Case #88

NAME Educational Activities Committee

Case provided by:

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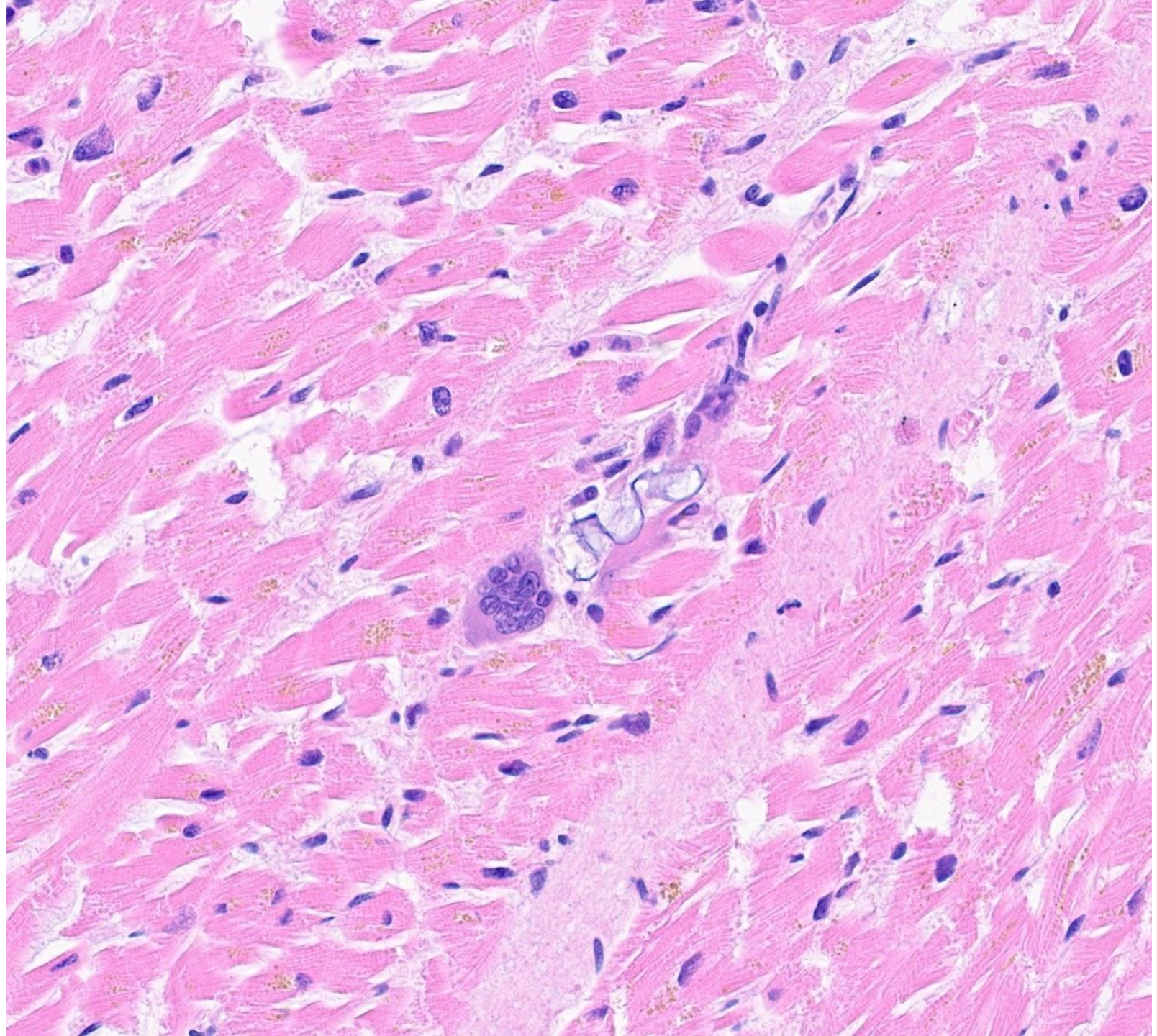
