

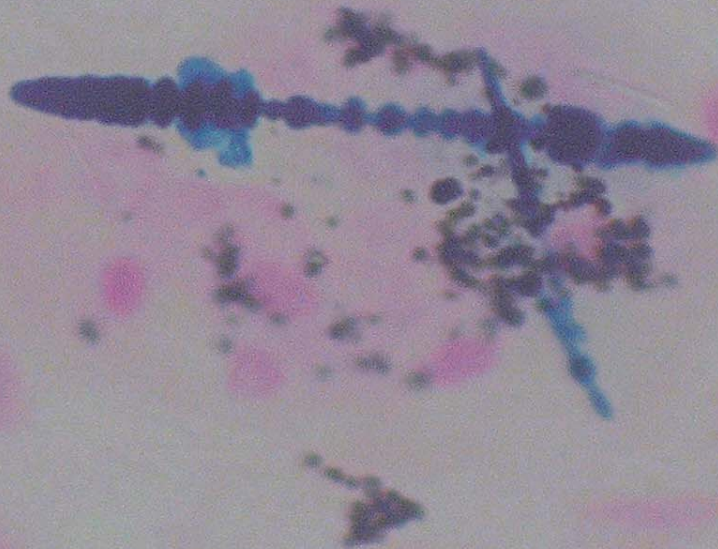
Asbestos Bodies and Asbestosis

Light Microscopic Images from a
lung biopsy

Asbestosis

- NIOSH/CAP 1982 report on Pathology of Asbestos-Related Disease [Craighead, J.E., Abraham, J.L., Churg, A.C., et al: The pathology of asbestos-associated diseases of the lungs and pleural cavities: diagnostic criteria and proposed grading schema. Arch. Pathol. Lab. Med. 106:544-597, 1982.]
 - NIOSH = National Institute for Occupational Safety and Health
 - CAP = College of American Pathologists
- Asbestosis defined for pathologists as presence of peribronchiolar fibrosis and interstitial fibrosis AND more than one asbestos body in a section of lung parenchyma
- Grades 1 to 4 severity:
 - Grade 1 = peribronchiolar fibrosis only
 - Grade 4 = dense fibrosis ('end stage') no normal lung recognizable

