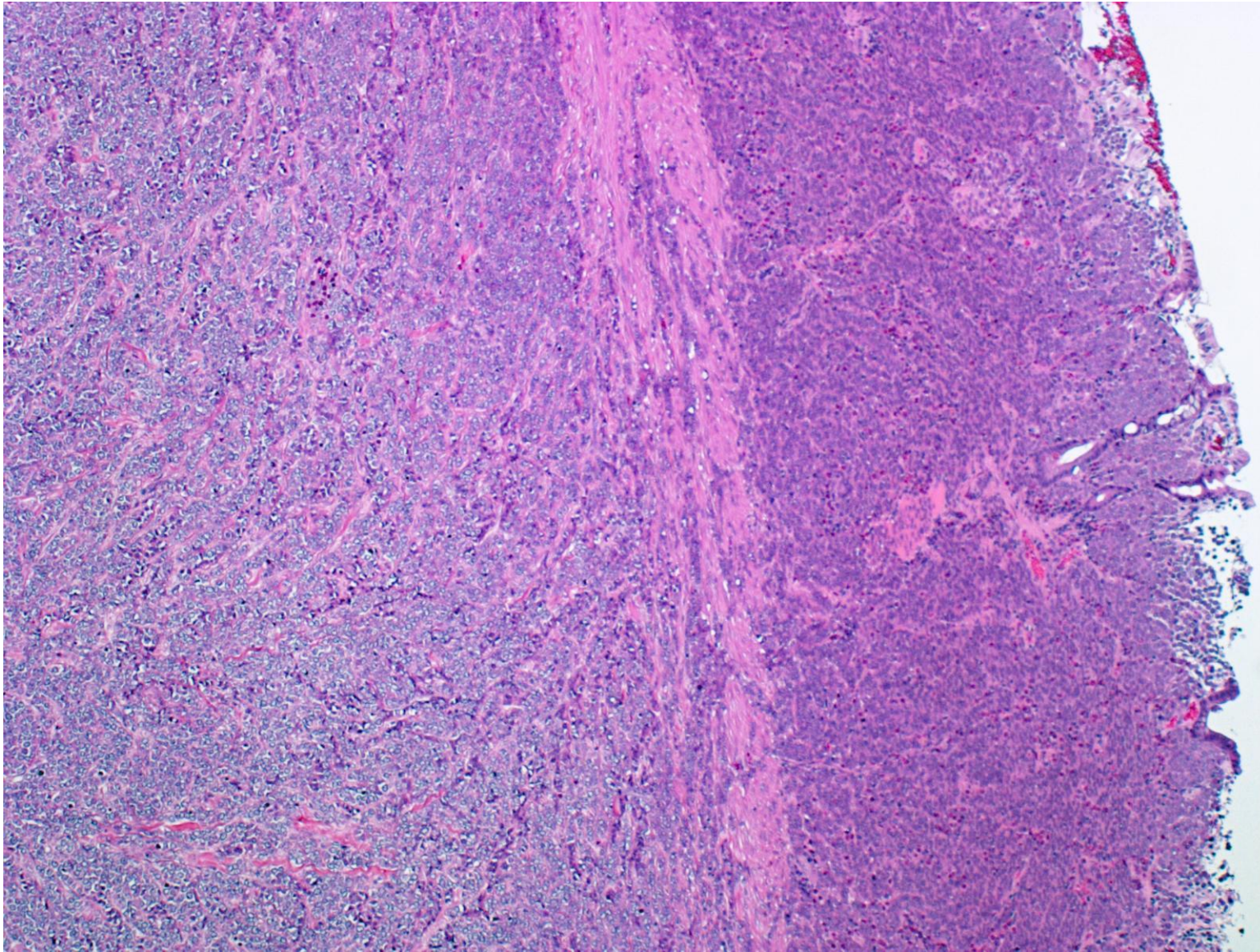


Ewing's sarcoma of the small intestine

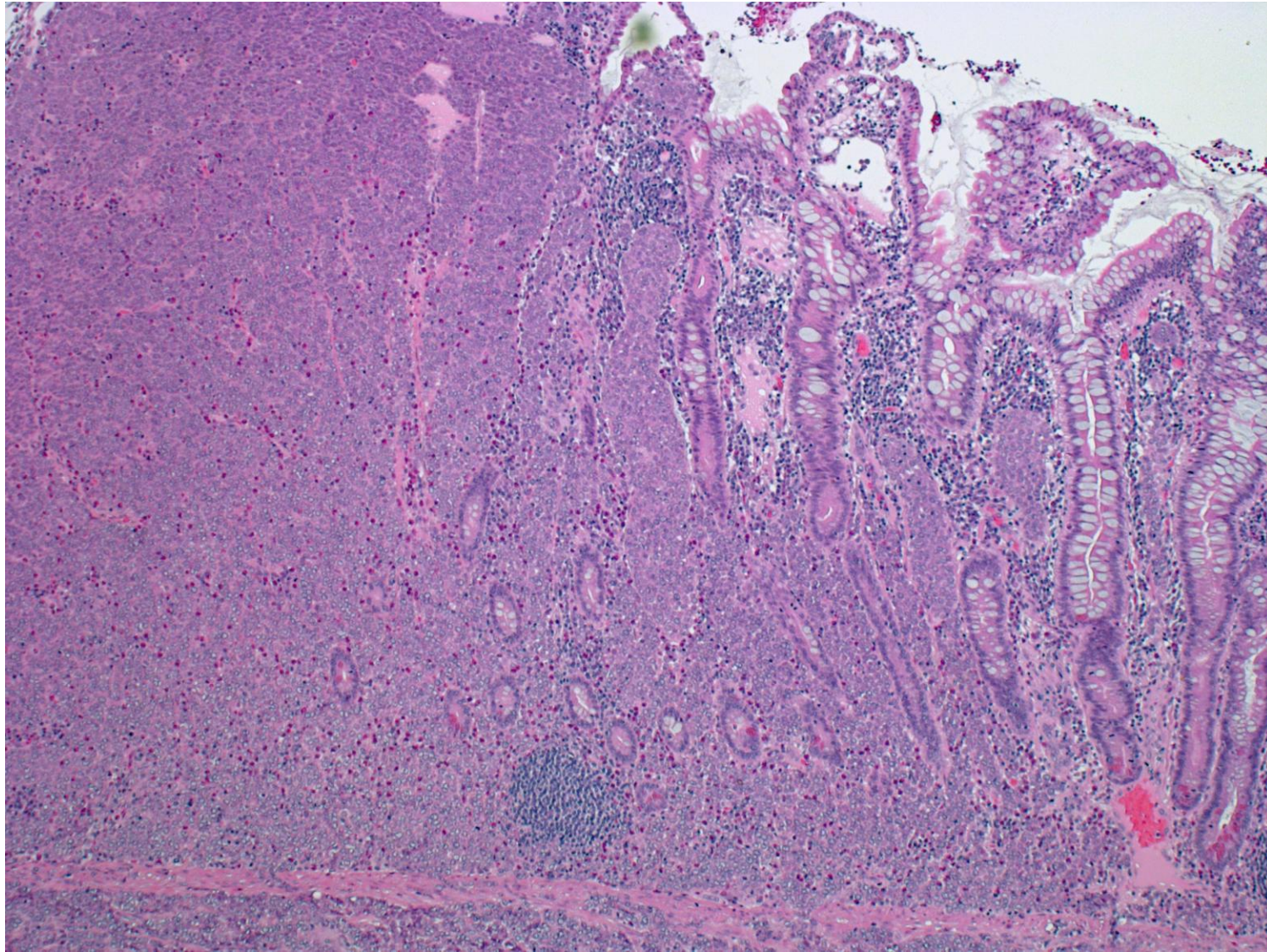
Ewing's sarcoma, originally reported as a pediatric small round cell bone tumor, is genetically determined by recurrent balanced translocations involving the EWSR1 gene on chromosome 22. It now encompasses extraskeletal Ewing's sarcoma, peripheral neuroepithelioma, Askin's tumor of the chest wall, peripheral neuroblastoma and primitive neuroectodermal tumor (PNET). Ewing sarcoma occurs in any organs: chest, retroperitoneum, pelvis, extremities, head and neck, kidney, ovary, prostate, esophagus and rarely small intestine. Reportedly, the five-year overall survival rate is 44% (ranging 20–60%).