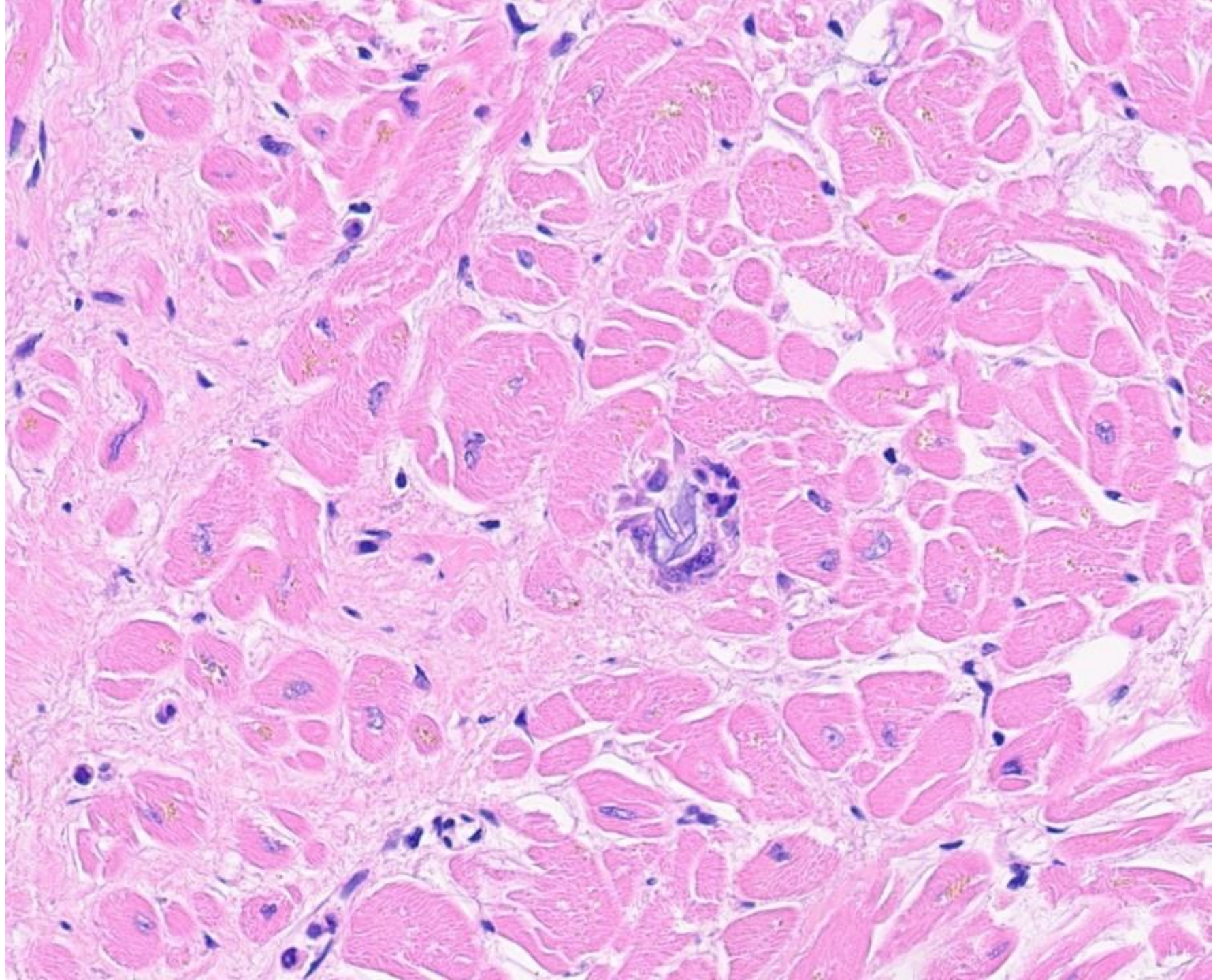
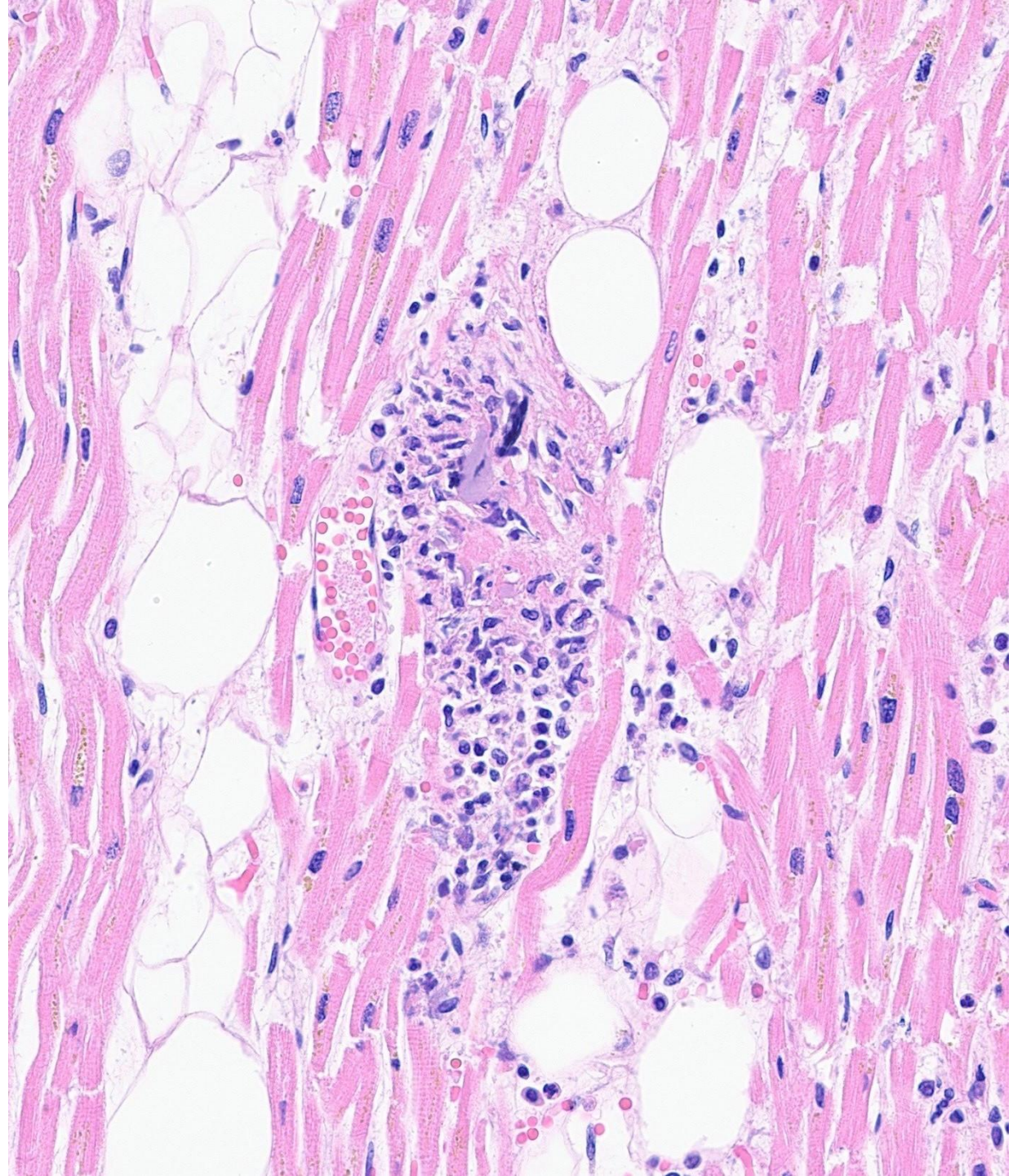






