

Volvulus of the sigmoid colon in parkinsonism

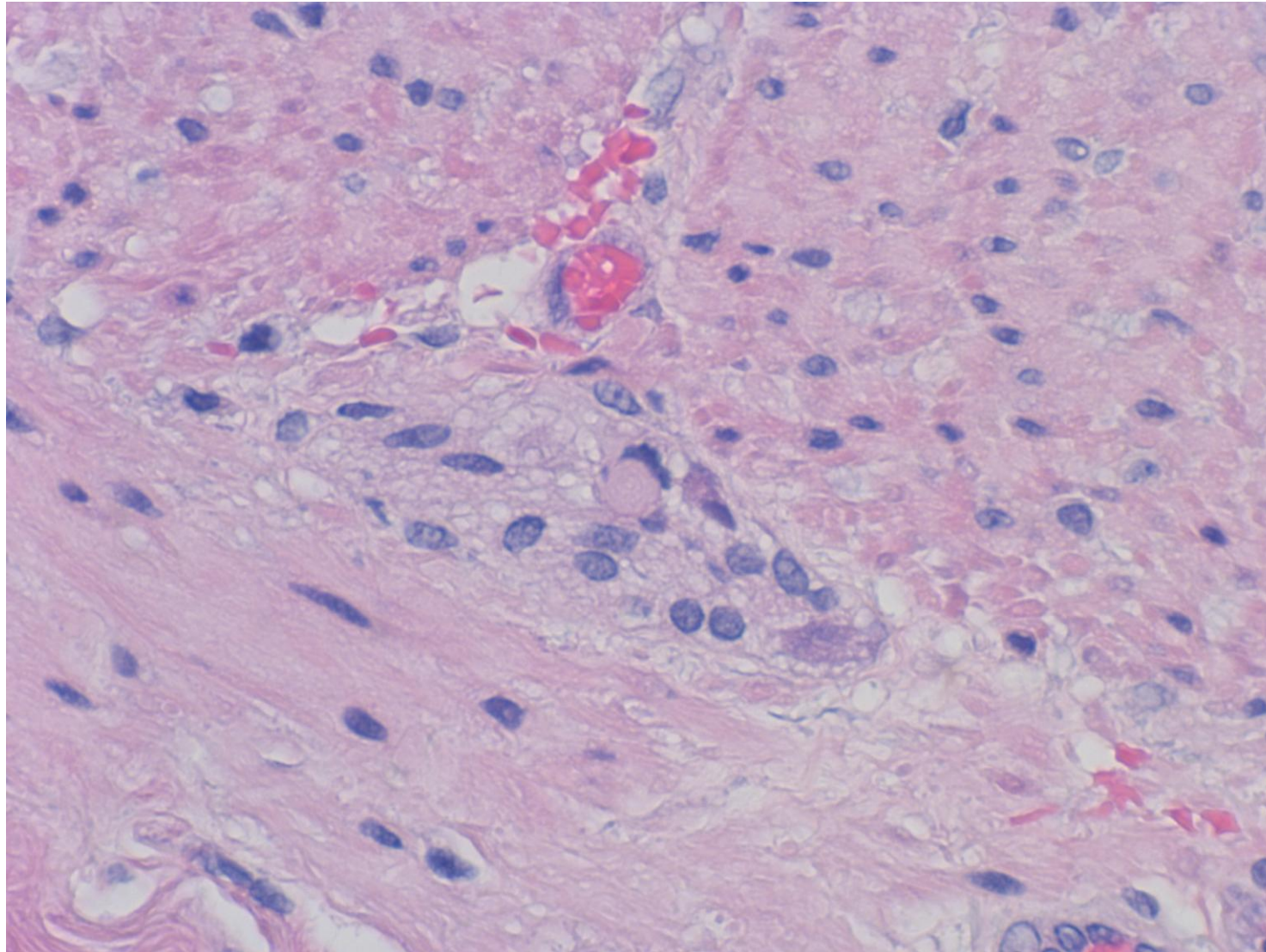
As non-motor features of Parkinson's disease, constipation affects around 50% of patients with Parkinson's disease, and sigmoid volvulus is a serious complication with relatively high mortality rates. Of note is that Parkinson's disease and dementia with Lewy bodies constitute up to 20% of volvulus cases.

The histopathological hallmark of Parkinson's disease is the presence of Lewy bodies, fibrillar α -synuclein aggregates in the cytoplasm of certain neurons. It has been proven that gastrointestinal tract dysfunction in Parkinson's disease is closely related to the deposition of Lewy bodies (α -synuclein aggregates) in ganglion cells of the myenteric plexus.

