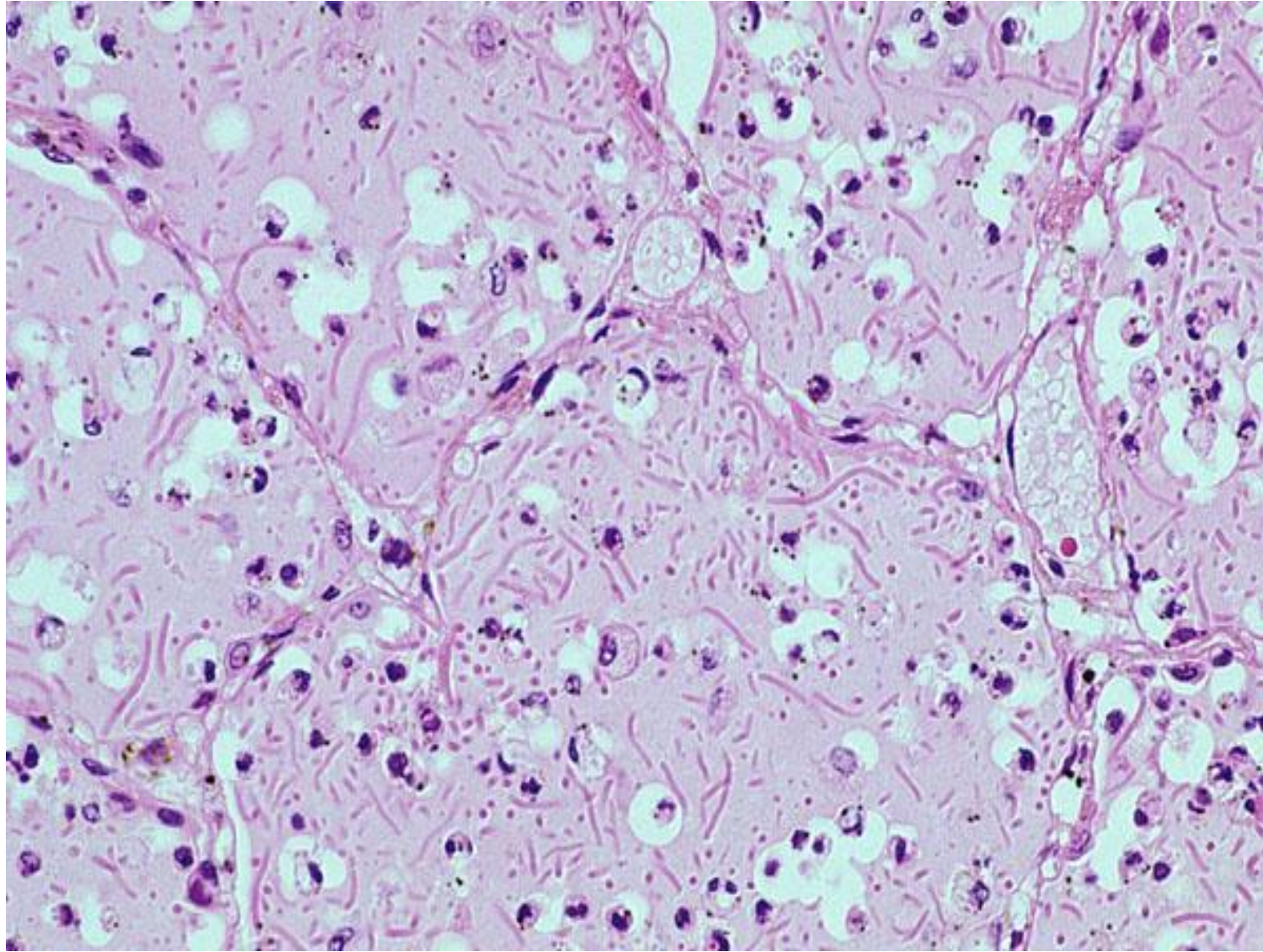


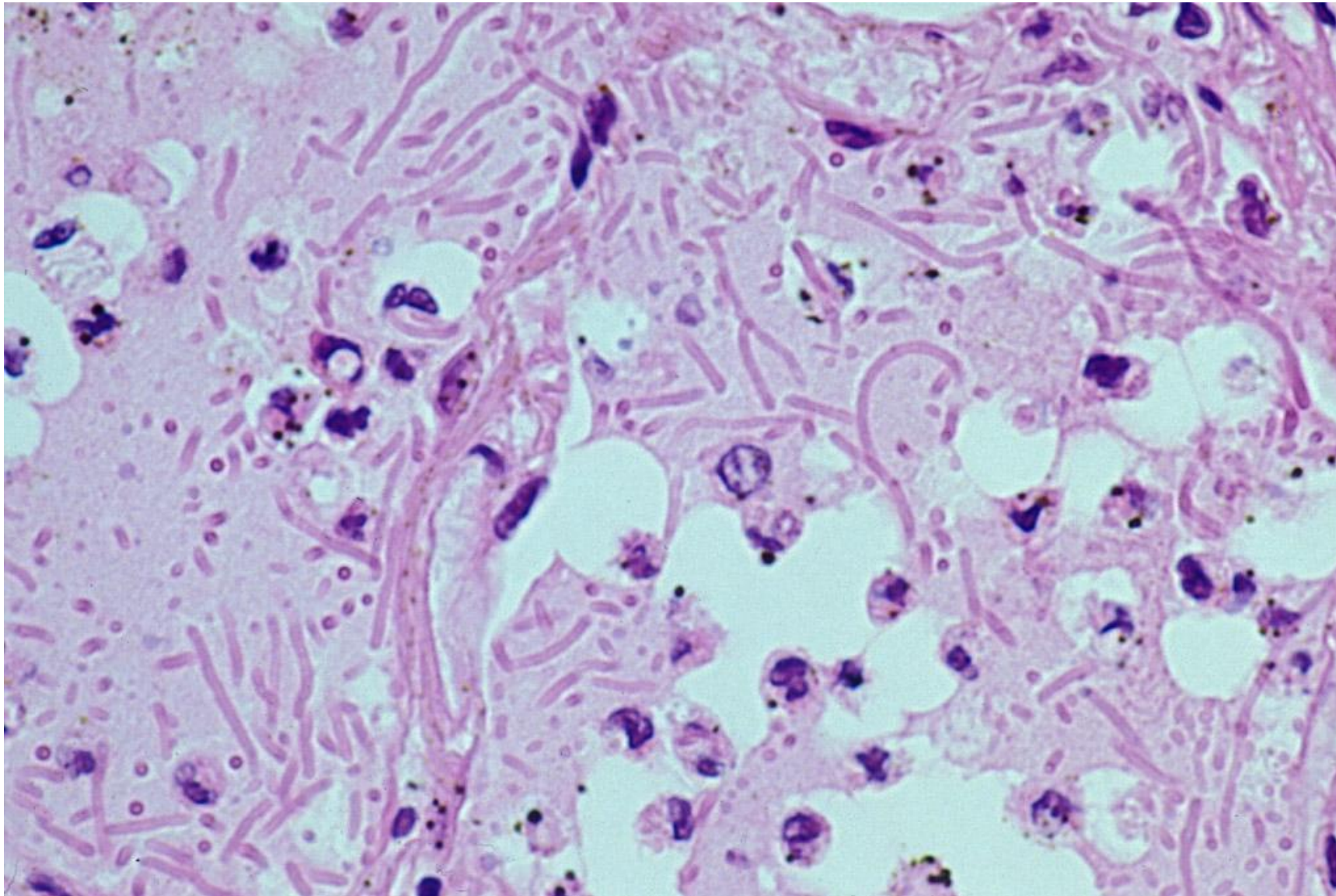
Opportunistic pneumonia caused by *Klebsiella pneumoniae* infection in an aged case of neurodegenerative disorder

An aged male patient with progressive neurodegenerative disorder died of severe opportunistic pneumonia. At autopsy, long and large GNR with thick capsule formation are dispersed in the alveolar space, not phagocytized by neutrophils. Infection of *Klebsiella pneumoniae* is indicated, based on their large size and formation of thick capsule. Microbial culture at autopsy revealed mixed infection, including *K. pneumoniae*. The bacteria were unreactive for Gram, PAS and Grocott stains. Methylene blue staining clearly disclosed blue-stained bacterial bodies surrounded by unstained thick capsule. Immunostaining for bacterial HSP60 (heat shock protein-60) also specifically visualized the bacterial bodies.

