

2014-2-1

Lung of calf

Bovine Pathology
Joko Susilo

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Signalment : Cross breed calf 5 -month-old male

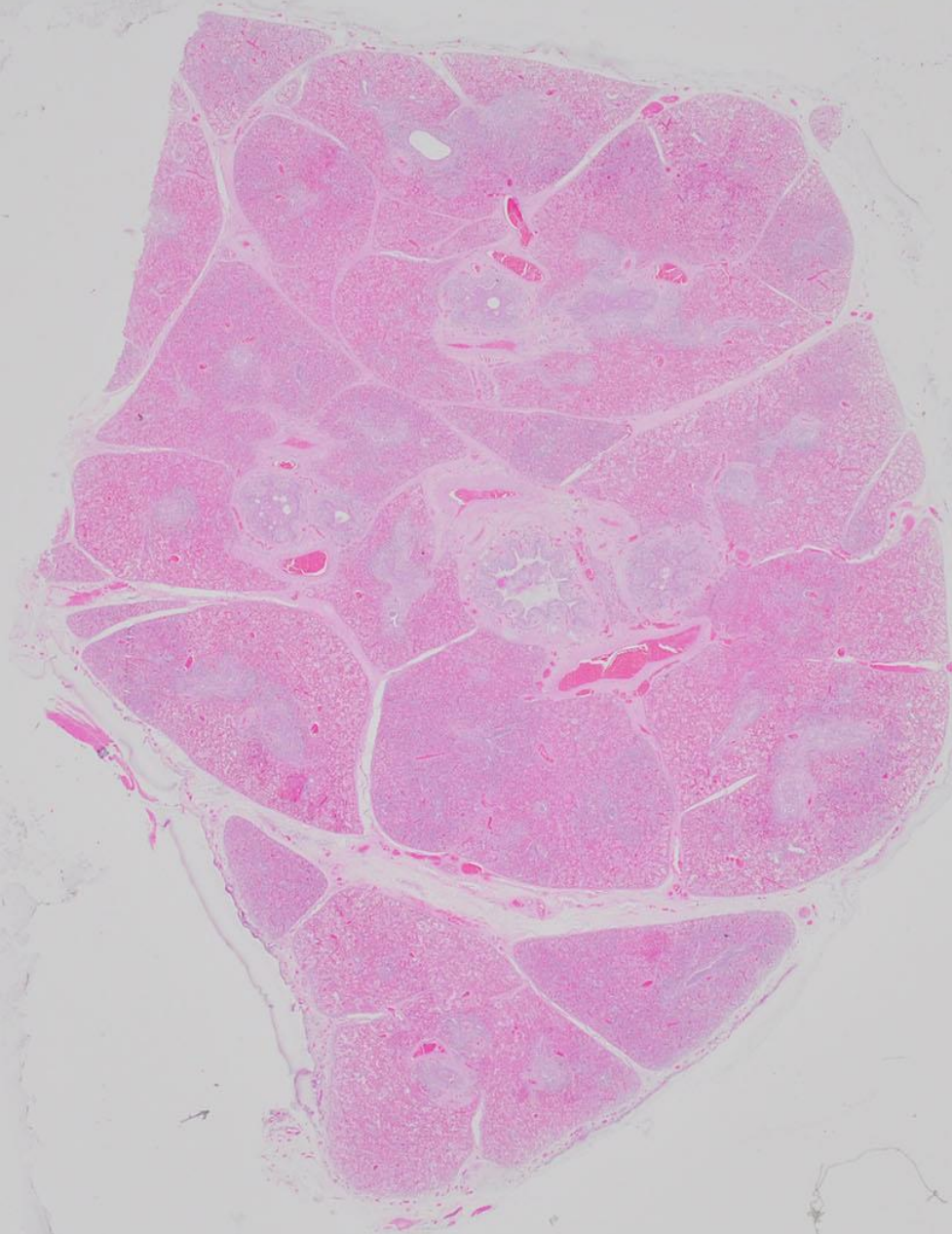
History : Dyspnea, febrile, lethargy, tremors, bruxism, open mouth breathing, dehydration, coughing, serous or mucopurulent nasal discharge.

Gross pathology : Cranioventral lung have multifocal to coalescing depressed area of red-brown consolidation with oedema, which were rubbery and firm.