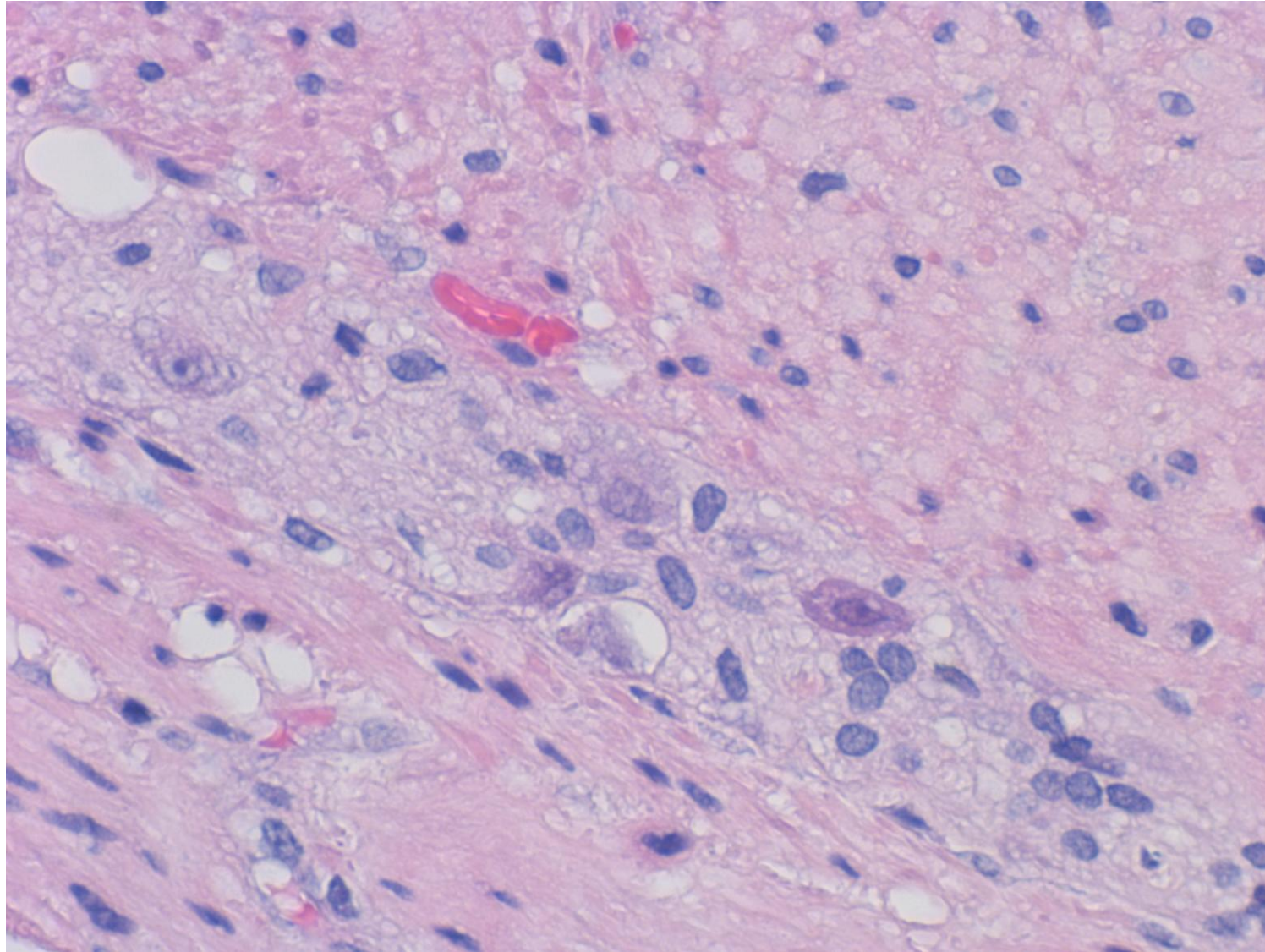
Ref: Tatenos F, et al. Recurrent sigmoid volvulus in a patient with Parkinson's disease. Clin Auton Res 2020; 30, 283–285. doi: 10.1007/s10286-019-00658-0



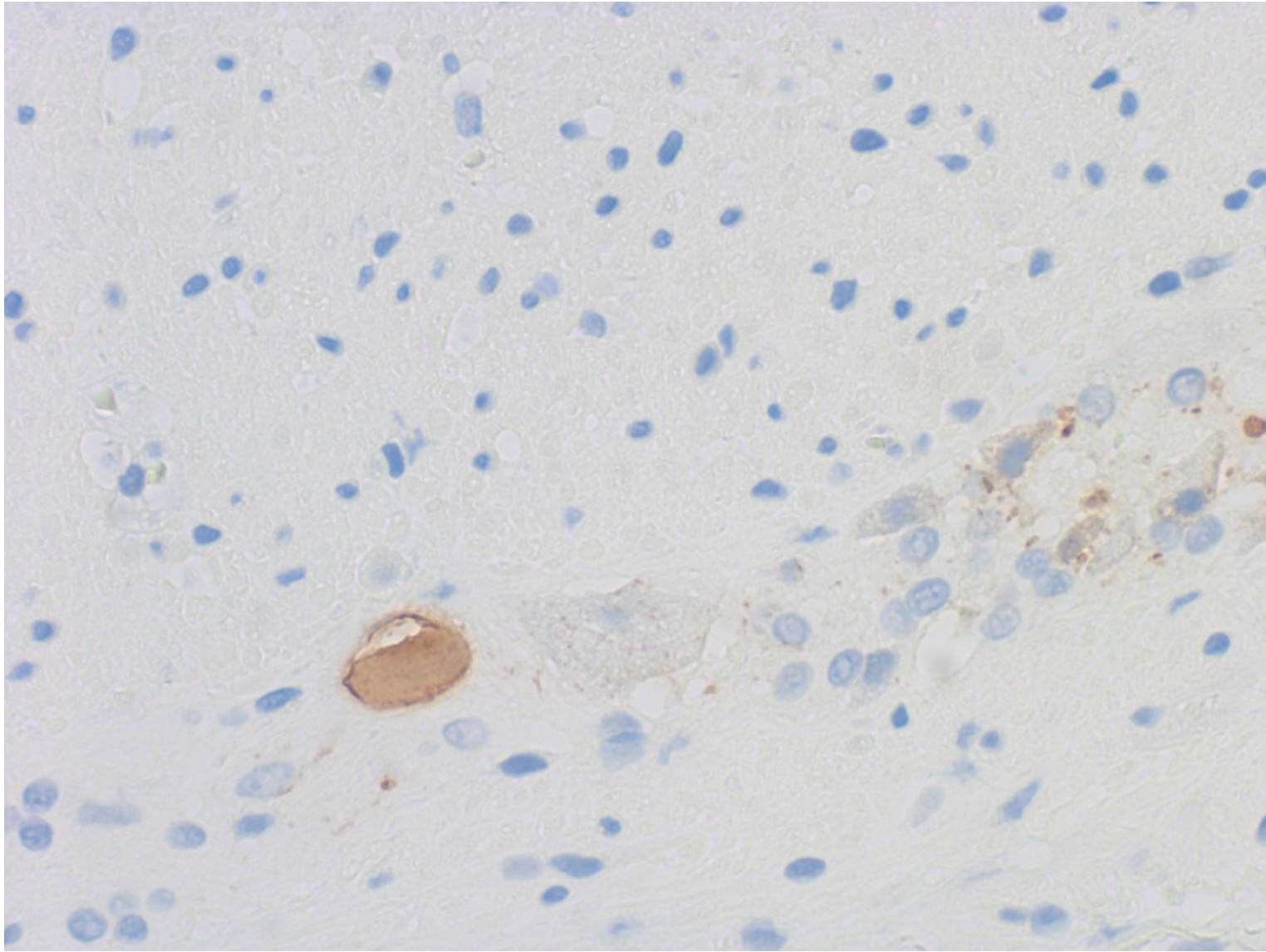
Surgical specimen of sigmoid colon volvulus seen in an 81-year-old male patient suffering from