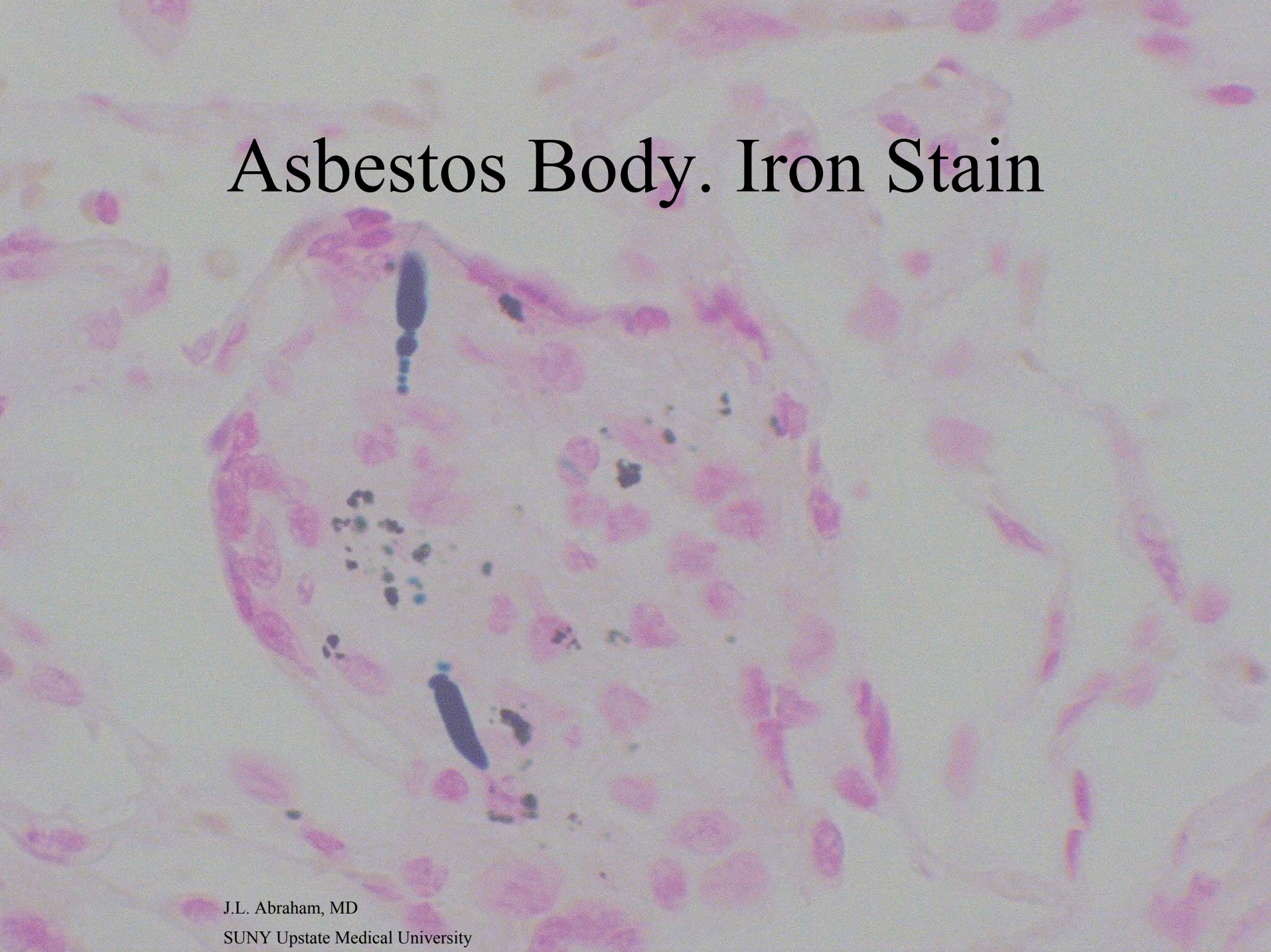
Asbestos Bodies. Iron Stain



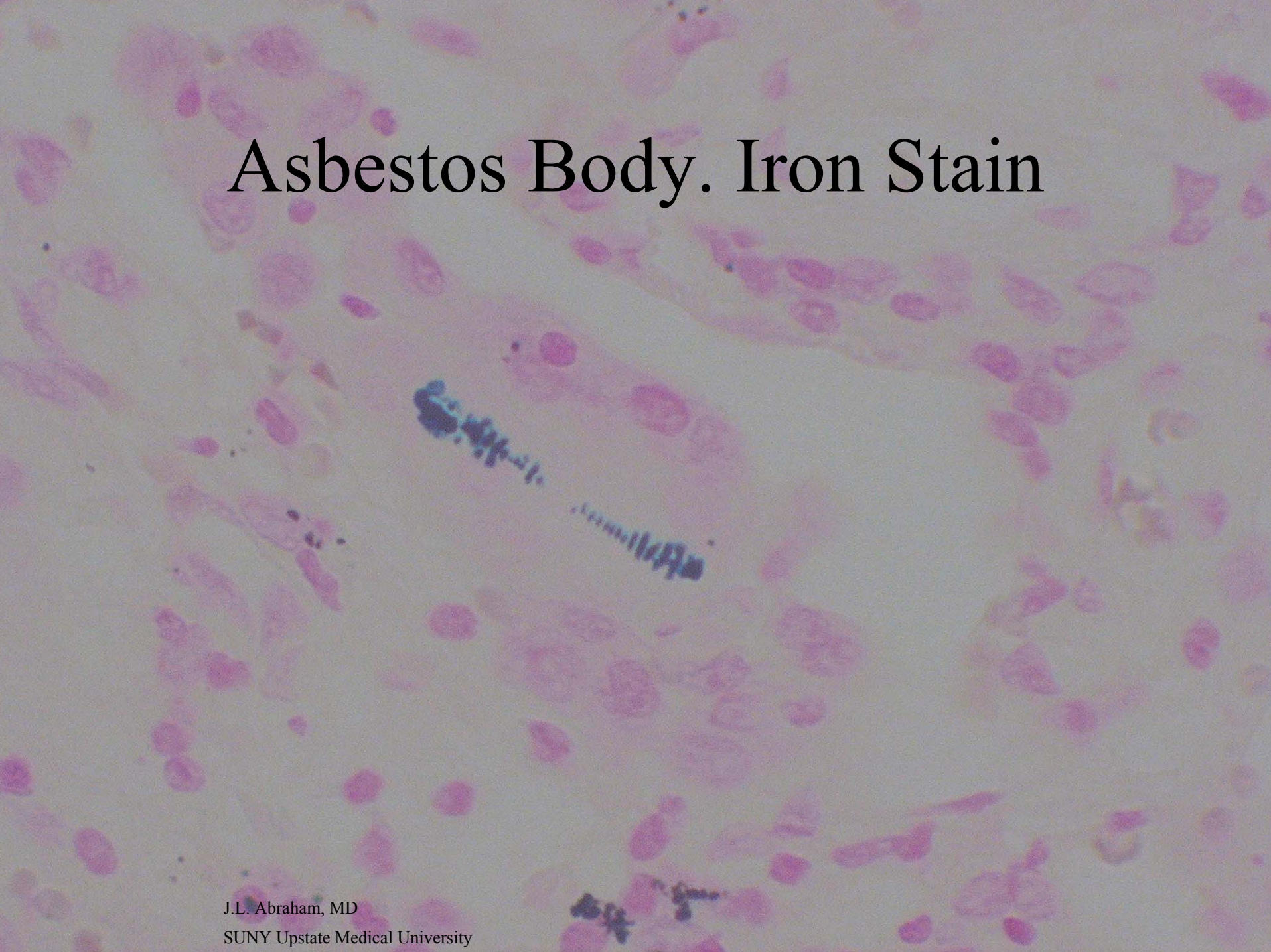
J.L. Abraham, MD