1. The decedent is a 79-year-old woman with a history of hyperglycemia, hyperlipidemia, hypertension, and obesity. Two weeks prior to her death, she was hospitalized for a myocardial infarction and underwent percutaneous intervention with overlapping stent placement in the left main and left anterior descending coronary arteries. A few days later she was readmitted with complaints of dizziness, intermittent chest pain, palpitations, and shortness of breath. Orbital atherectomy and angioplasty of the right coronary artery were performed, but despite interventions she expired a few days later.

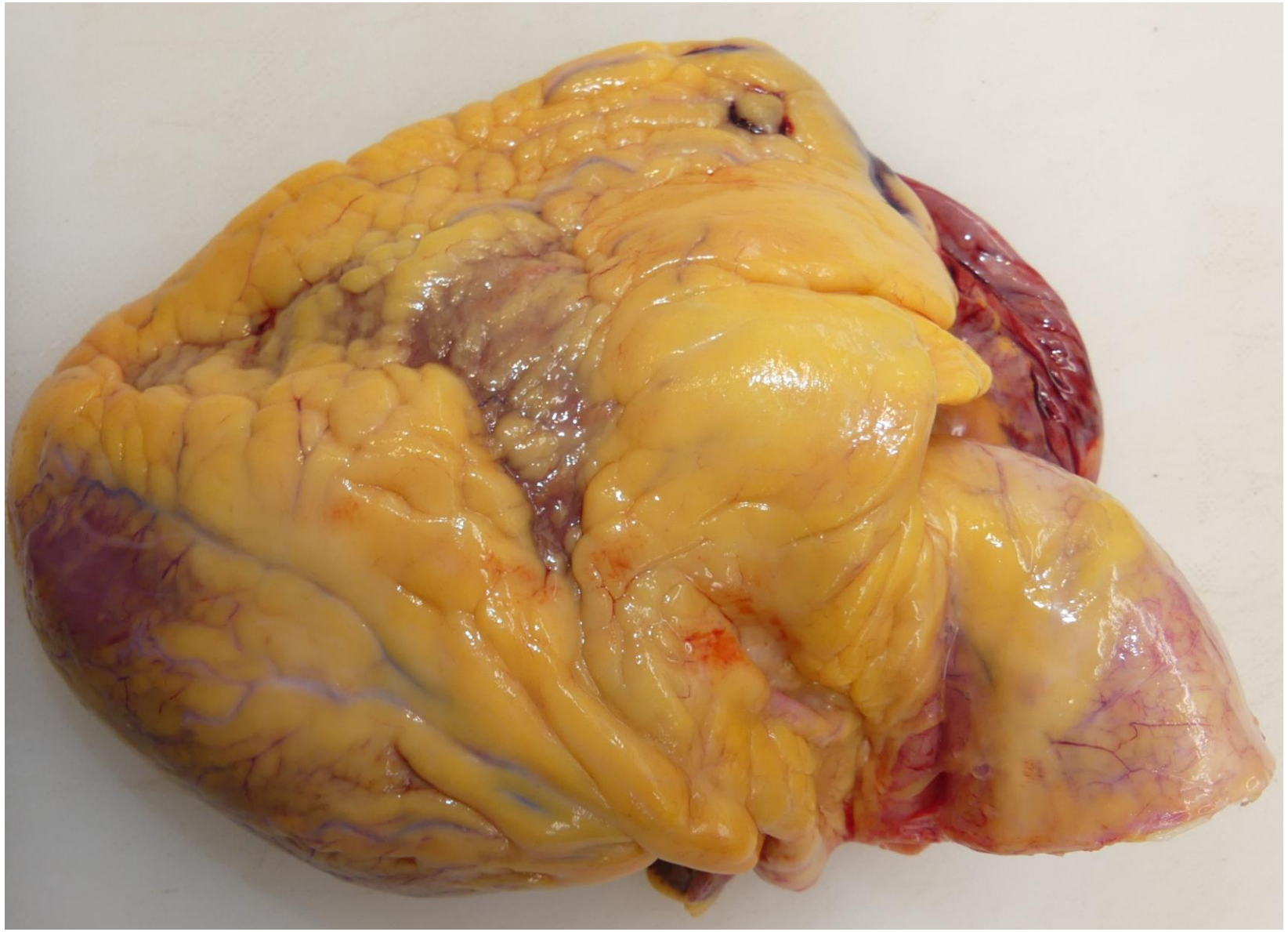
The images shown are from histologic sections of the heart taken at autopsy. What do these sections show? (Free text answer!)

Answer...

Polymer coating embolization!

At autopsy, thorough examination of the heart revealed dissection of the right coronary artery (RCA) in the background of calcific atherosclerotic coronary artery disease. Wire metal stents were found, as indicated in her medical records, along with a healing myocardial infarction in the anterior wall of the left ventricle. The microscopic examination demonstrated inflammation and foreign body giant cell reaction with associated non-polarizing and non-refractile foreign material (Images 1-3, 400x), morphologically similar to polymer coating embolization associated with cardiac intervention and cardiac catheterization [1-5].