Here presented is a 48 y-o female case of Ewing sarcoma of the small intestine. The submucosal tumor is composed of monomorphous small round cells with high N/C ratio and active mitosis. The expression of NCAM (CD56) and MIC-2 (CD99) is confirmed. Cytokeratin is negative. Ki-67 labeling index is high. Ultrastructurally, a few neuroendocrine-type granules are identified in the cytoplasm of the tumor cells.

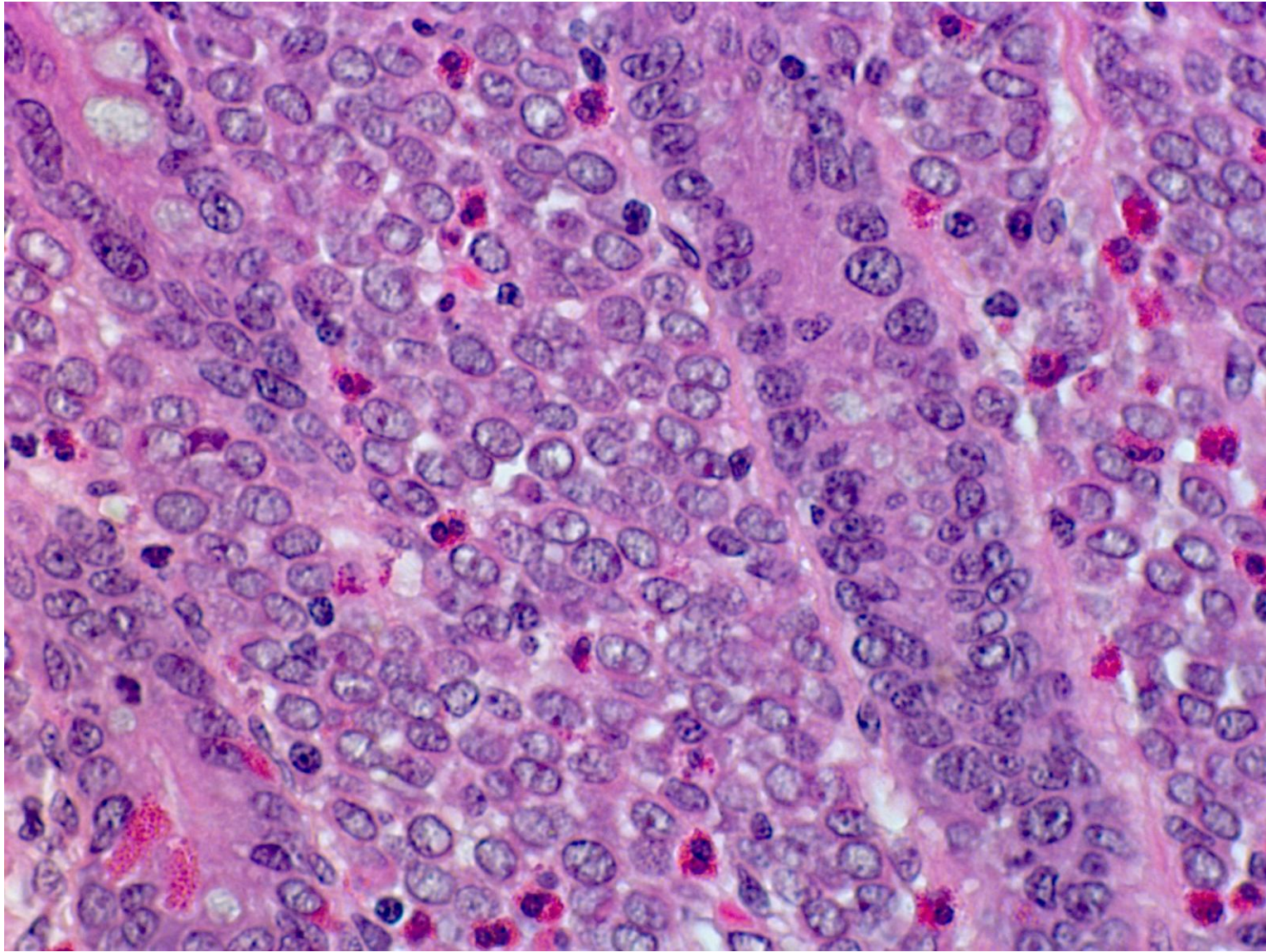
Ref.: Kolosov A, et al. Primary Ewing's sarcoma in a small intestine - a case report and review of the literature. BMC Surg 2020; 20(1): 113. doi: 10.1186/s12893-020-00774-z



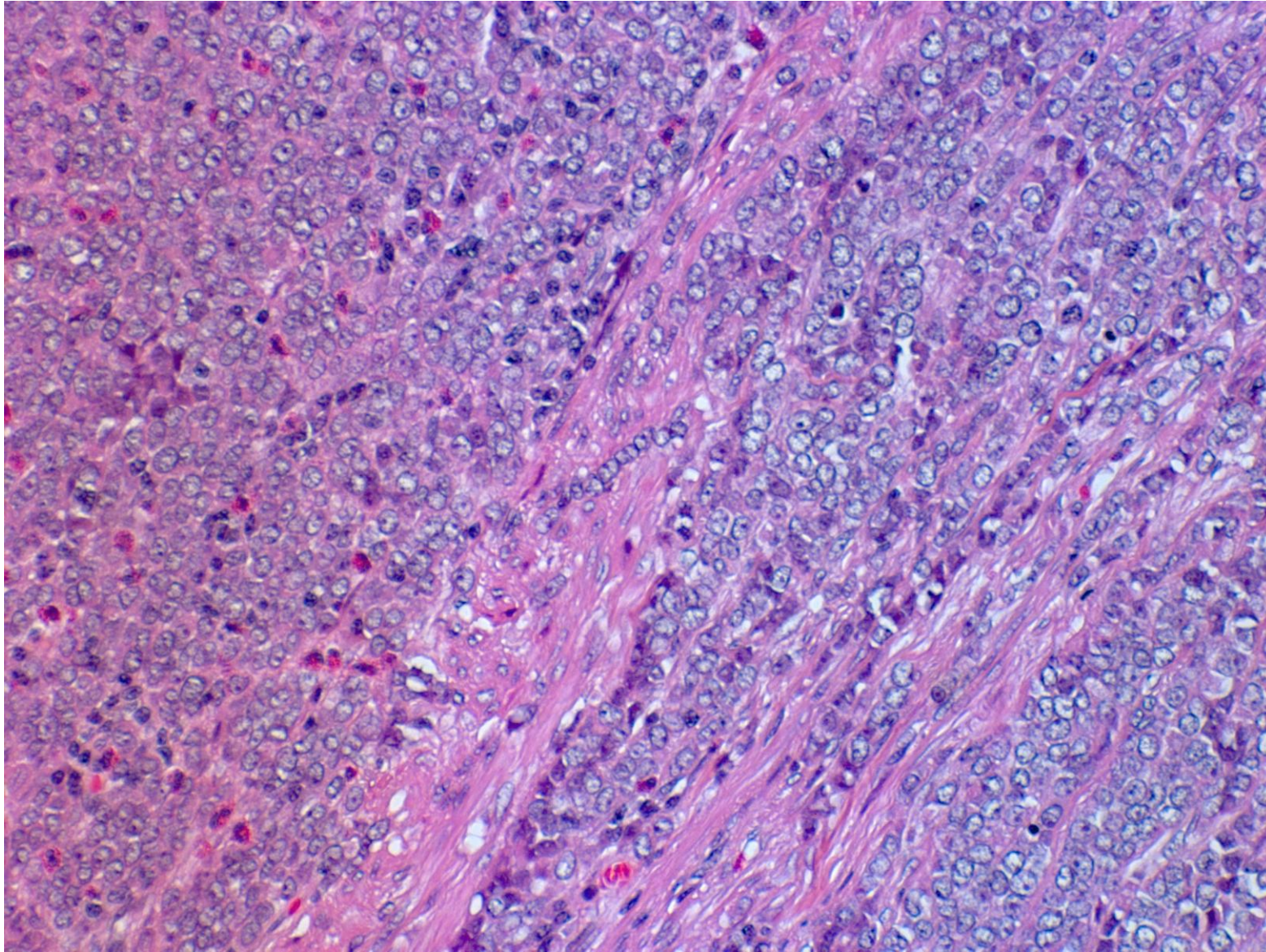
Ewing sarcoma of the small intestine seen in a 48 y-o female patient. Small round tumor cells densely grow both in the mucosa and in the submucosal layer (H&E-1).