Parkinson's disease. Hemorrhagic necrosis of the dilated sigmoid colon is observed.



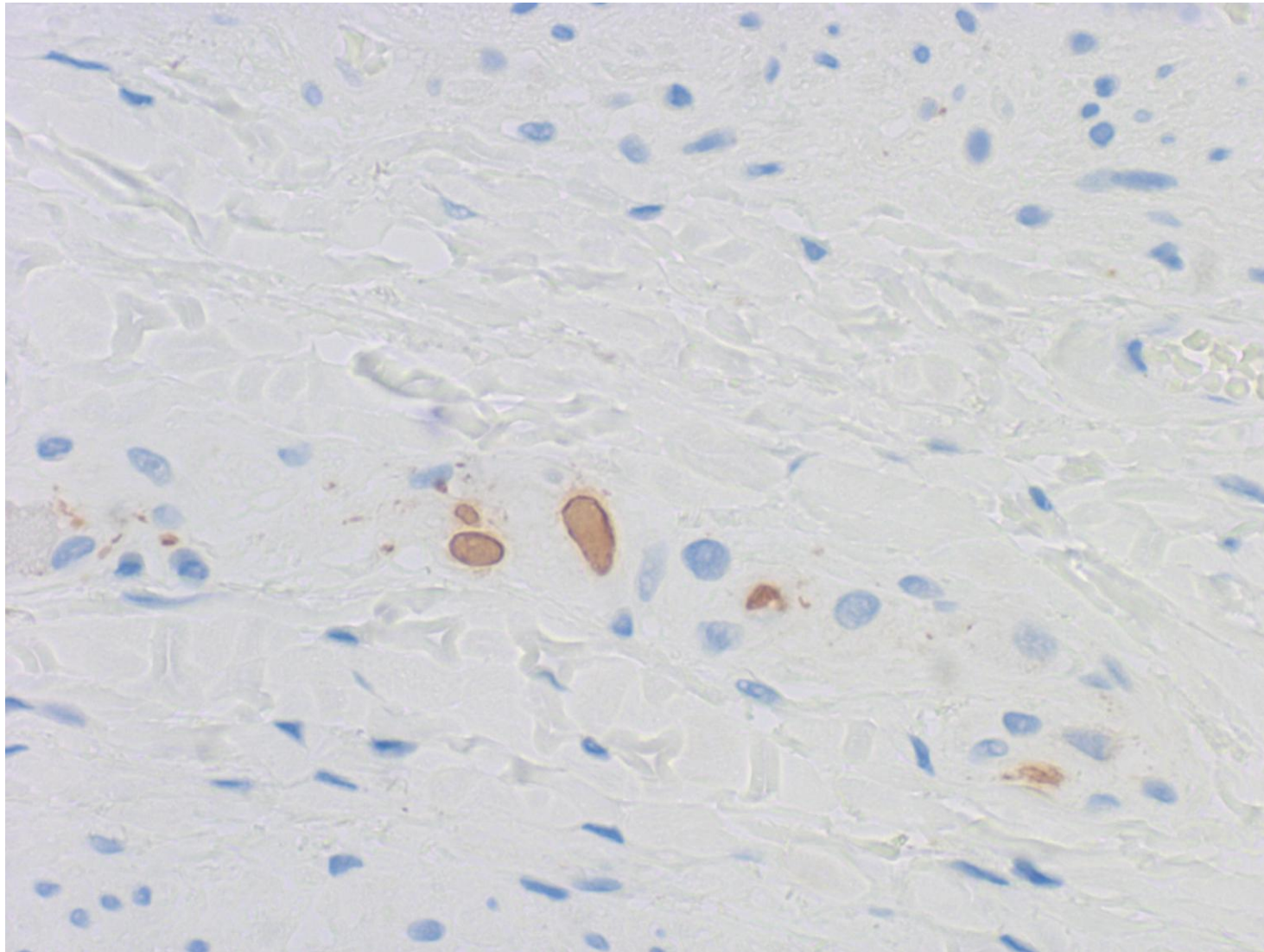
The Auerbach myenteric plexus in the surgical specimen of sigmoid colon volvulus focally shows eosinophilic globular inclusions in the cytoplasm of ganglion cells. H&E-1



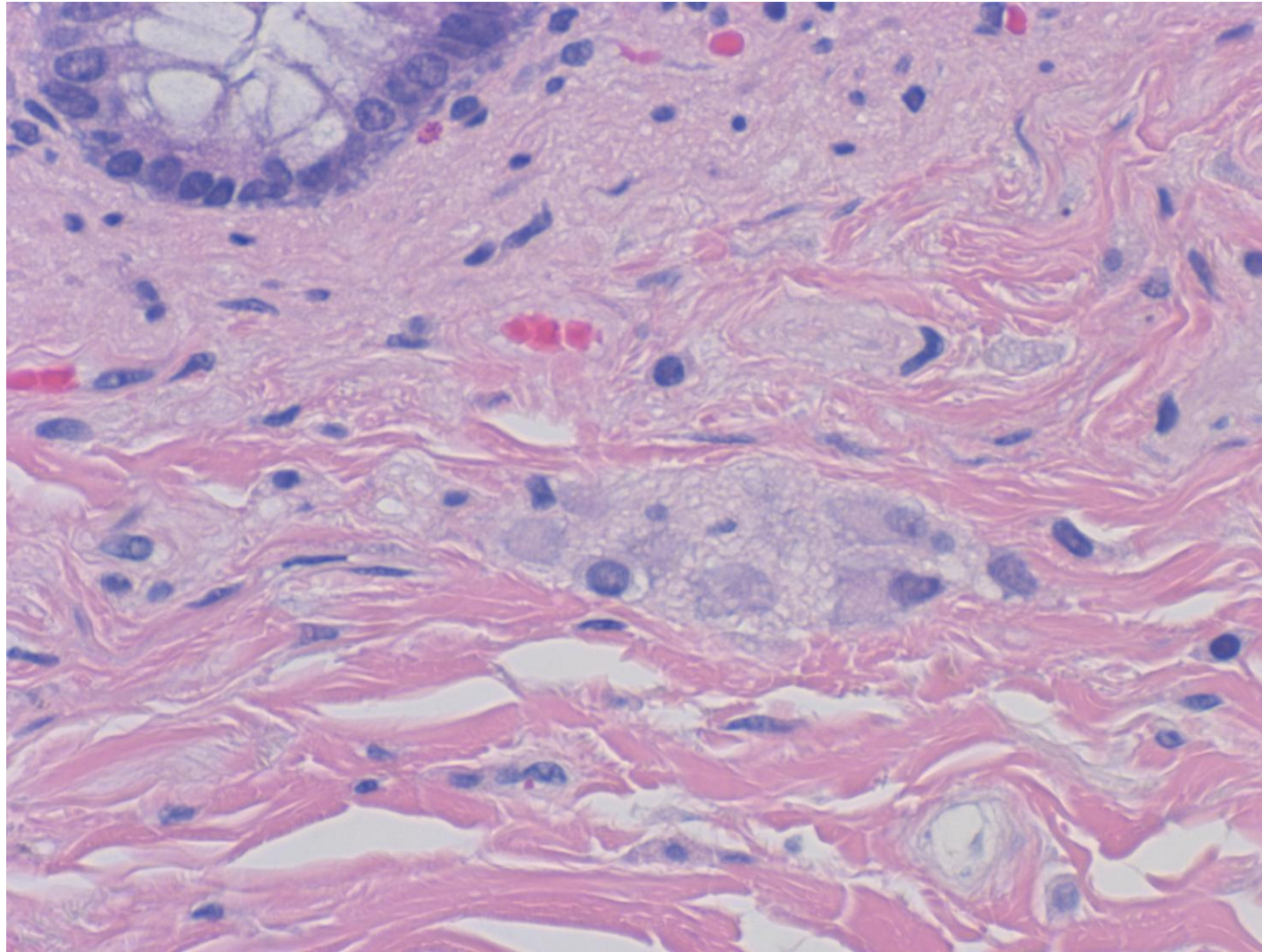