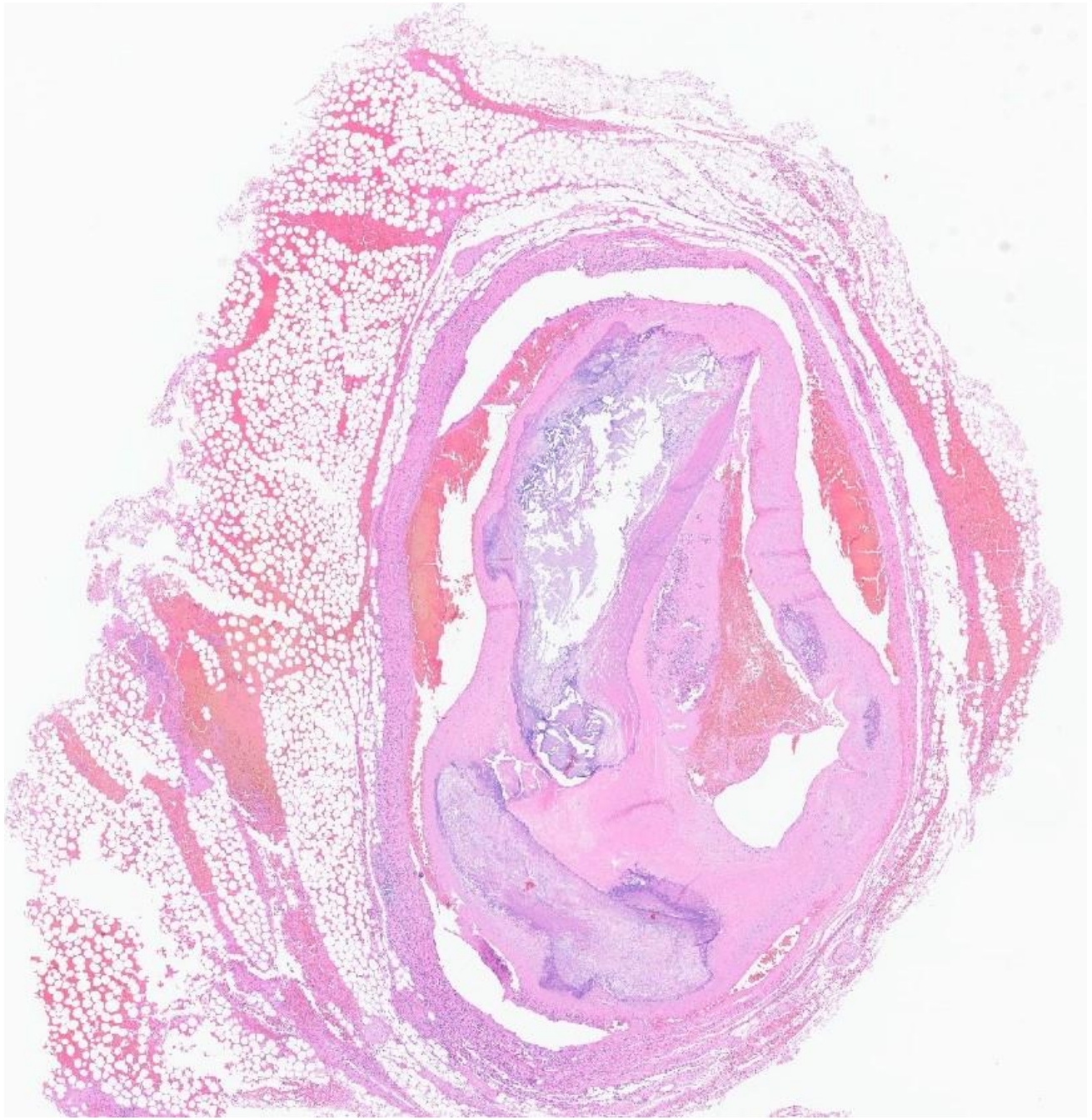
The separation of polymer coating from intravascular devices with incidence of localized embolization to the myocardium has been previously sited along with localization to other tissues such as the lungs, bowel, brain, and kidney. The material has been reported microscopically as aggregates of amorphous, non-refractile, and nonpolarizable by H&E staining. Likewise, the giant cell reaction noted in our case has been identified in other case reports along with inflammatory responses to the presence of polymer emboli as seen in our images.