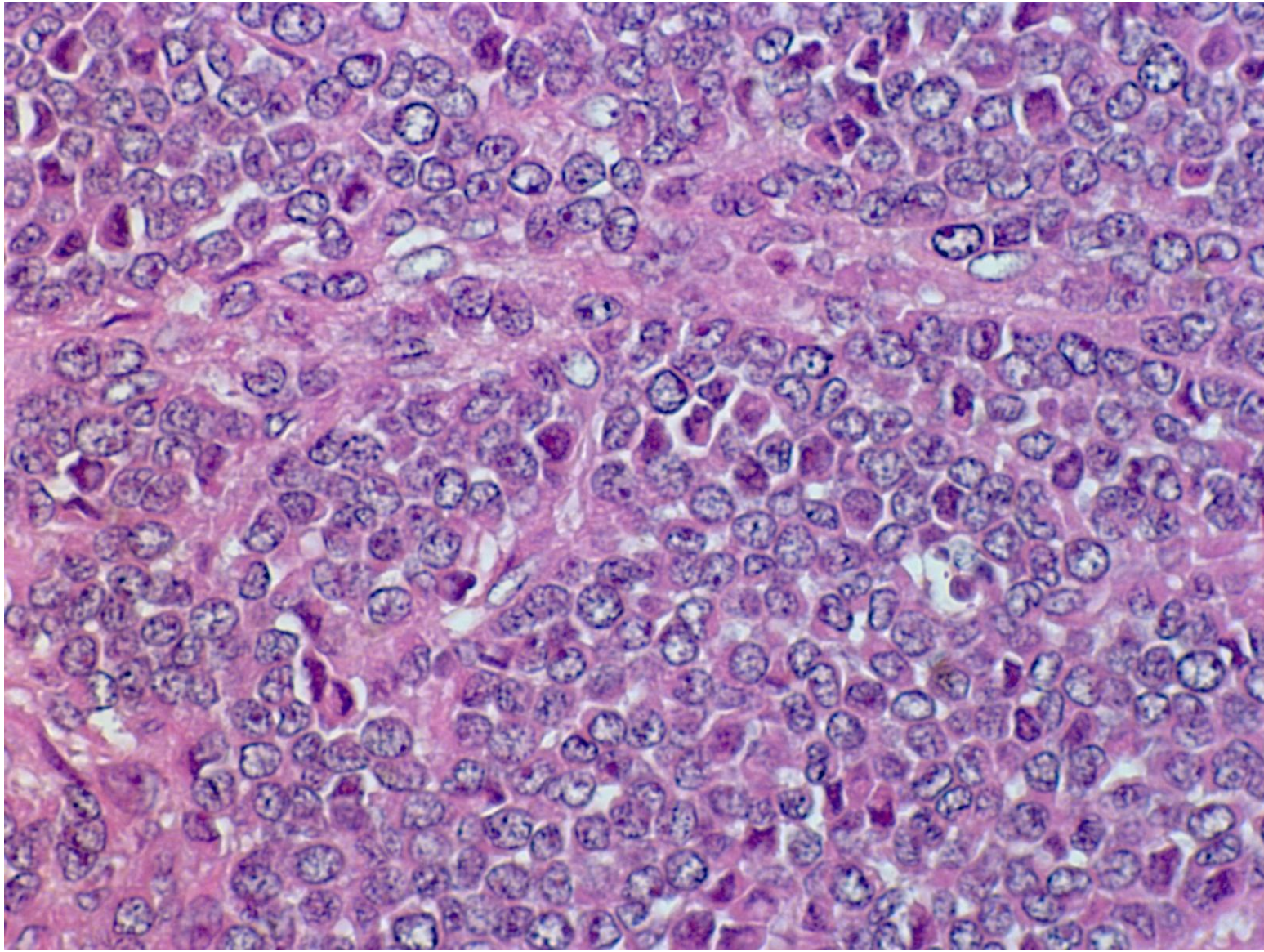
Ewing sarcoma of the small intestine seen in a 48 y-o female patient. Small round tumor cells densely grow in the lamina propria mucosae. Eosinophilic infiltration is associated (H&E-2).