The Auerbach myenteric plexus in the surgical specimen of sigmoid colon volvulus shows vacuolar alterations of ganglion cells. H&E-2



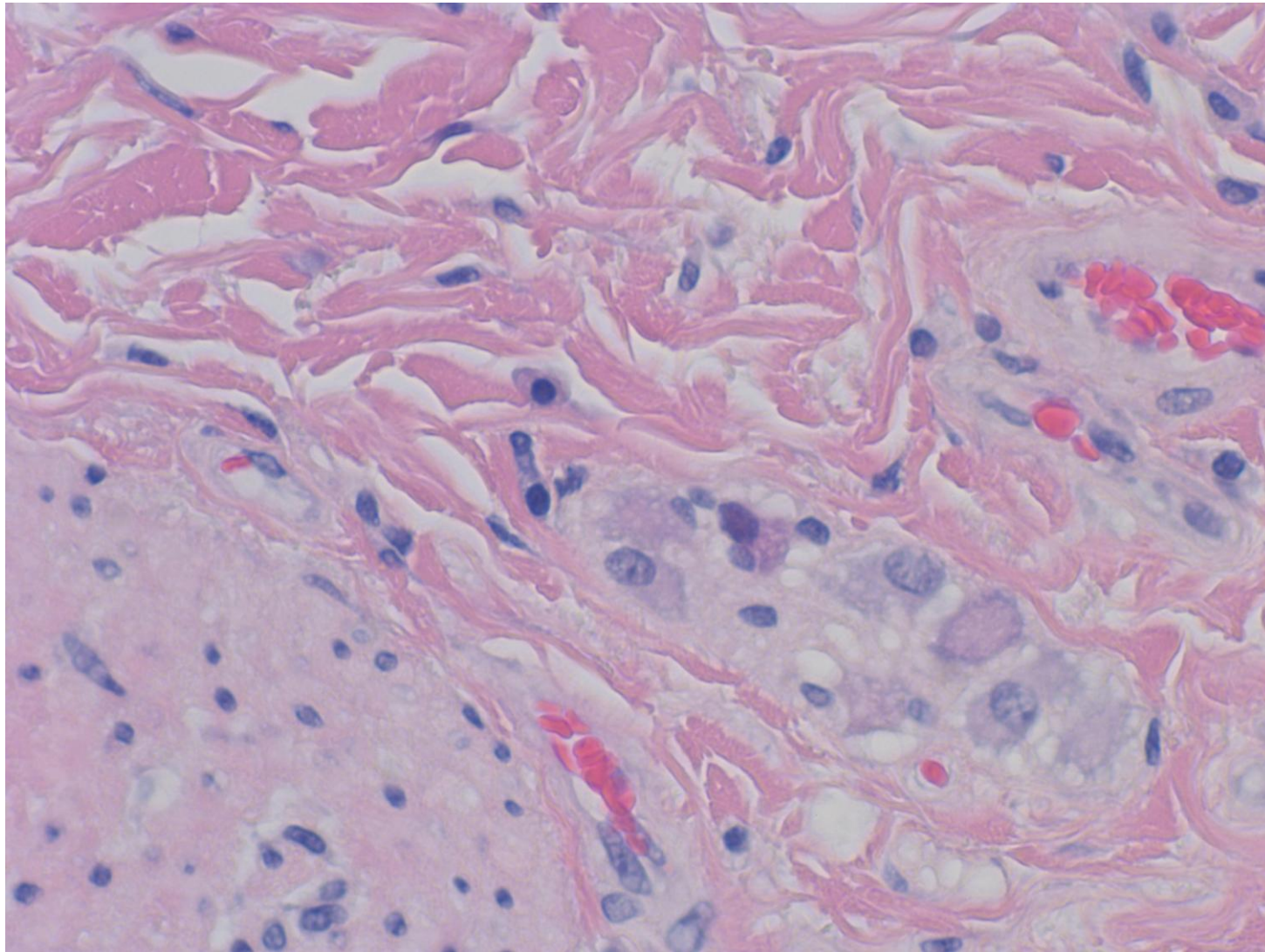
The Auerbach myenteric plexus in the surgical specimen of sigmoid colon volvulus focally shows α -synuclein-positive globular inclusion bodies in the cytoplasm