

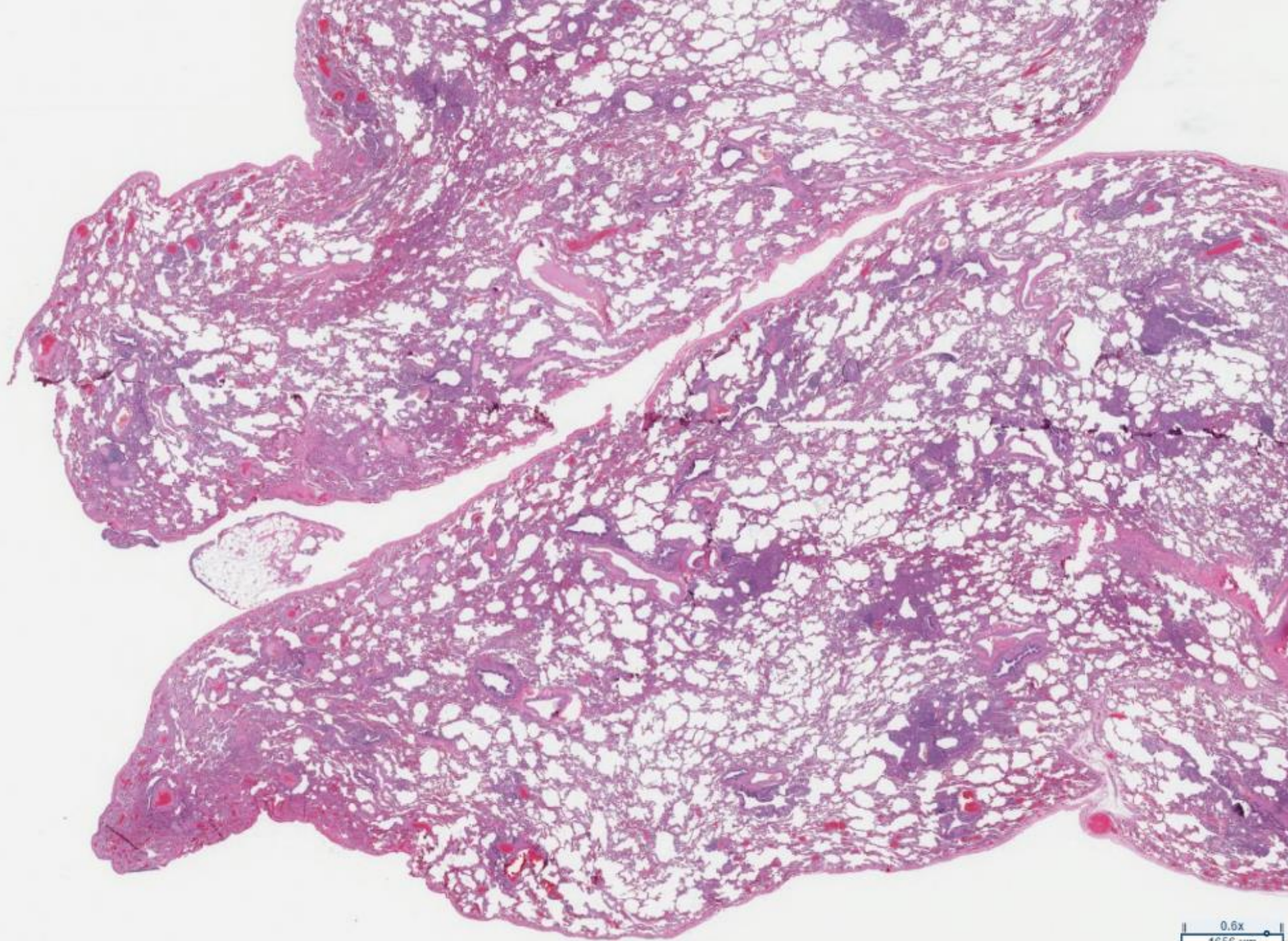


Case #89

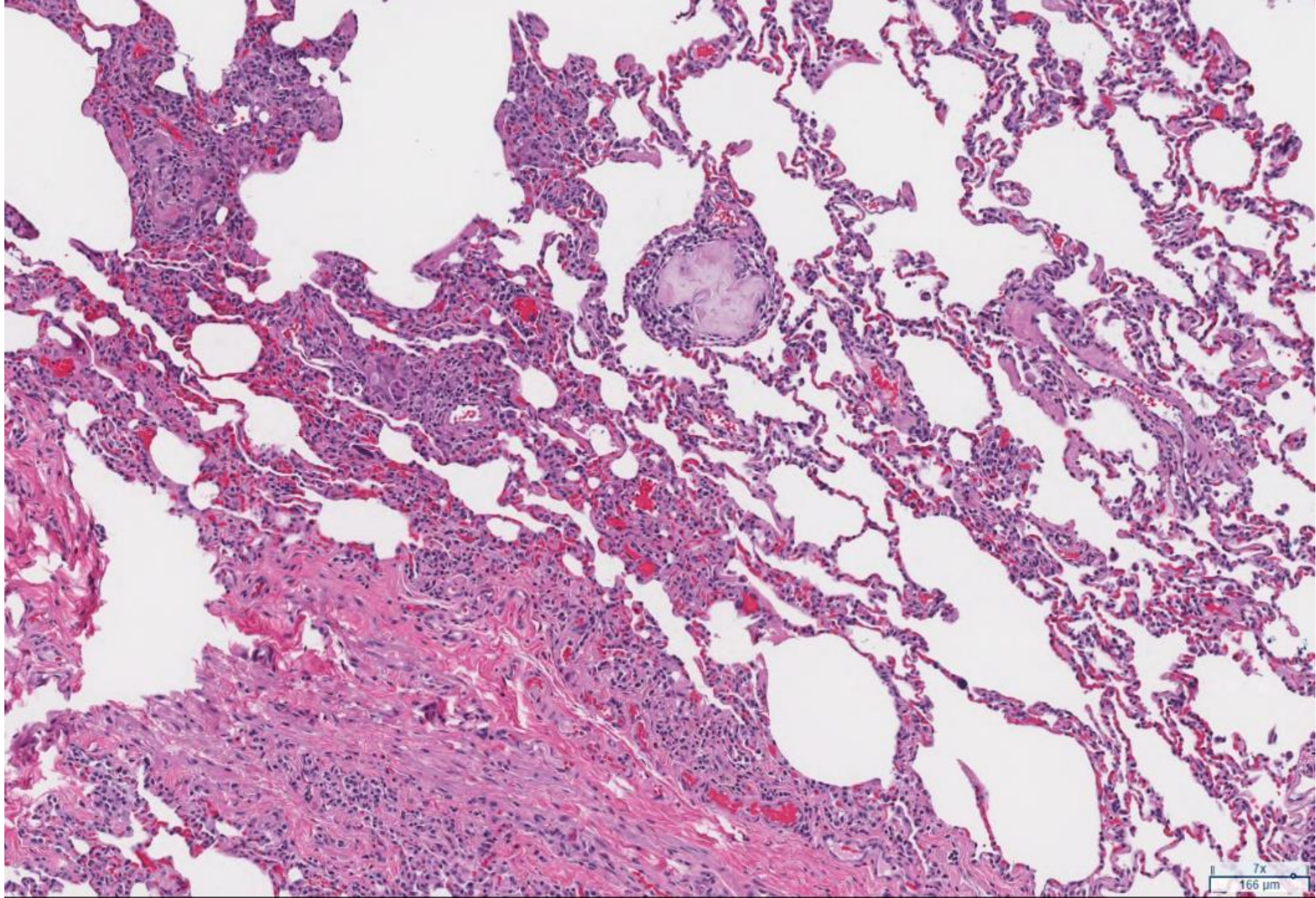
NAME Educational