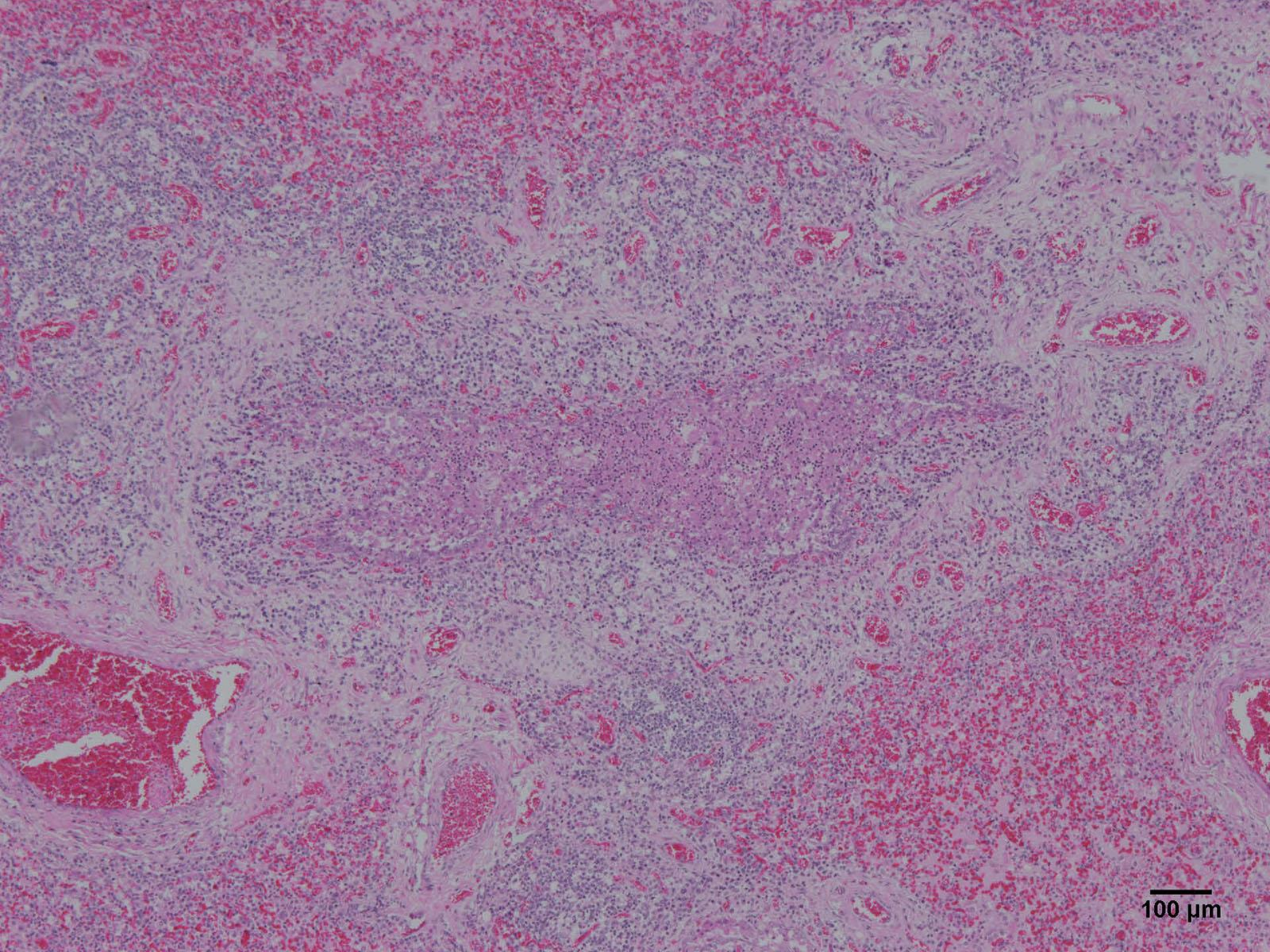
Laboratory results: Immunohistochemistry was positive for bovine respiratory syncytial virus (BRSV) and negative for parainfluenza type-3 virus (PI-3v); . No bacterial growth on microbiological cultures.