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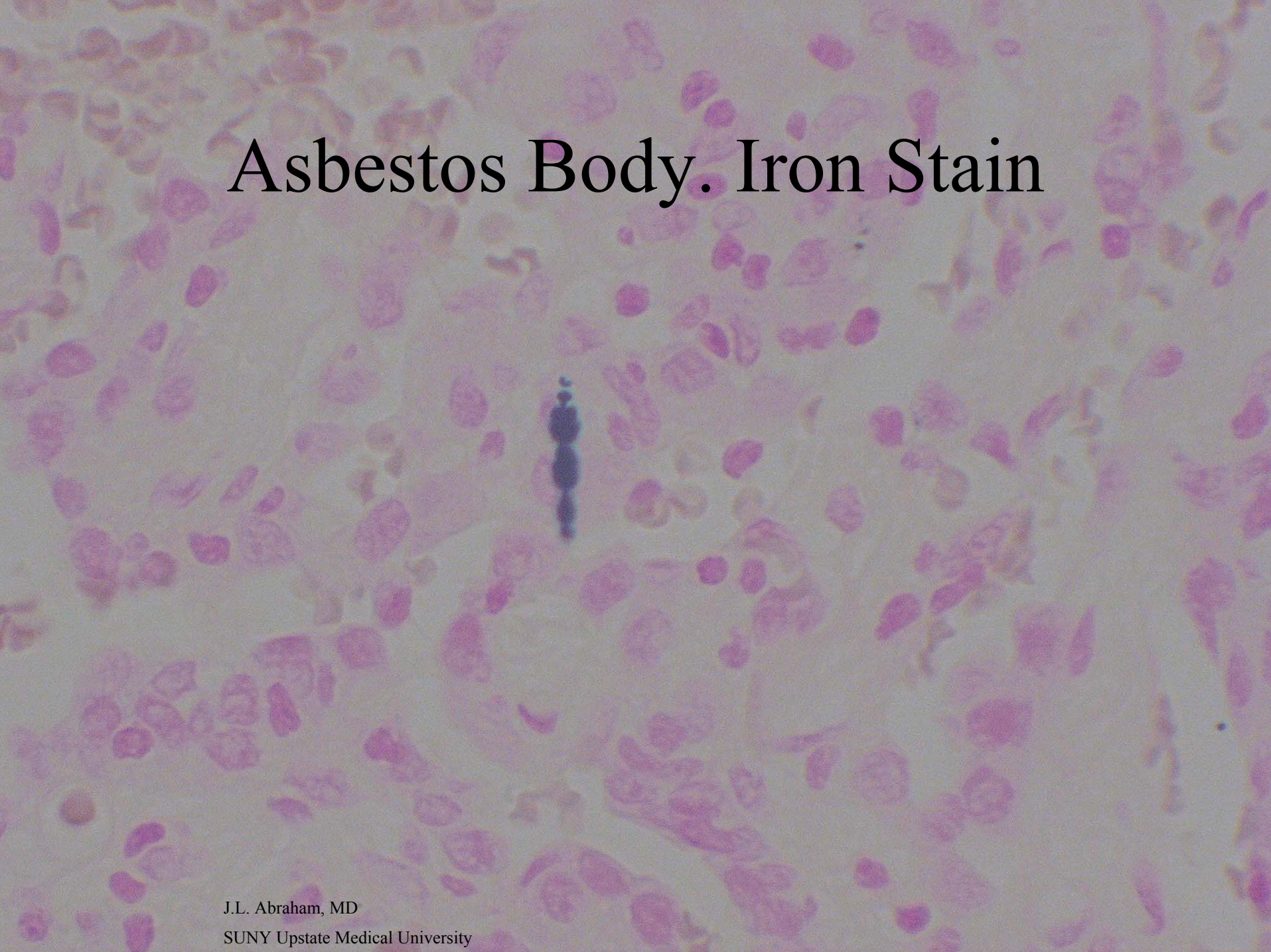
Asbestos Body. Iron Stain