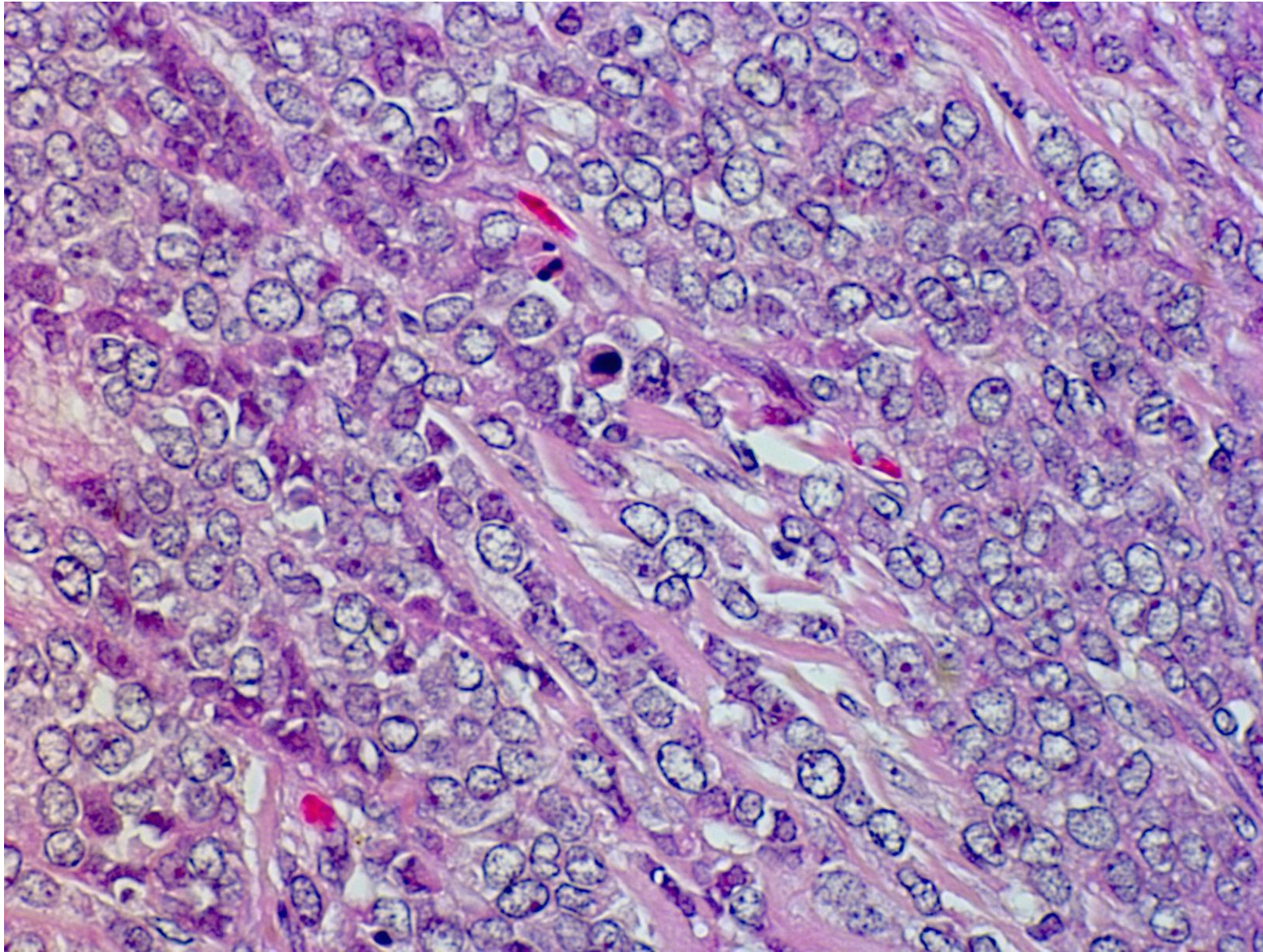
Ewing sarcoma of the small intestine seen in a 48 y-o female patient. Small round tumor cells densely grow in the lamina propria mucosae. Eosinophilic infiltration is associated (H&E-3).