of ganglion cells. Immunostaining for α -synuclein-1



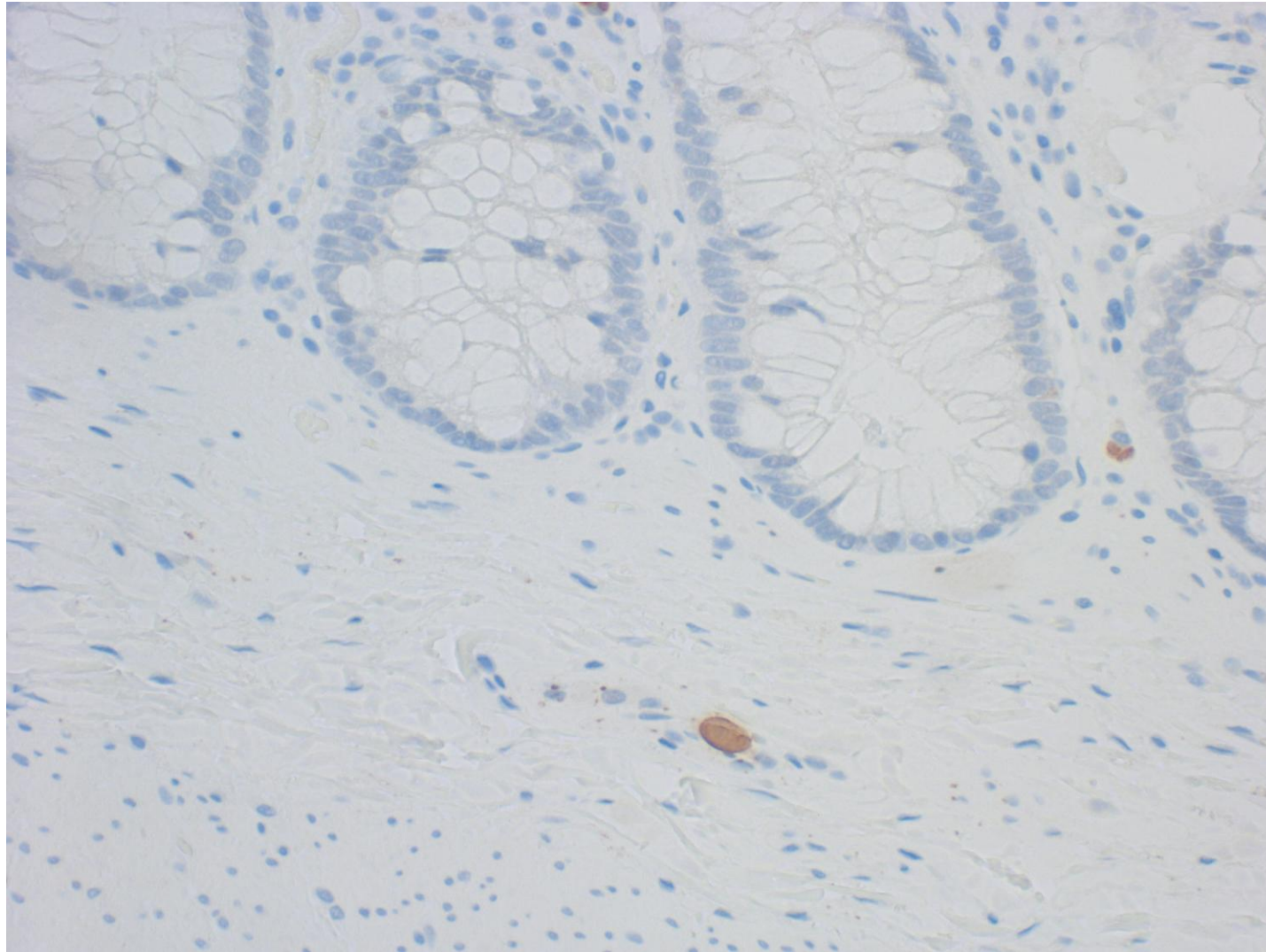
The Auerbach myenteric plexus in the surgical specimen of sigmoid colon volvulus focally shows α -synuclein-positive globular inclusion bodies in the cytoplasm of ganglion cells. Immunostaining for α -synuclein-2



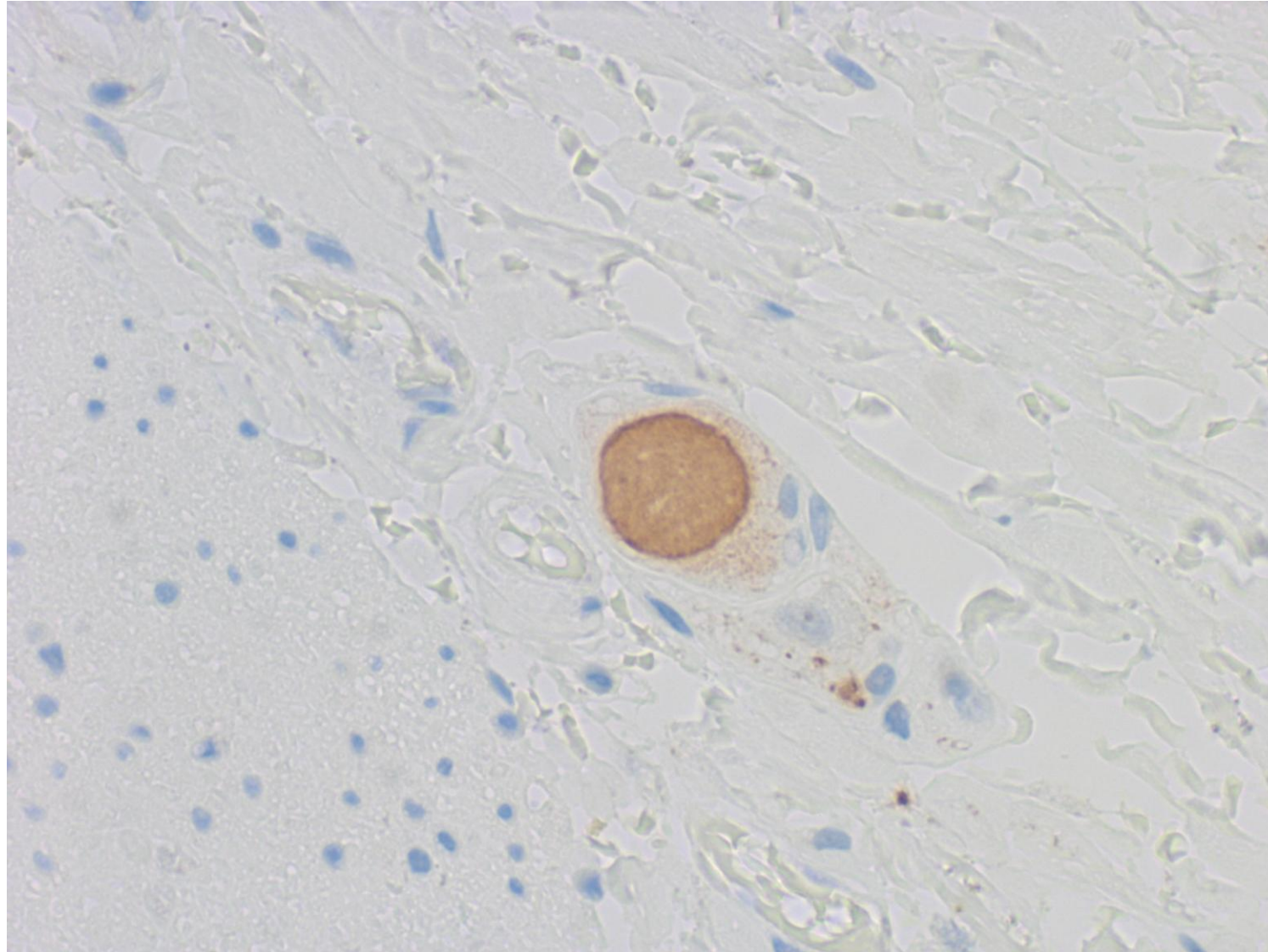