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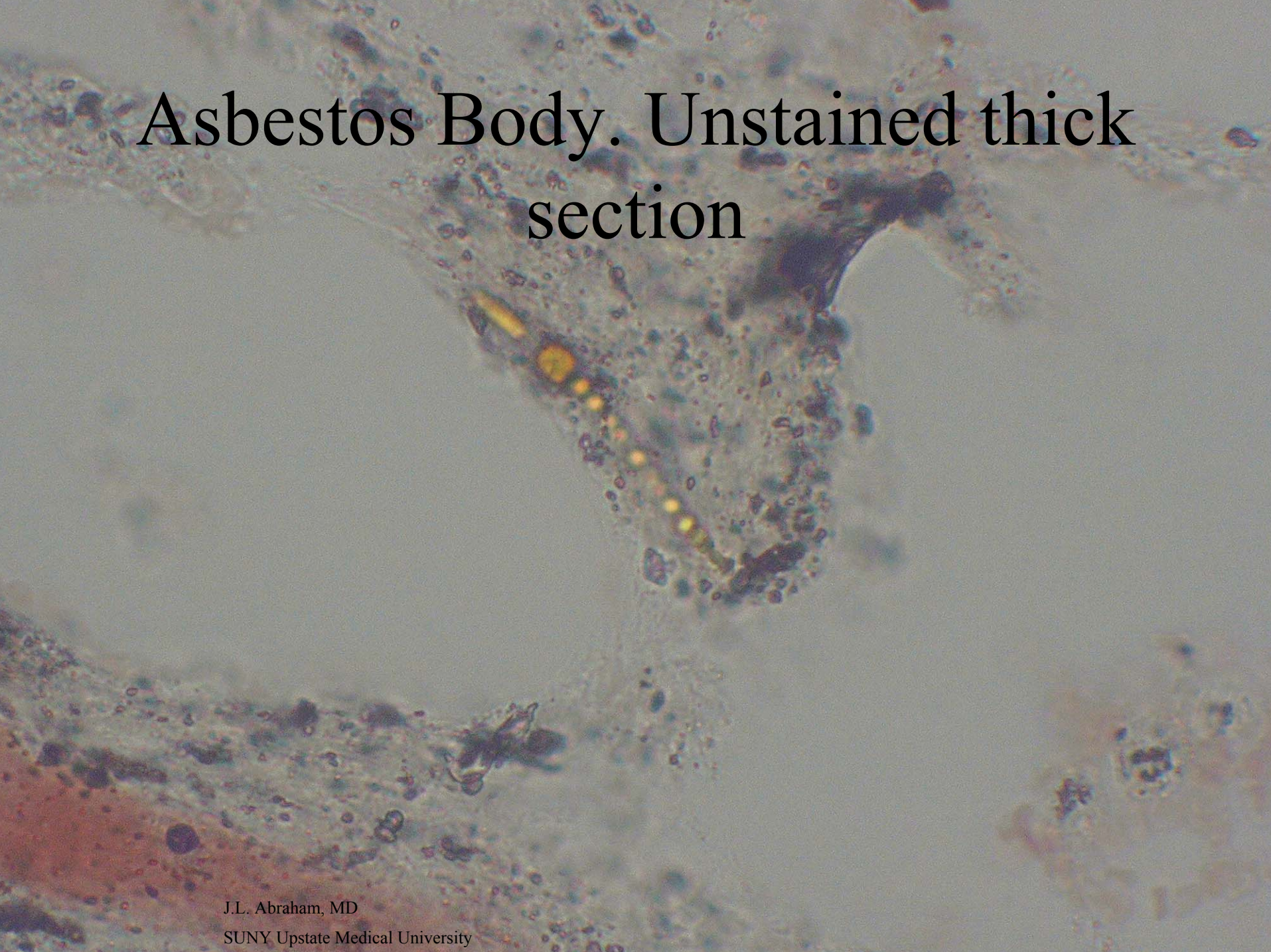
Asbestos Body. Iron Stain



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Asbestos Body. Unstained thick section



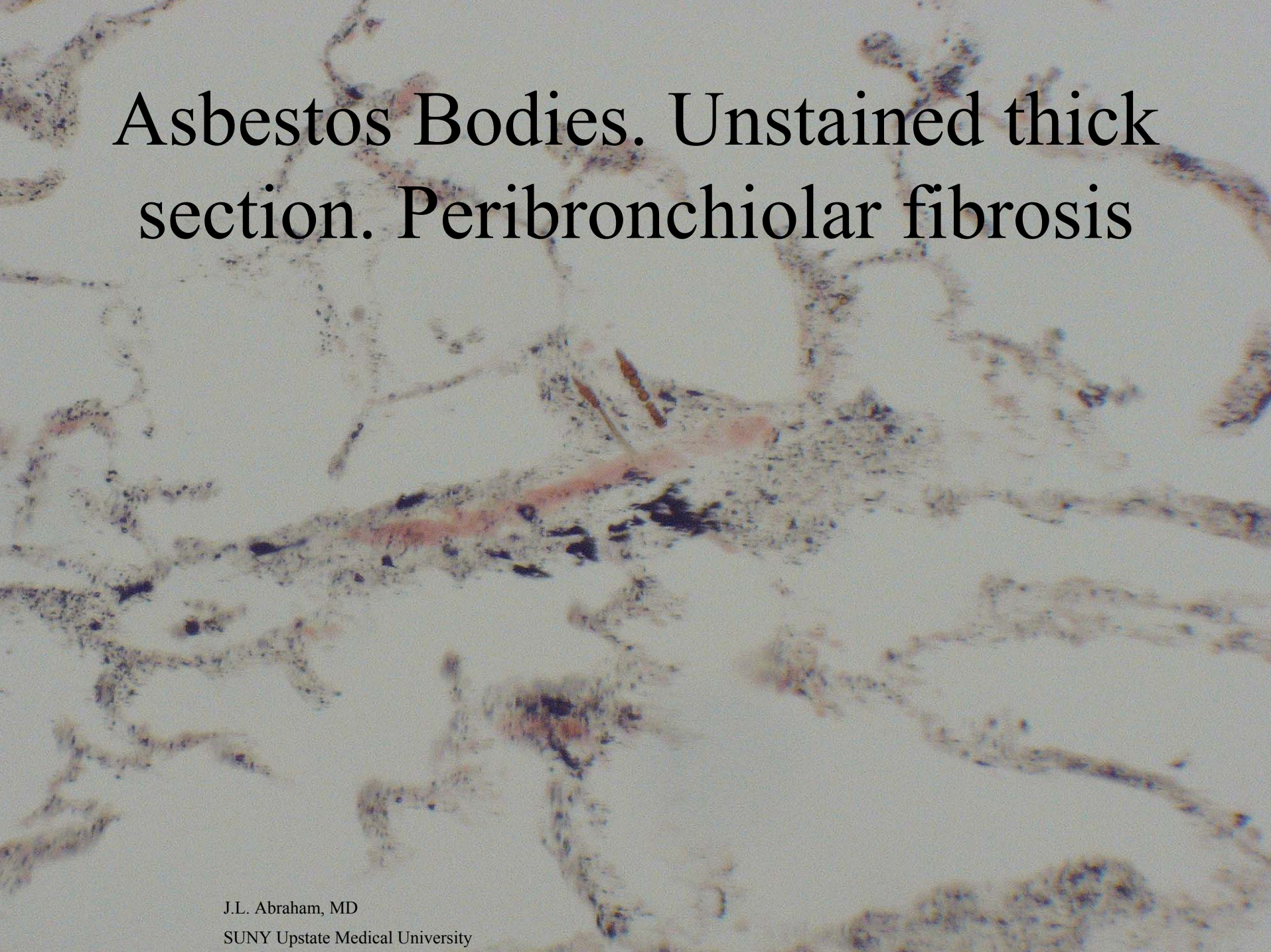
Asbestos Bodies. Unstained thick section