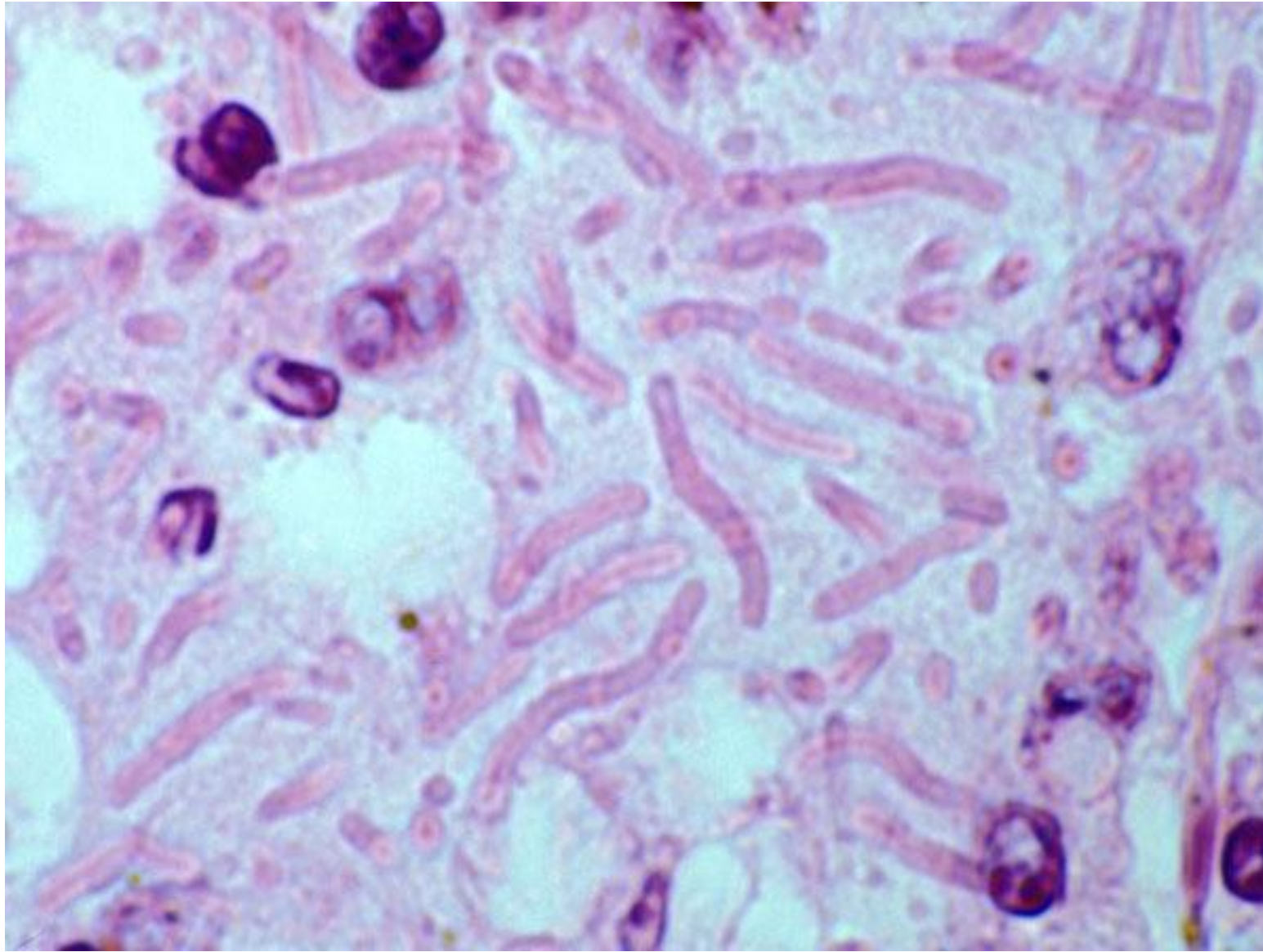
Ref.: Asokan S, et al. *Klebsiella pneumoniae*: a growing threat in the era of antimicrobial resistance. Microbe 2025; 7: 100333. doi: 10.1016/j.microb.2025.100333



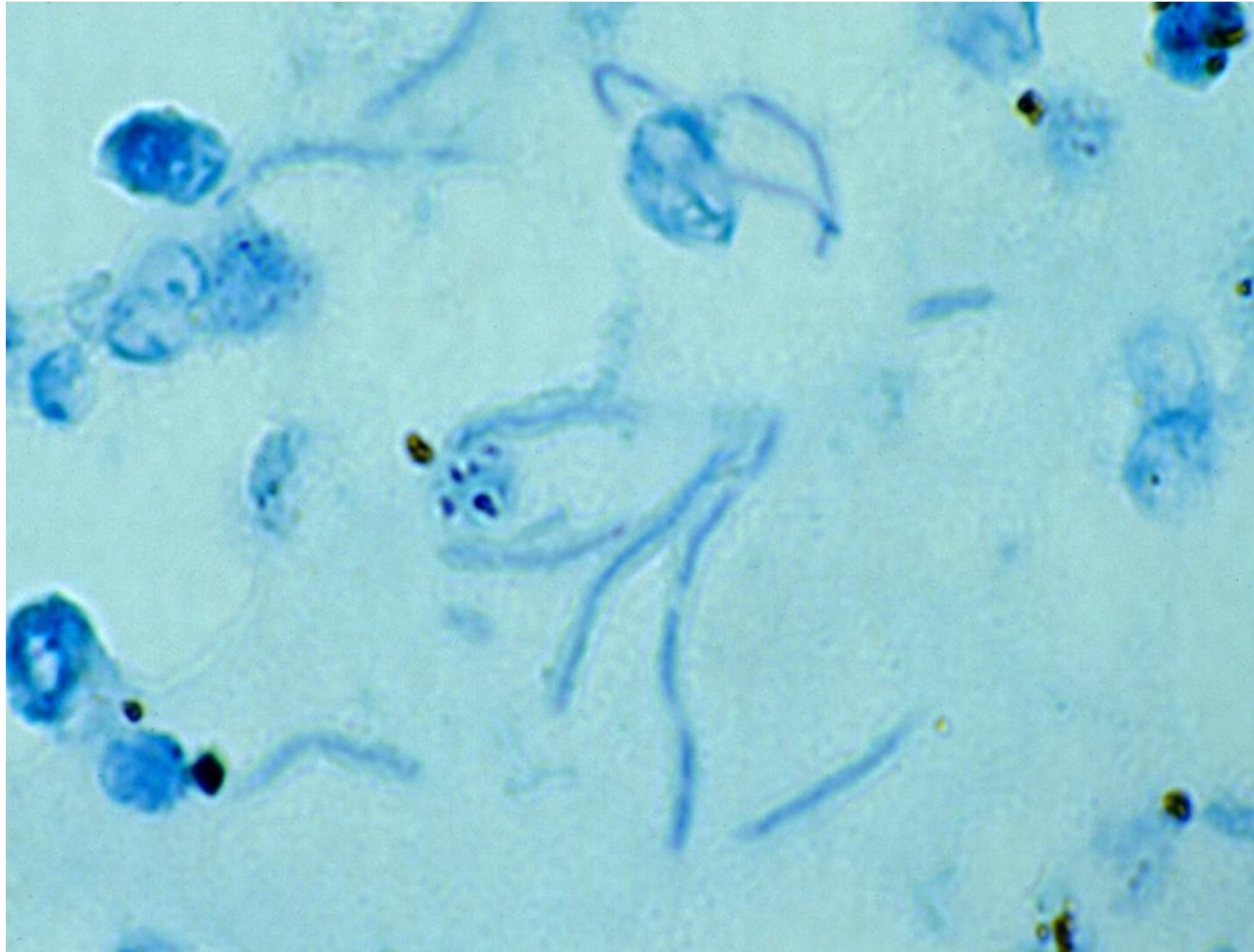
Opportunistic pneumonia caused by *Klebsiella pneumoniae* infection in an aged male patient of neurodegenerative disorder. Large-sized rods are dispersed in the alveolar space. Neutrophilic reaction is mild (H&E-1).