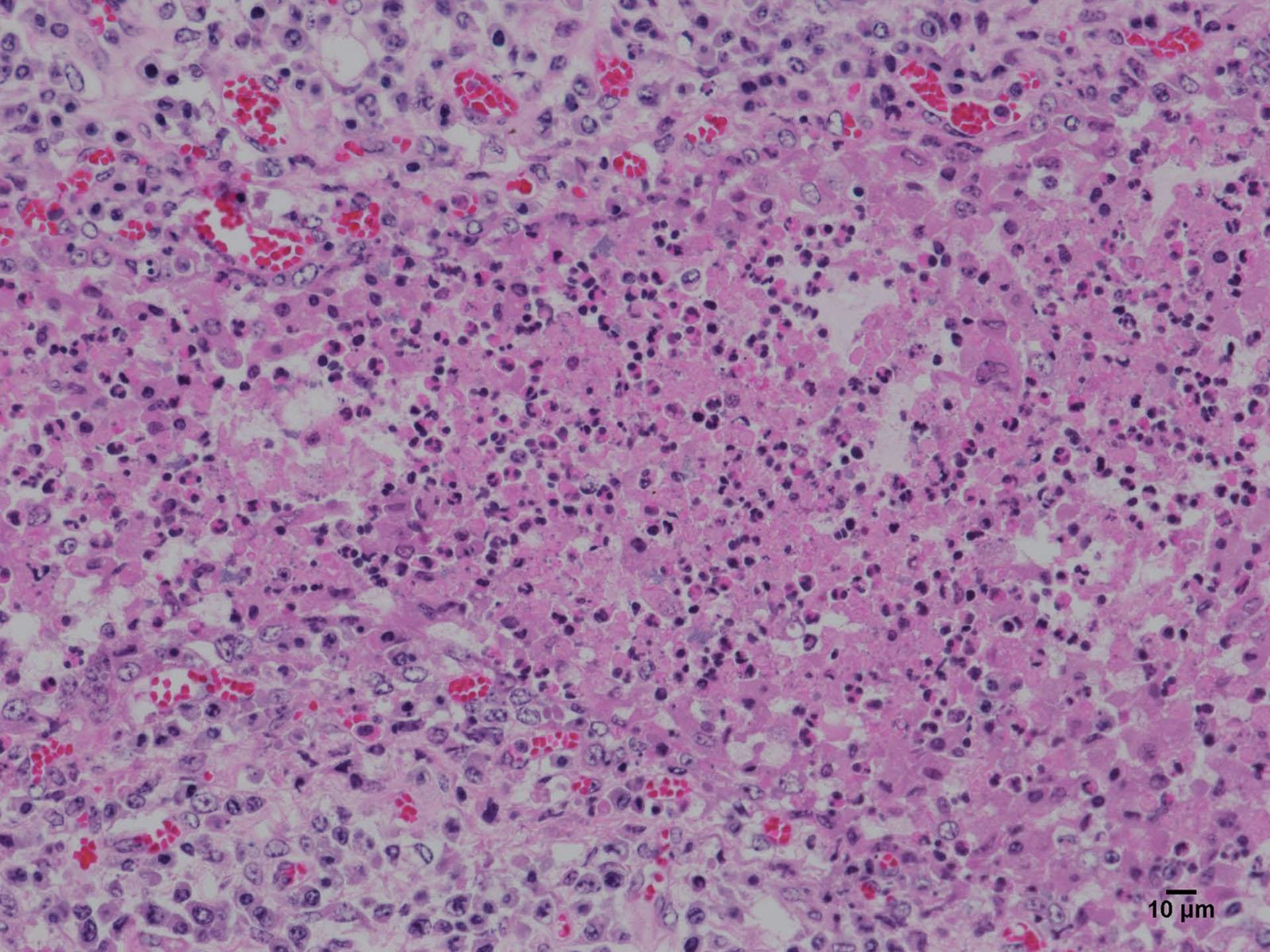




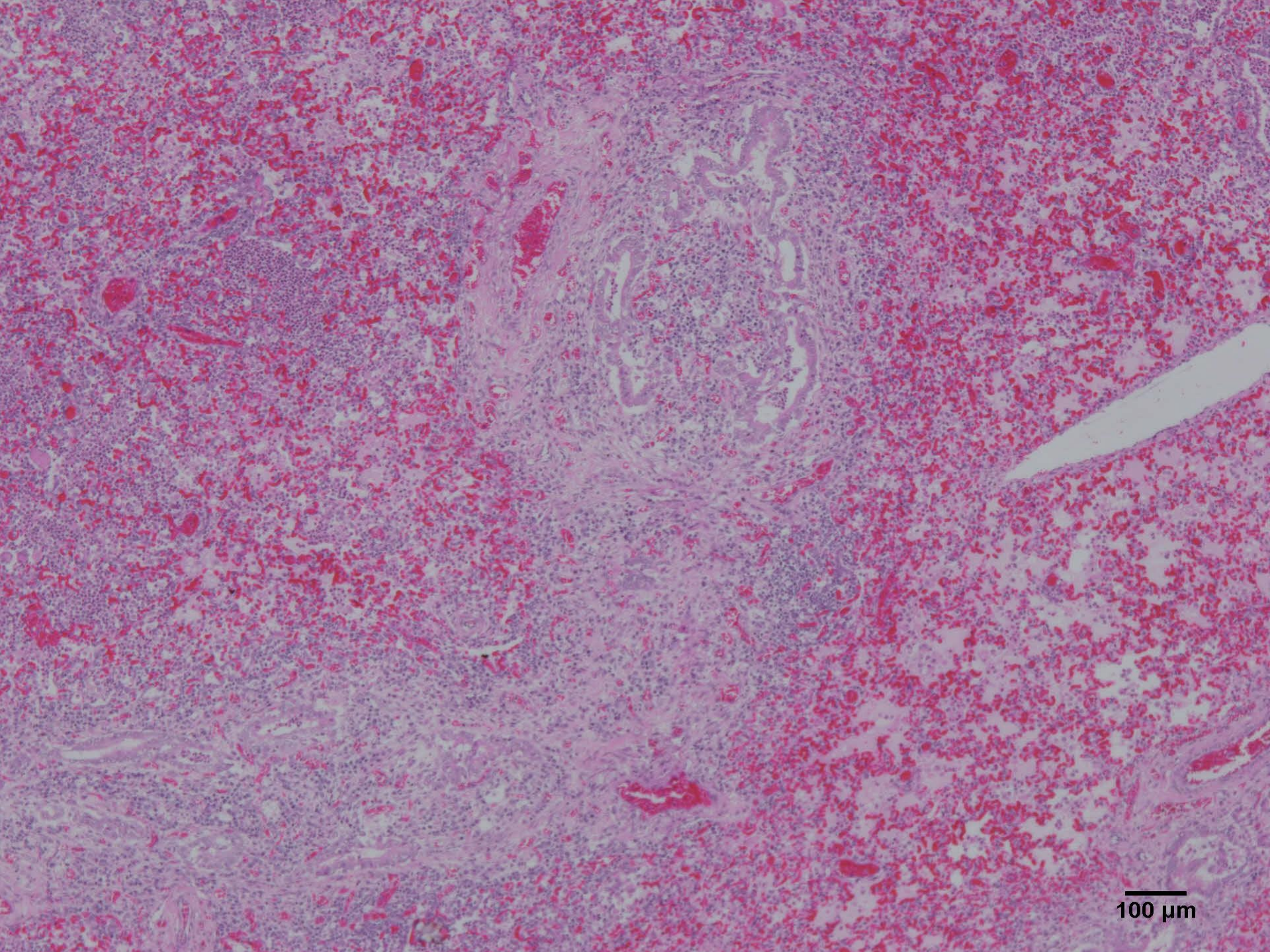
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1 mm