A low-magnification photomicrograph of a thick section of lung tissue. The image shows several bronchioles with thickened walls. The most prominent feature is the presence of dense, pink-staining fibrous tissue surrounding the bronchioles, which is characteristic of peribronchiolar fibrosis. The surrounding lung parenchyma appears relatively normal with some alveolar spaces. The overall appearance is that of a chronic lung disease process.

Unstained thick section. Peribronchiolar fibrosis

Asbestos Bodies. Unstained thick section. Peribronchiolar fibrosis

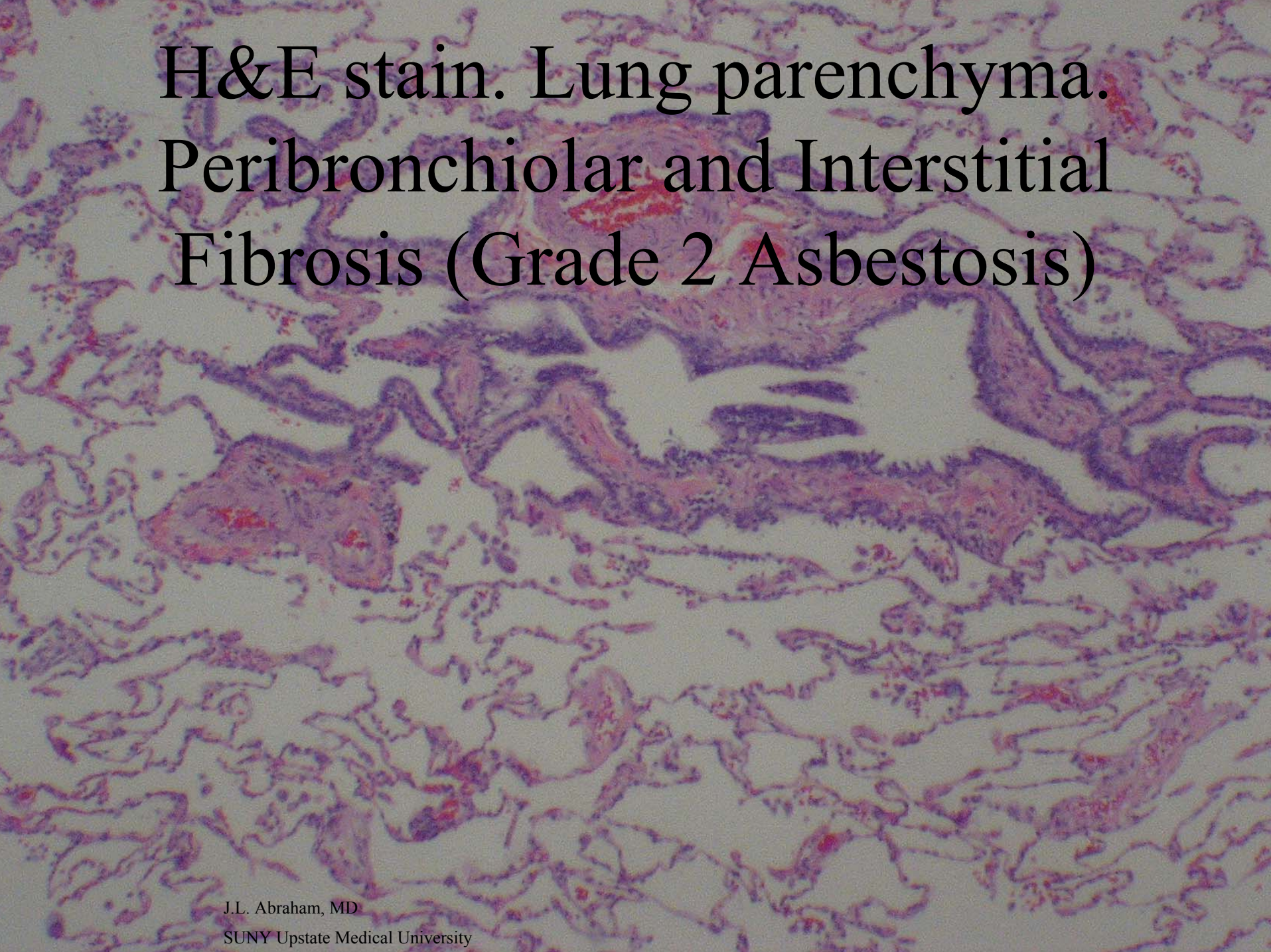


Asbestos Bodies. Unstained thick section

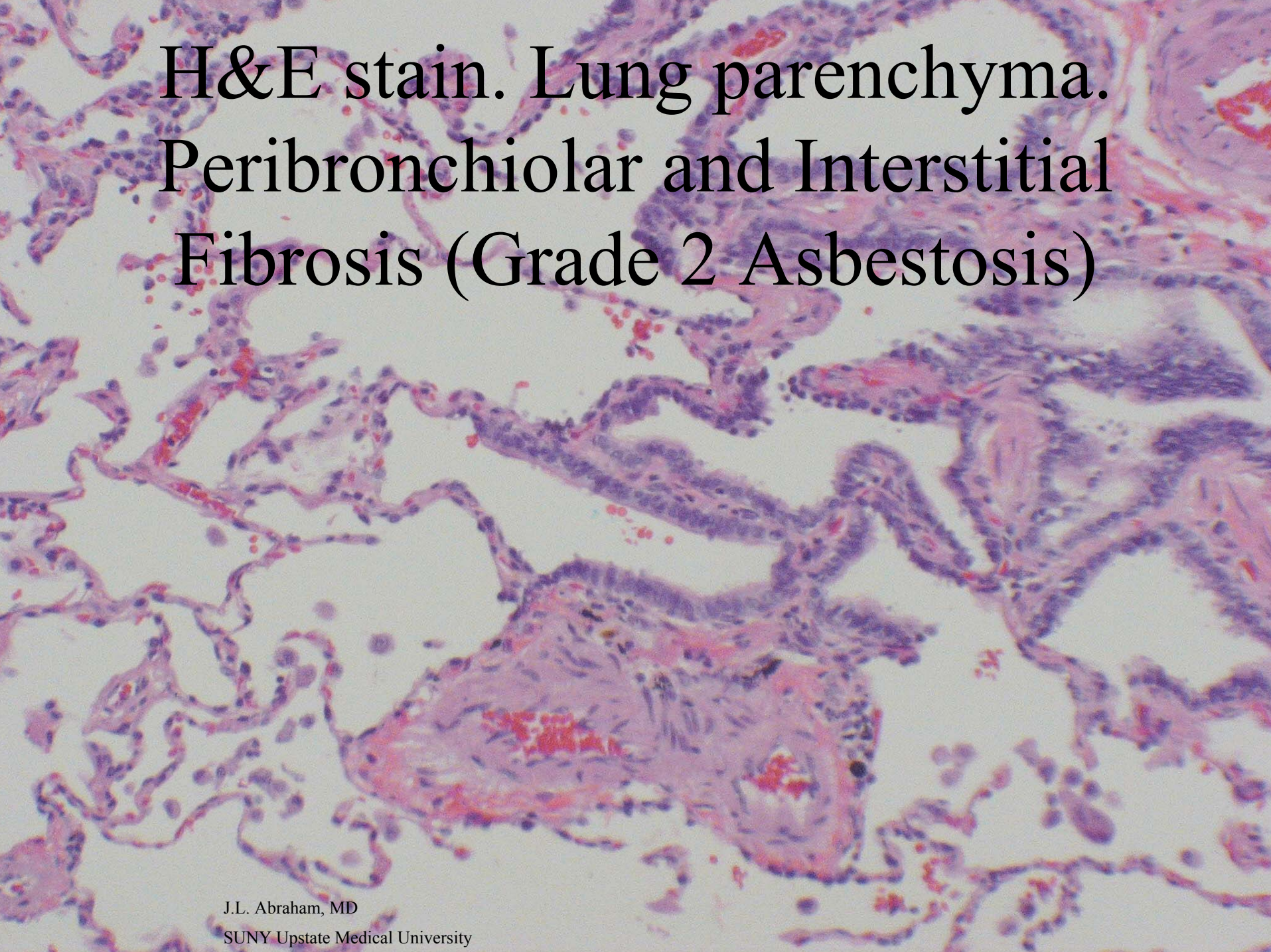


H&E stain. Lung parenchyma.