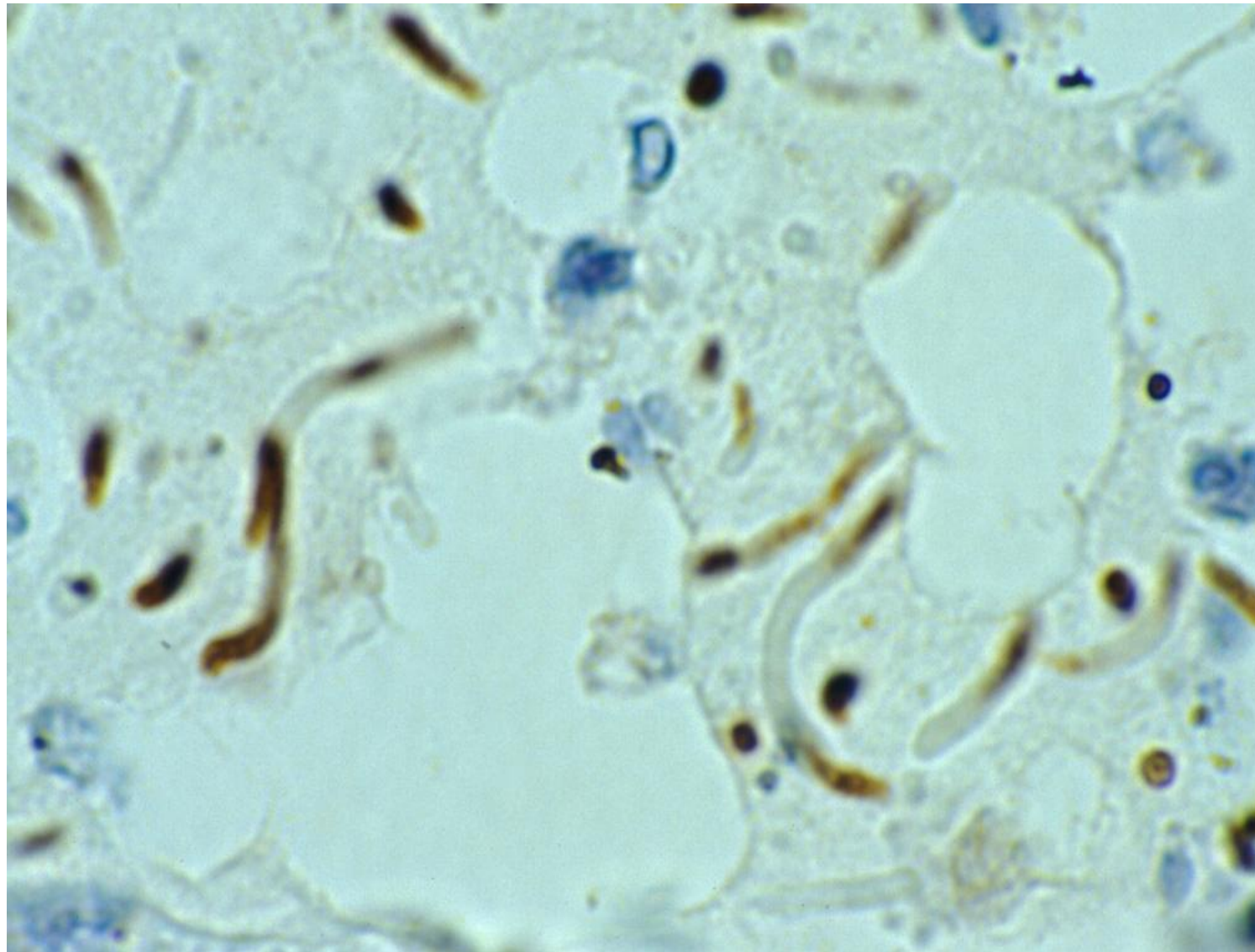
Opportunistic pneumonia caused by *Klebsiella pneumoniae* infection in an aged male patient of neurodegenerative disorder. Large-sized rods are dispersed in the alveolar space. Centrally placed rods are surrounded by thick capsules. Neutrophilic reaction is mild (H&E-2).



Opportunistic pneumonia caused by *Klebsiella pneumoniae* infection in an aged male patient of neurodegenerative disorder. Large-sized rods are dispersed in the alveolar space. Centrally placed rods are surrounded by thick capsules (H&E-3).



Opportunistic pneumonia caused by *Klebsiella pneumoniae* infection in an aged male patient of neurodegenerative disorder. Large-sized rods are dispersed in the alveolar space. Methylene blue stains the centrally placed rods blue. The thick capsules are unstained (methylene blue).



Opportunistic pneumonia caused by *Klebsiella pneumoniae* infection in an aged male patient of neurodegenerative disorder. Large-sized rods are dispersed in the alveolar space. Immunostaining for bacterial HSP60 clearly stains the centrally placed rods brown. The thick capsules are unstained (immunostaining for bacterial HSP60).