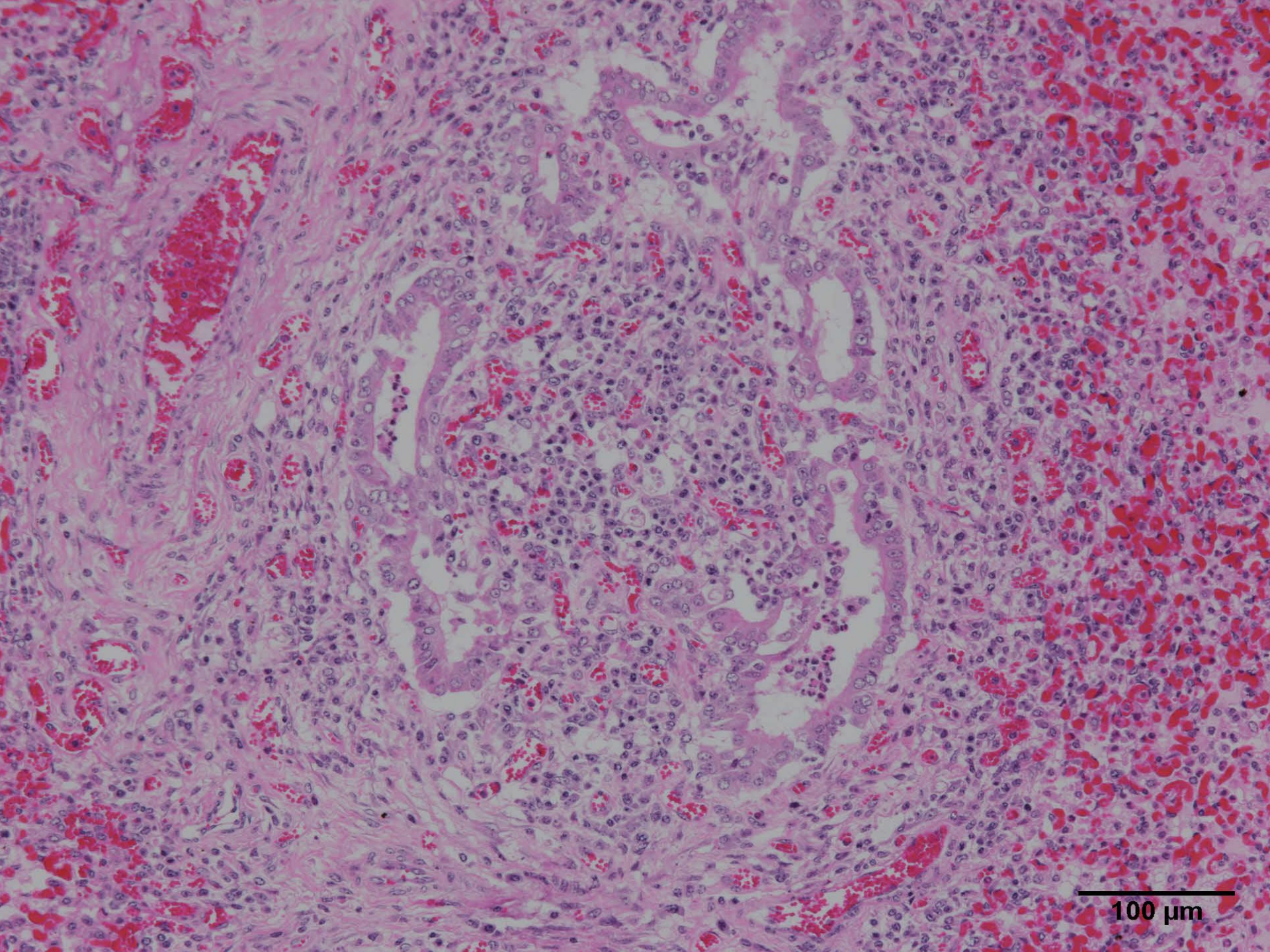
100 μ m



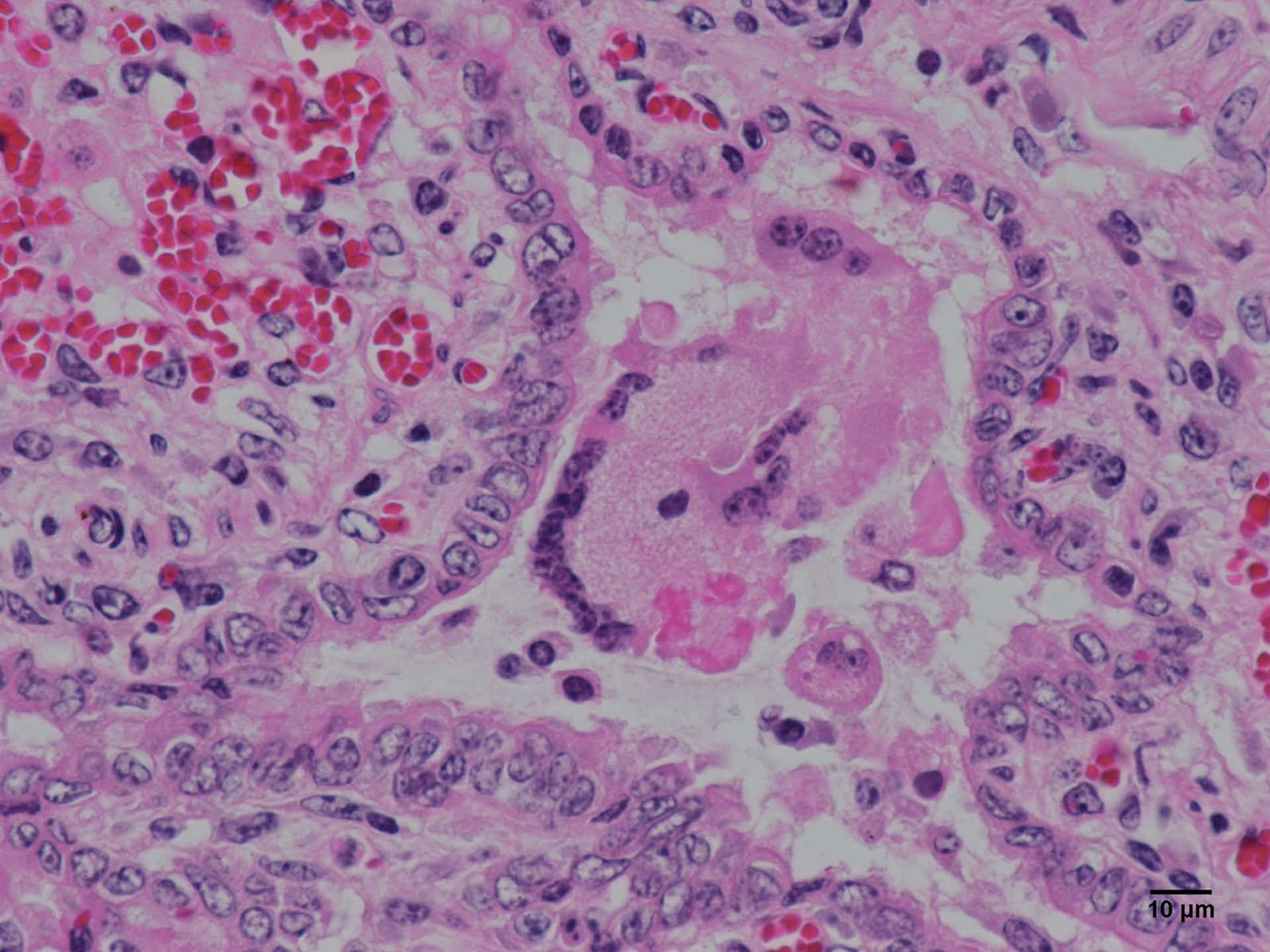