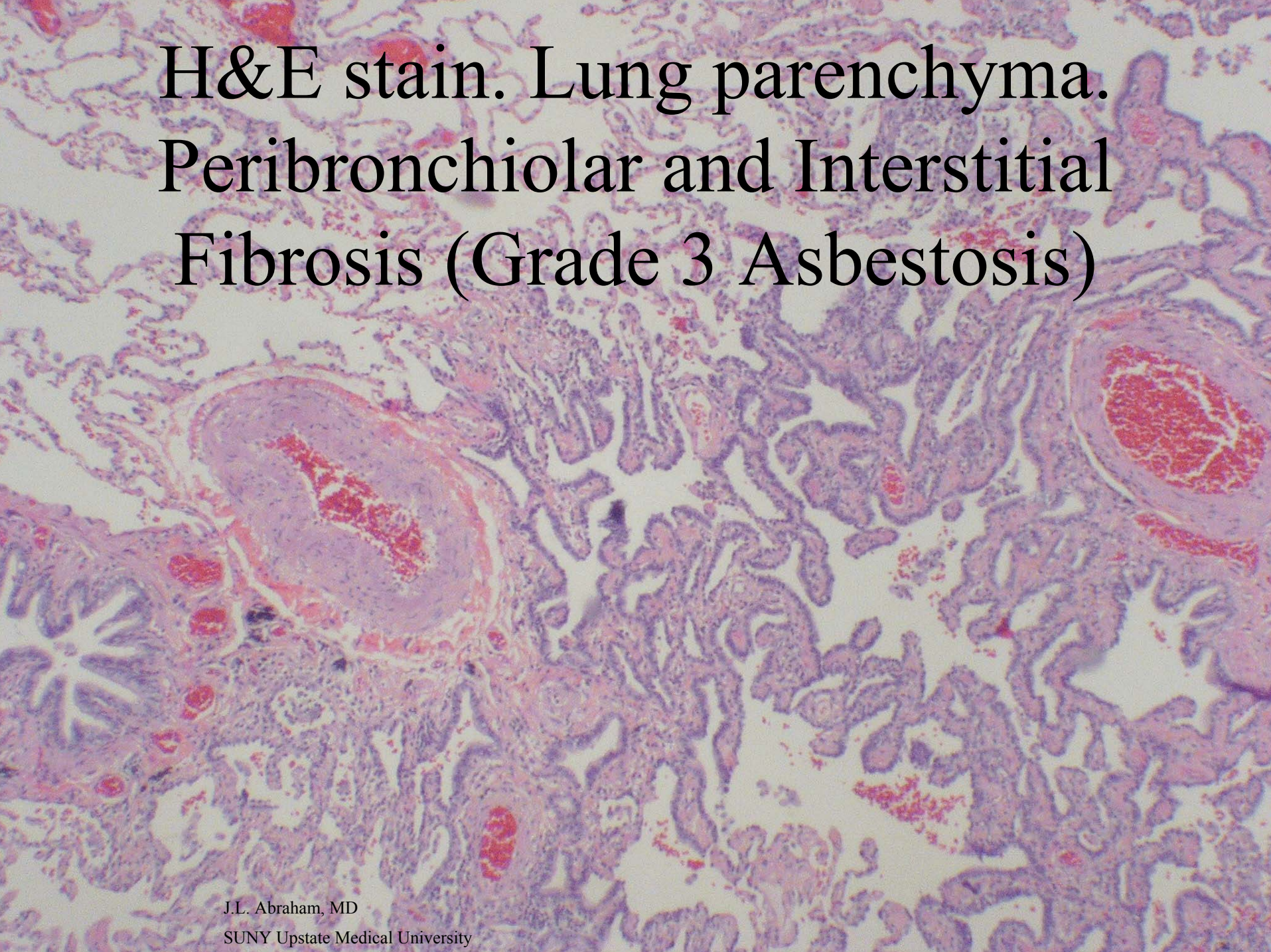
Many normal alveoli. Mild
Peribronchiolar fibrosis (Grade 1
Asbestosis)

The image is a low-magnification photomicrograph of lung tissue stained with hematoxylin and eosin (H&E). The background is a pale pink, representing the lung parenchyma. Numerous small, irregular, and dense purple-stained areas are scattered throughout, indicating fibrotic changes. These areas are particularly prominent around the bronchioles and in the interstitial spaces, characteristic of peribronchiolar and interstitial fibrosis. The overall architecture of the lung is distorted due to the extensive deposition of fibrous tissue.