Gross photo of the heart

Gross photo of the RCA sections

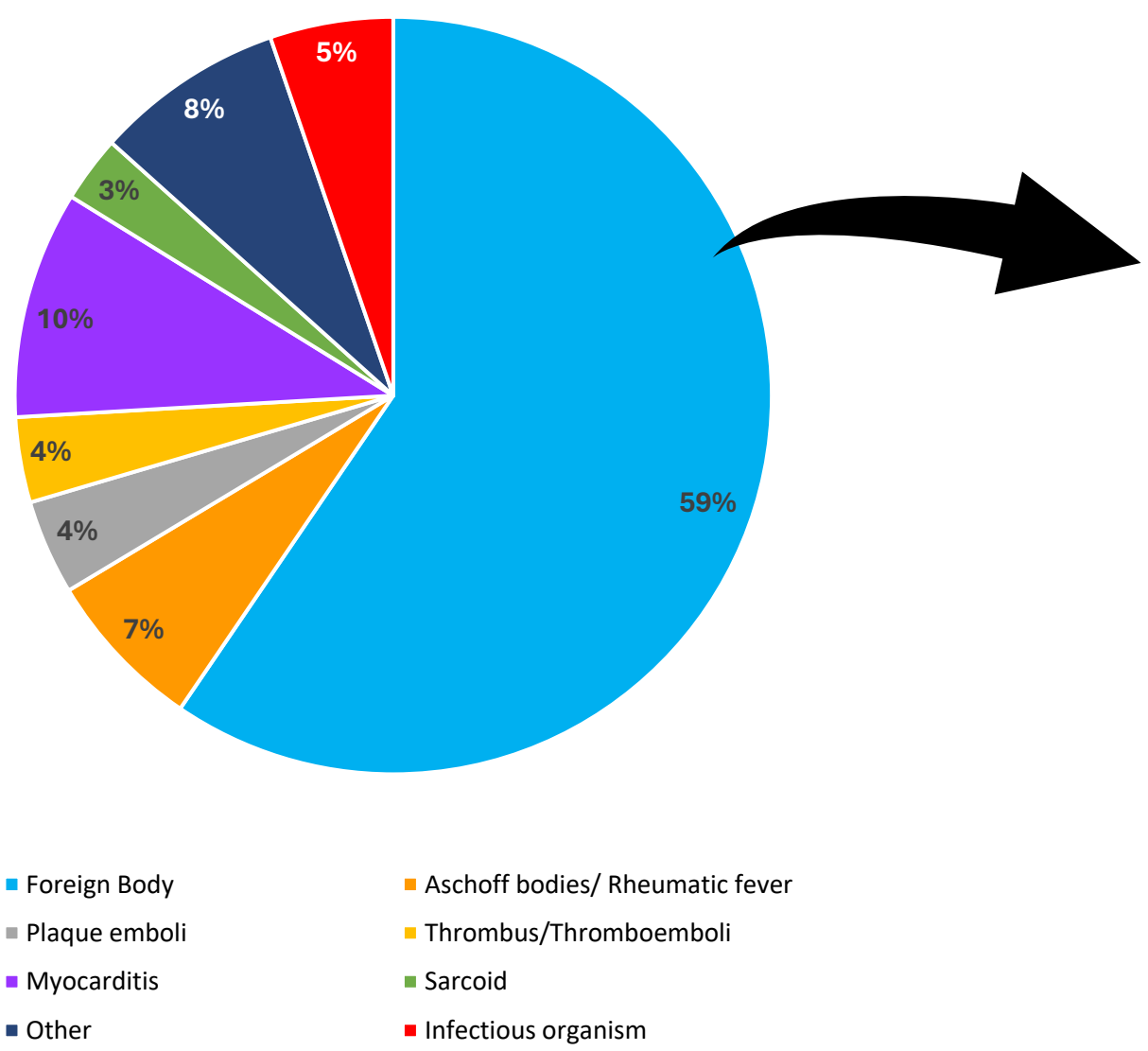
RCA with hemorrhage

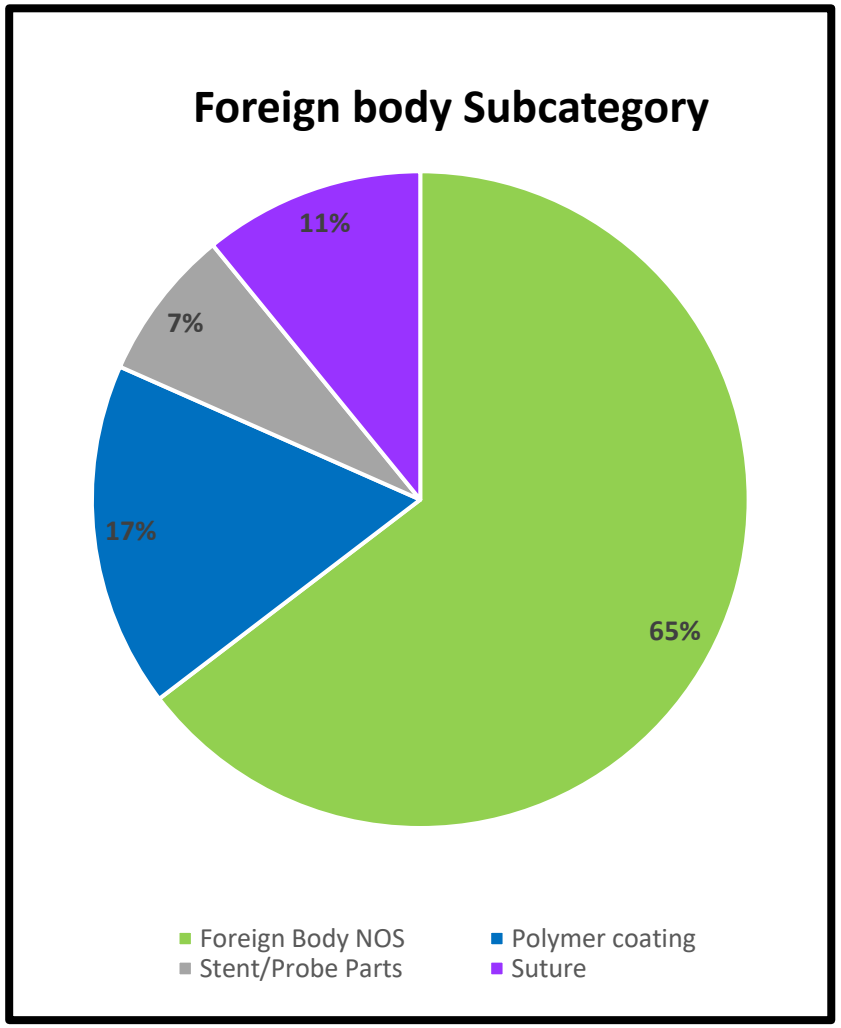


Word Cloud


myocardium
atherectomy surgical material
granulomatous inflammation
rheumatic heart disease
embolization
likely Granulomatous reaction
reaction
Trypanosoma cruzi
coating
foreign material
Foreign body granuloma
stent
Giant cell
granulomatous
procedures
giant cell reaction
Aschoff bodies
sarcoidosis
embolism
cells
gel
myocarditis
inclusions
response
Foreign body giant
emboli
focal
angioplasty
embolized
Suture material
Cardiac
material
body giant cell
stent coating
fragments due
catheter
embolic suture
Foreign body
Foreign body reaction
inflammation
granulomas
inflammatory reaction
Giant cell myocarditis
multinucleated giant cells
hydrophilic polymer embolisuture granuloma
inflammatory response
mixed inflammation

Answers by Category





Honorable mentions!

“Parasitia idontwantinmeae”

“Hydrophilic polymer emboli AKA cath-y bits.”

"I don't think you're ready for this jelly" (aka embolic hydrophilic gel coating from coronary artery guide wire with giant cell reaction and focal myocyte injury)

References

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3. Mehta RI, Mehta RI, Solis OE, et al. Hydrophilic polymer emboli: an under-recognized iatrogenic cause of ischemia and infarct. *Mod Pathol*. 2010;23(7):921-930. doi:10.1038/modpathol.2010.74

4. Mehta RI, Mehta RI, Solis OE, et al. Hydrophilic polymer emboli: an under-recognized iatrogenic cause of ischemia and infarct. *Mod Pathol*. 2010;23(7):921-930. doi:10.1038/modpathol.2010.74

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