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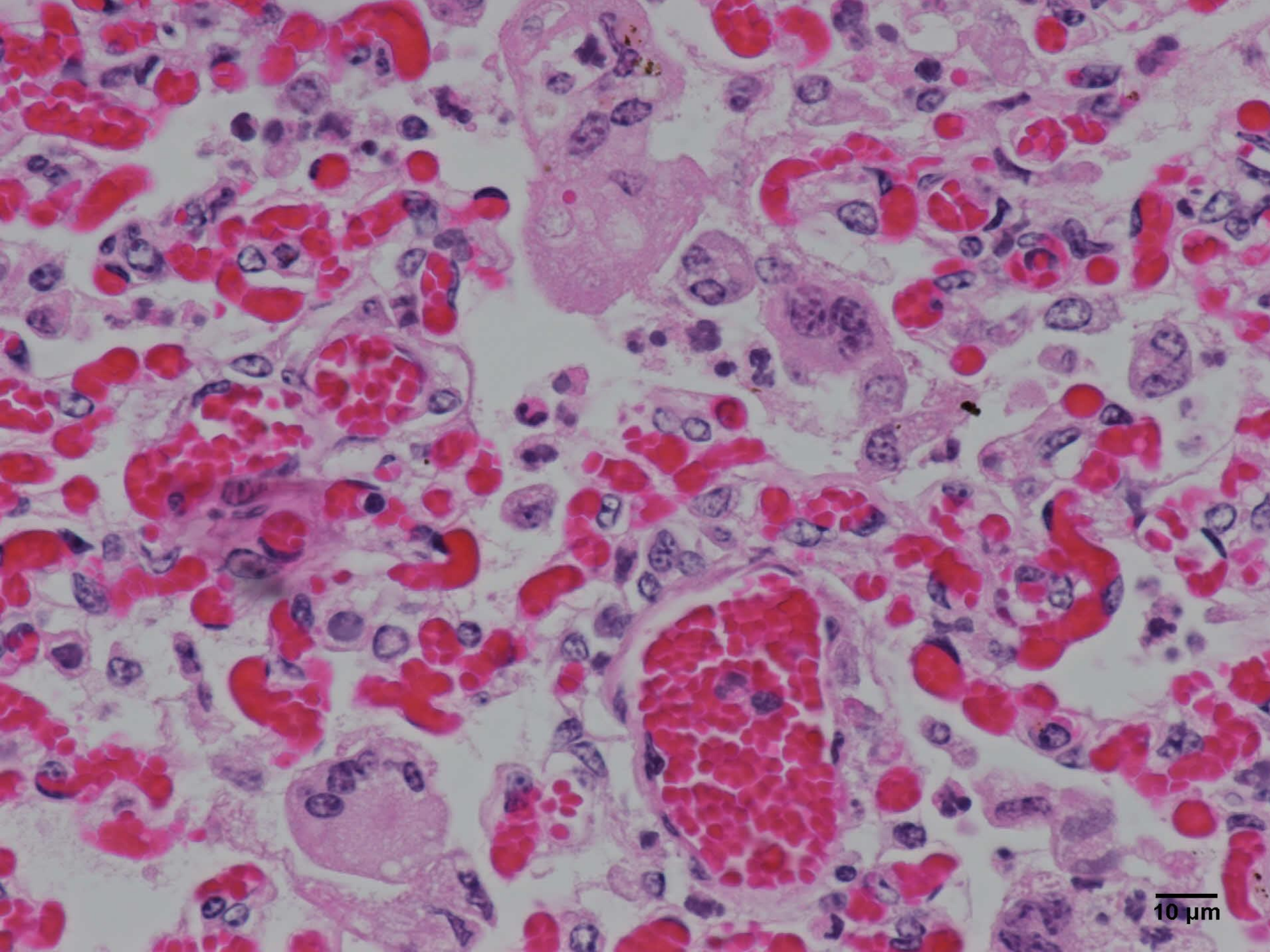
100 μm