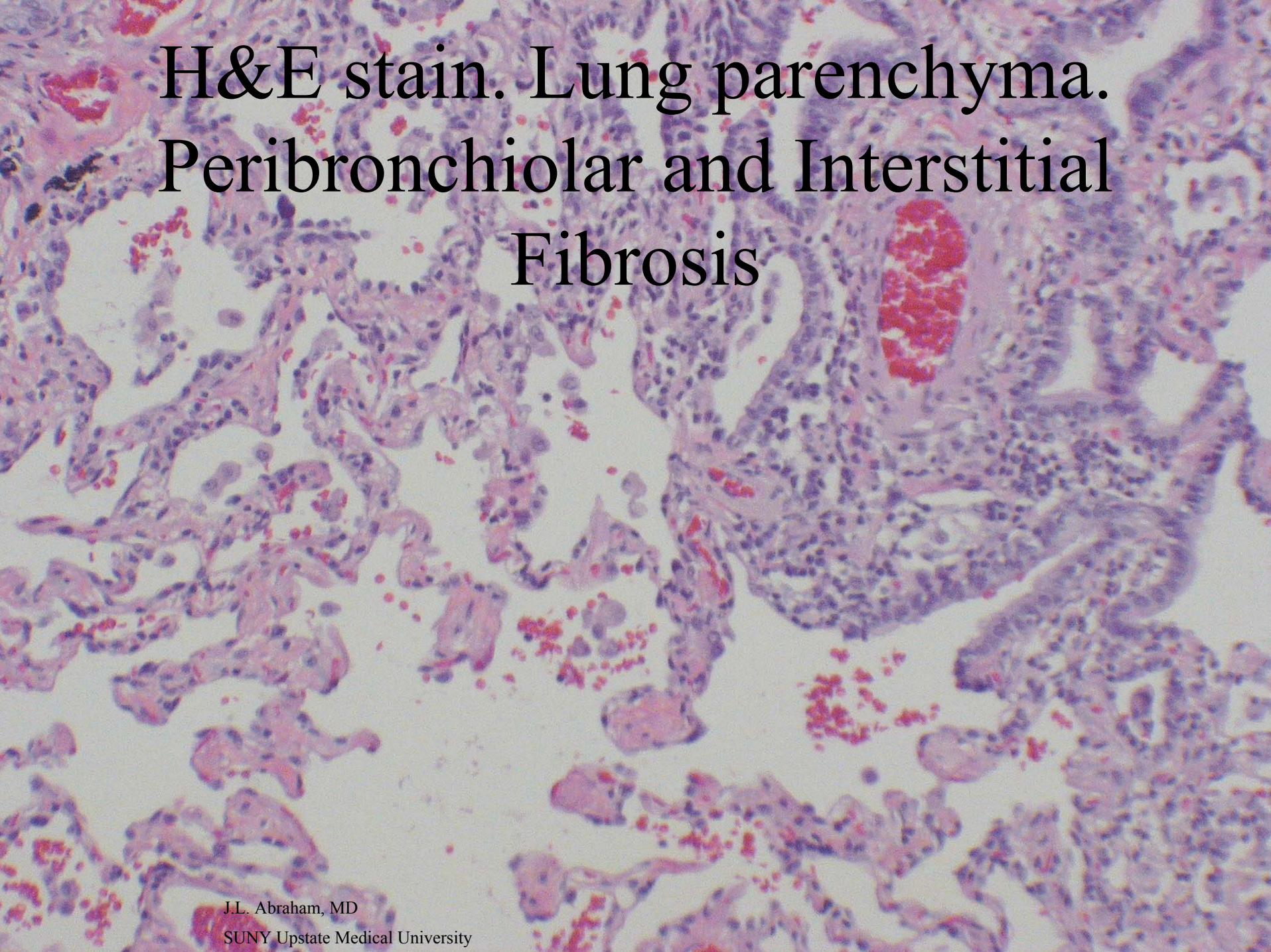
H&E stain. Lung parenchyma.
Peribronchiolar and Interstitial
Fibrosis (Grade 2 Asbestosis)

A histological micrograph of lung tissue stained with hematoxylin and eosin (H&E). The image shows a network of alveolar sacs and bronchioles. The bronchioles are lined by a simple cuboidal epithelium. There is significant thickening of the bronchiolar walls and surrounding interstitial spaces, characterized by dense, pink-staining collagenous fibrous tissue. This is indicative of peribronchiolar and interstitial fibrosis, a hallmark of asbestosis. The overall architecture is distorted due to the extensive scarring.

H&E stain. Lung parenchyma.
Peribronchiolar and Interstitial
Fibrosis (Grade 2 Asbestosis)

A high-magnification photomicrograph of lung tissue stained with hematoxylin and eosin (H&E). The image shows a dense network of fibrous tissue (pink) surrounding and thickening the walls of bronchioles. The alveolar spaces are significantly reduced and filled with fibrous material, indicating advanced interstitial lung disease. The overall architecture is distorted due to the extensive scarring.

H&E stain. Lung parenchyma.
Peribronchiolar and Interstitial
Fibrosis (Grade 3 Asbestosis)

A high-magnification photomicrograph of lung tissue stained with hematoxylin and eosin (H&E). The image shows alveolar spaces with thin, pink-stained septa. There is a prominent area of peribronchiolar and interstitial fibrosis, characterized by thickened, pink-stained connective tissue bands surrounding a bronchiole and filling the interstitial spaces. The nuclei of cells are stained purple, and the cytoplasm and extracellular matrix are stained pink. The overall architecture shows a loss of normal alveolar structure due to the fibrotic process.

H&E stain. Lung parenchyma. Peribronchiolar and Interstitial Fibrosis

A high-magnification photomicrograph of lung tissue stained with hematoxylin and eosin (H&E). The image displays several alveolar septa, which are the thin walls between the air sacs. The alveolar spaces are mostly clear, but the septa show significant thickening. This thickening is due to the deposition of excessive extracellular matrix, primarily collagen, in the interstitial space between the alveolar epithelial cells. The nuclei of the epithelial cells are stained dark purple, while the cytoplasm and the fibrous connective tissue are stained pink. The overall appearance is characteristic of interstitial lung disease, specifically interstitial fibrosis.

H&E stain. Lung parenchyma. Interstitial Fibrosis

H&E stain. Lung parenchyma. Interstitial Fibrosis. Asbestos Body





H&E stain. Lung parenchyma.
Dense Fibrosis (Grade 4
Asbestosis)