Activities Committee

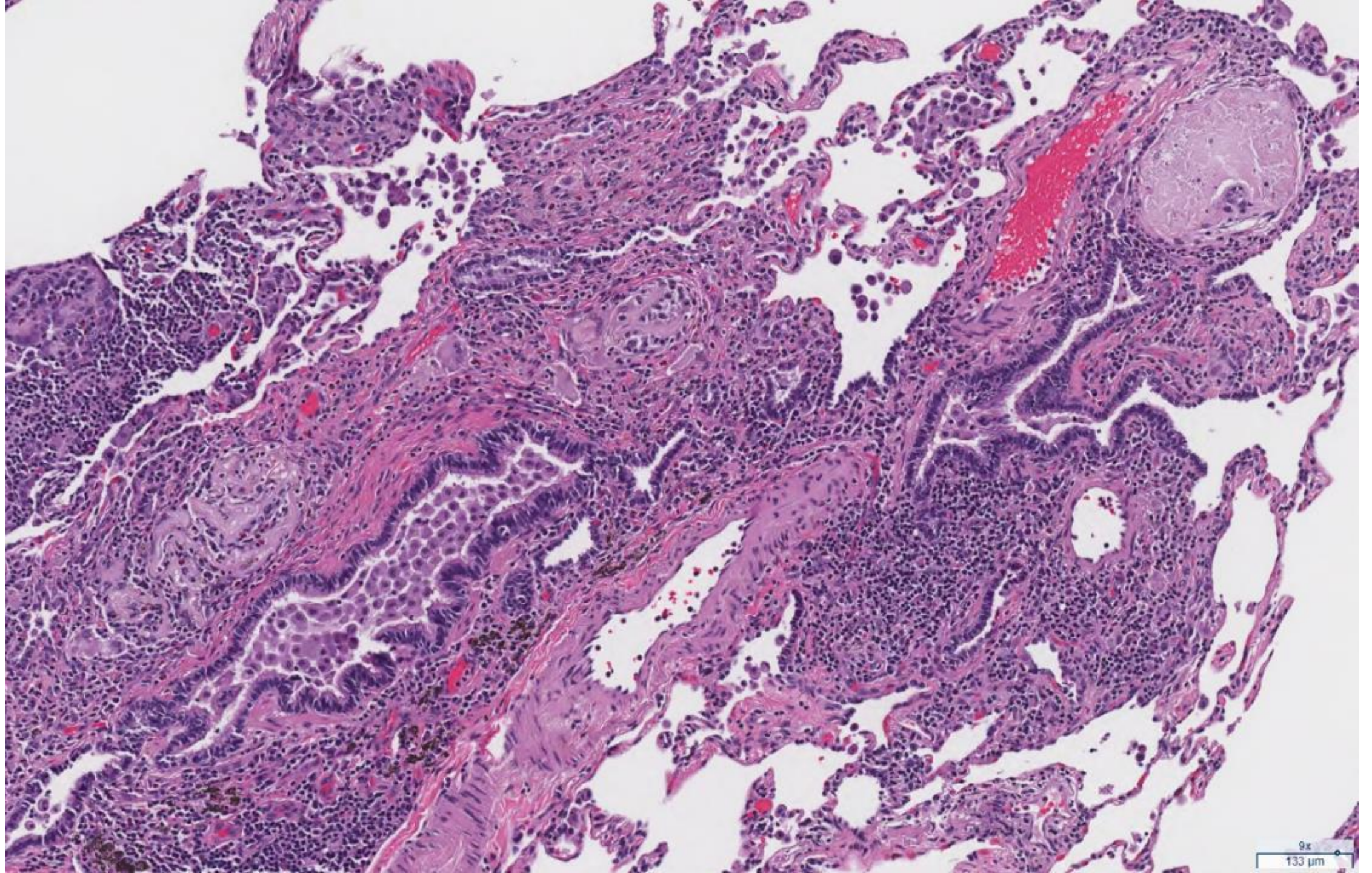
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