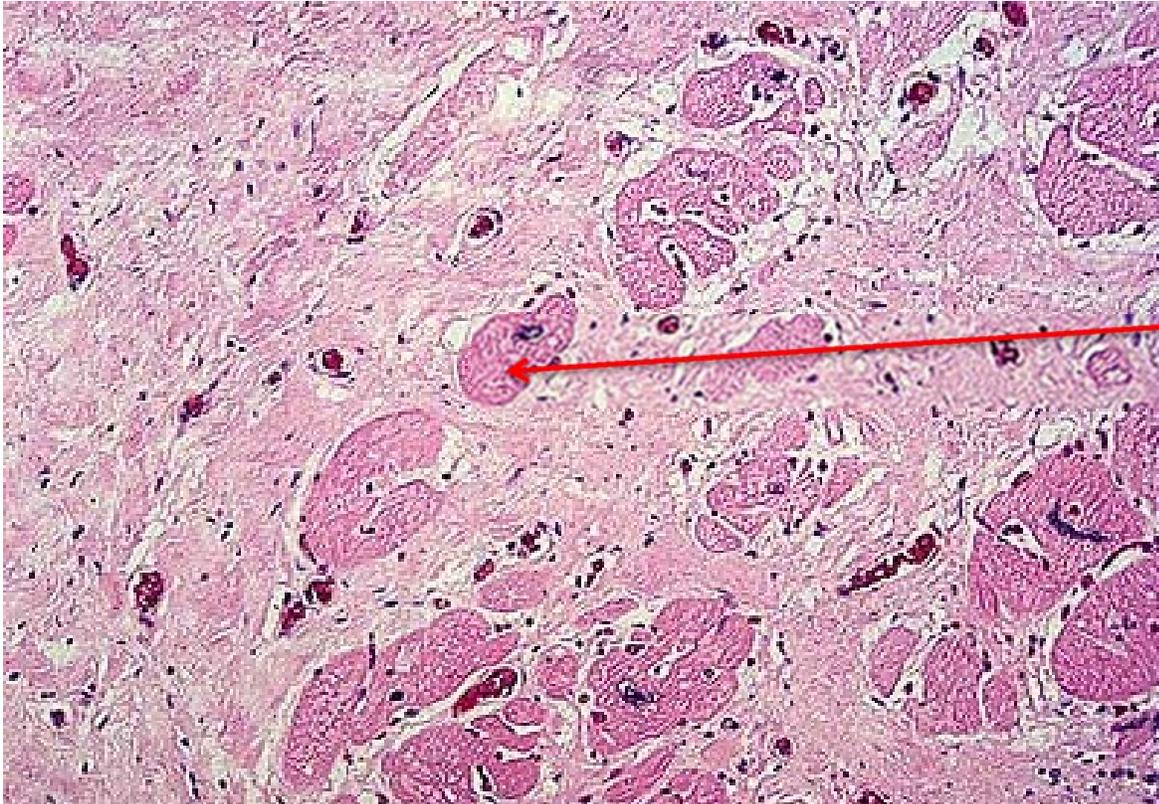
A 70 year old woman with a history of obesity, hypertension and diabetes mellitus, presented to her physician with a chief complaint of dyspnea (shortness of breath) on exertion. She had been hospitalized one year previously for a myocardial infarction. For the last six months, she had noticed the gradual increase of breathlessness when walking, and she sometimes awoke at night gasping for breath. This improved somewhat after she started to sleep propped up on multiple pillows. On physical examination, the patient had a blood pressure of 160/95; heart rate was 90 and regular. On auscultation of the lung bases, she was noted to have rales bilaterally (this is an abnormal breath sound that can be heard in the setting of various pathologies, including pulmonary edema). The patient's ankles were swollen.

Instructions:

The image of the gross specimen of the heart contains changes that might be expected in this patient. The images of the microscopic slide correspond to these changes. Your assignment is to answer the following questions, working as a team. Refer to Robbins for verification of your responses. Write your answers in the spaces provided.



Task 1. Examine the gross specimen of heart. Look closely at the myocardium. Notice the large white/tan area (arrow). Is this normal? What do you think this represents?



Task 2. Examine the image of the microscopic section of myocardium. An arrow points to a myocyte. Much of the normal myocardium has been replaced. Describe the tissue/cells that have replaced it.

Task 3. How does the patient's history of myocardial infarction contribute to the gross and microscopic changes you see in the heart?

Task 4. Describe the pathogenesis of these changes in the heart. How did a myocardial infarction lead to these changes? What stages occur in the formation of these changes over time?

Task 5. How do the changes in the patient's heart contribute to her symptoms? (Hint: remember that the pulmonary circulation is adversely affected when there is damage to the left ventricle).

Task 6. Other solid organs such as the kidney and spleen experience similar pathologic changes when faced with ischemia. What type of necrosis does this represent? (coagulative, liquefactive, or caseous?)