The Meissner's submucosal plexus in the surgical specimen of sigmoid colon volvulus focally shows swelling of ganglion cells. H&E-3



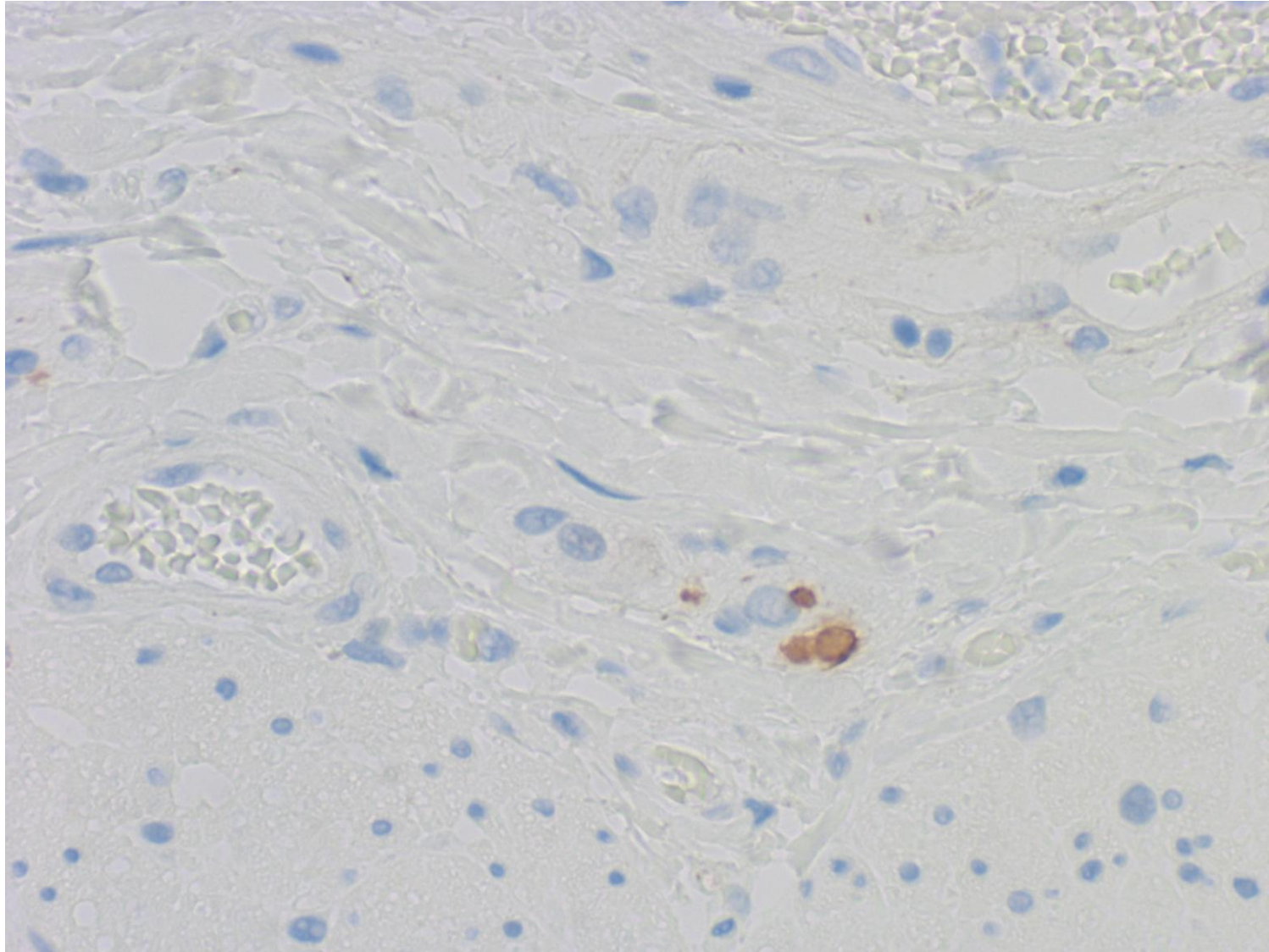
The Meissner's submucosal plexus in the surgical specimen of sigmoid colon volvulus focally shows eosinophilic globular inclusions in the cytoplasm of ganglion cells. H&E-4



The Meissner submucosal plexus in the surgical specimen of sigmoid colon volvulus focally shows α -synuclein-positive globular inclusion bodies in the cytoplasm of ganglion cells. Immunostaining for α -synuclein-3



The Meissner submucosal plexus in the surgical specimen of sigmoid colon volvulus focally shows α -synuclein-positive globular inclusion bodies in the cytoplasm of ganglion cells. Immunostaining for α -synuclein-4



The Meissner submucosal plexus in the surgical specimen of sigmoid colon volvulus focally shows α -synuclein-positive globular inclusion bodies in the cytoplasm of ganglion cells. Immunostaining for α -synuclein-4