100 μ m



10 μ m



10 μ m

Contributors morphologic Diagnosis: Lung: Bronchiolitis, necrotizing and pneumonia bronchointerstitial, suppurative, sub acute, multifocal, moderate, with marked hyperplasia of type II pneumocytes and epithelial syncytia, crossbreed, bovine.

JPC Diagnosis: Lung: Bronchointerstitial pneumonia, necrotizing and suppurative, diffuse, with rare multinucleated viral syncytia.

Contributor's Comment: The bovine respiratory disease (BRD) pneumonias constitute a significant proportion of feedlot diseases. Bovine herpesvirus-1, PI-3v and BRSV are recognized as primary respiratory pathogens. Bovine viral diarrhea virus 1 and 2, bovine adenovirus A–D, and bovine coronavirus, bacteria (*Mannheimia haemolytica*, *Pasteurella multocida*, and *Histophilus somni*), and *Mycoplasma* spp. have also been recognized as additional agents associated with severe BRD.

BRSV seems to be a major contributor to BRD complex. Microscopic lesions in BRSV infections consist of bronchointerstitial pneumonia, characterized by necrotizing bronchiolitis, formation of bronchiolar epithelial syncytia, and exudative or proliferative alveolitis. The subacute lesions of BRSV represent early repair of the previous lesions and additional lymphocyte-mediated lysis of virus infected cells. Bronchiolitis obliterans may occur as early as 10 days after infection.

Conference Comment: This is an excellent example of bovine respiratory syncytial virus (BRSV) infection, containing all the pertinent histologic features as dutifully described above by the contributor.