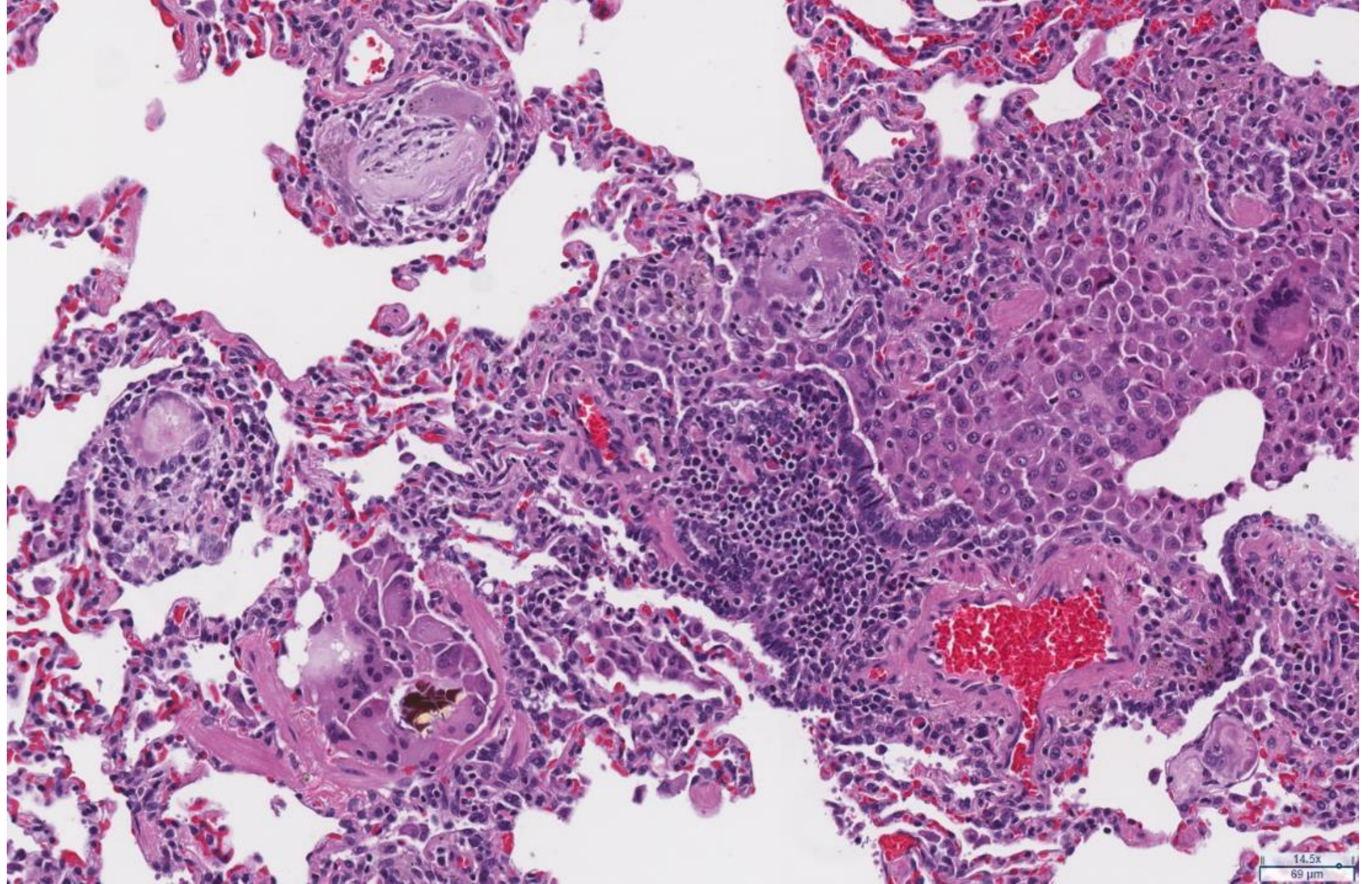
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0.6x
1656 μ m