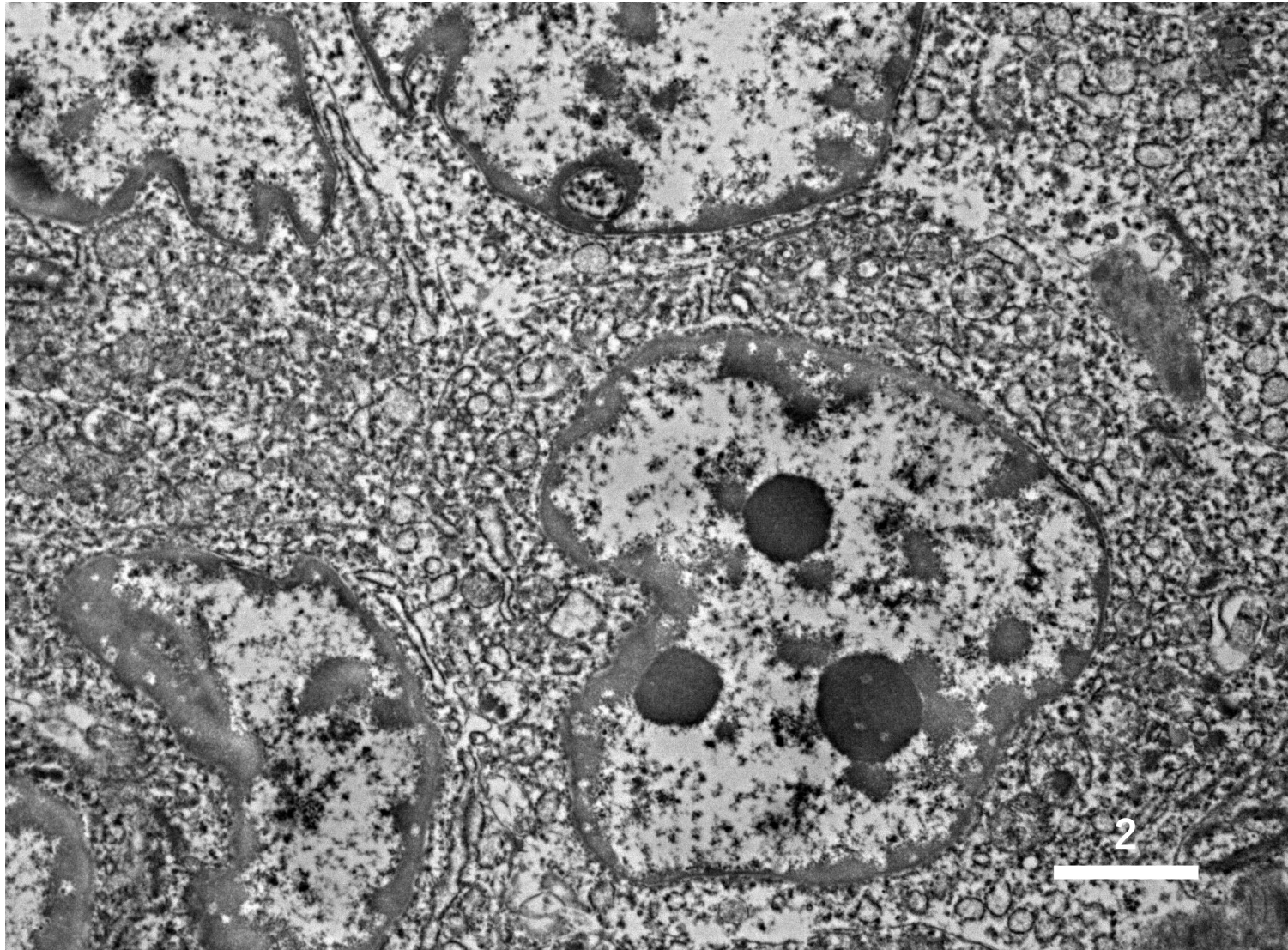
Ewing sarcoma of the small intestine seen in a 48 y-o female patient. Small round tumor cells densely grow in the proper muscle layer. Eosinophilic infiltration is mildly associated (H&E-4).