14.5x
69 μ m

A 71-year-old white man on hospice care was found deceased in bed by nursing staff. His medical history included multiple cerebrovascular accidents (CVA), Bell's palsy, vascular dementia, atrial fibrillation, and recent refractory seizures. The family raised concerns about potential overmedication with morphine, prompting the case to be reported to the medical examiner's office. Autopsy revealed nearly diffuse consolidation of both lungs. Histological examination of the lungs identified the findings depicted in the images.

Which of the following are risk factors for this pathology?

- A. Immunosuppression, poverty, incarceration
- B. Dysphagia, stroke, poor oral health
- C. Mold exposure, occupational exposure, asthma
- D. Heroin use, homelessness, history of chronic pain

Answer...

B. Dysphagia, stroke, poor oral health (51.91% of responses)

Aspiration pneumonia has a high mortality rate (up to 70%), dependent on aspirate volume and content. Several factors contribute to an increased risk of aspiration pneumonia. These factors can be broadly categorized into:

1. Impaired Swallowing, Cough Reflex, and Esophageal/Gastric Motility: Conditions like dysphagia, chronic obstructive pulmonary disease, certain medications, alcohol consumption, and neurological disorders such as stroke, dementia, Parkinson's disease, and multiple sclerosis can impair swallowing coordination, weaken the cough reflex, and disrupt esophageal/gastric motility. Mechanical ventilation and tracheostomy dependence also heighten the risk of aspiration.
2. Impaired Consciousness: Disorders like strokes, head injuries, seizures, hypoglycemia, brain lesions, sedation, anesthesia, alcohol intoxication, and opioid abuse increase the likelihood of aspiration by causing impaired consciousness.
3. Gastric Reflux and Tube Feeding: Conditions promoting the backflow of gastric contents, such as gastroesophageal reflux disease (GERD), and reliance on tube feeding can increase the risk of aspiration pneumonia.
4. Poor Dental Hygiene: In elderly patients, suboptimal dental hygiene can foster the growth of pathogenic bacteria in the oral cavity, heightening the risk of aspiration pneumonia.

Gross findings commonly include necrotizing pneumonia with abscess formation, characterized by a distinct malodorous smell. The consolidation is notably pronounced compared to other bacterial pneumonias, and particulate matter aspiration has a peribronchiolar distribution. Food particles, often identifiable by the presence of vegetable matter or skeletal muscle fragments, constitute the primary content. However, well-preserved particles are less common, with vegetable particles in various stages of degeneration being more prevalent. The degeneration process may make identification challenging due to limited quantity, irregular shape, smudgy appearance, and eosinophilia, often associated with chronic inflammation and a foreign-body giant cell reaction. The most extensively degenerated particles may exhibit a wrinkled, collapsed appearance.

Other responses...

A. Immunosuppression, poverty, incarceration (6.07% responses)

These risk factors are most compatible with tuberculosis.

C. Mold exposure, occupational exposure, asthma (20.45% responses)

These risk factors are most compatible with hypersensitivity pneumonitis.

D. Heroin use, homelessness, history of chronic pain (21.57% responses)

In cases involving intravenous drug abuse, the presence of materials such as talc, microcrystalline cellulose, or crospovidone may resemble aspiration pneumonia. However, in this situation, the foreign-body giant cell reaction and foreign material are notably present within the interstitium, as well as within both the walls and lumen of arteries. This contrasts with the observed peribronchiolar distribution in the current case.

REFERENCES

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