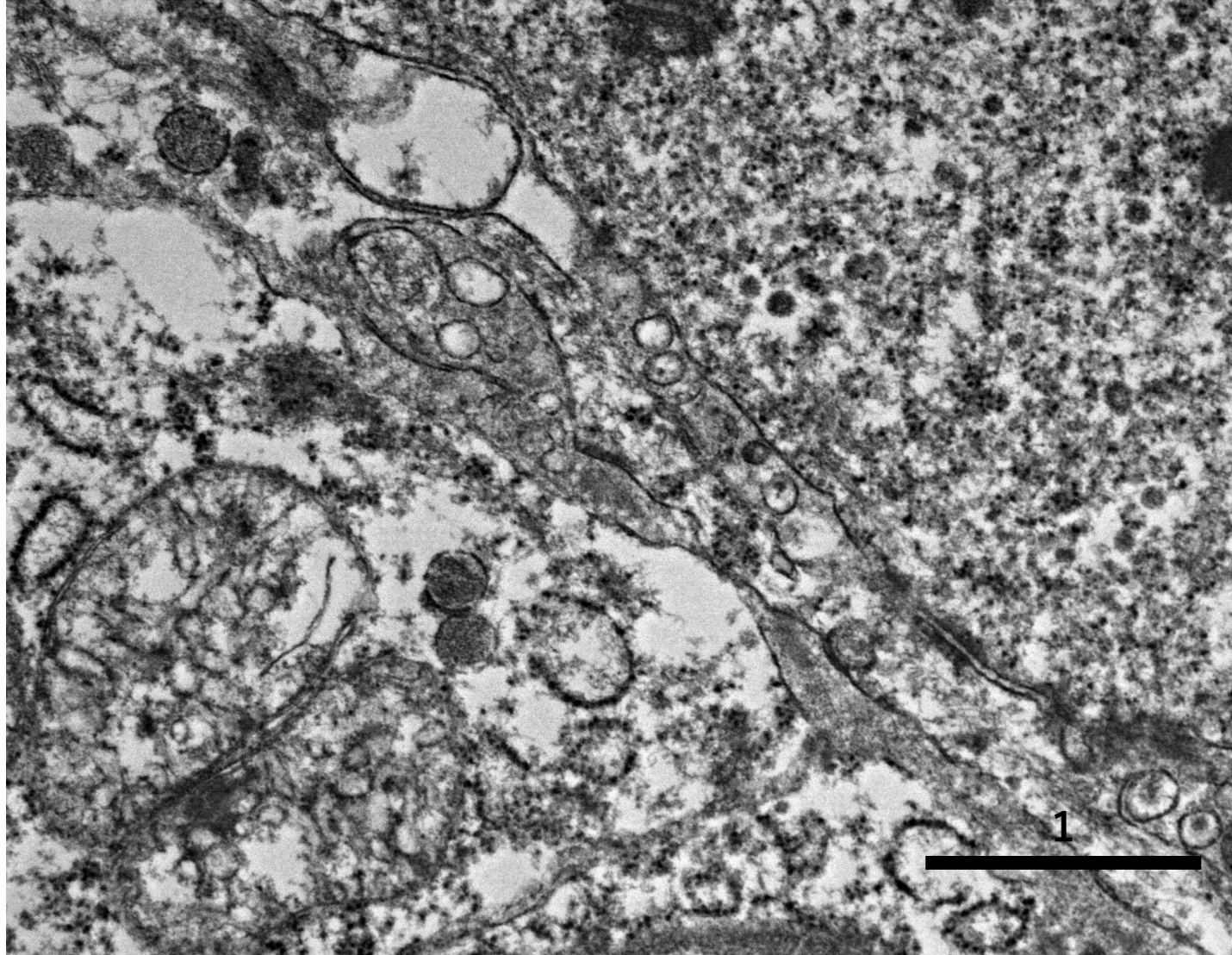
Ewing sarcoma of the small intestine seen in a 48 y-o female patient. Small round tumor cells possess monomorphous nuclei and scanty eosinophilic cytoplasm. Mitoses are scattered (H&E-5).



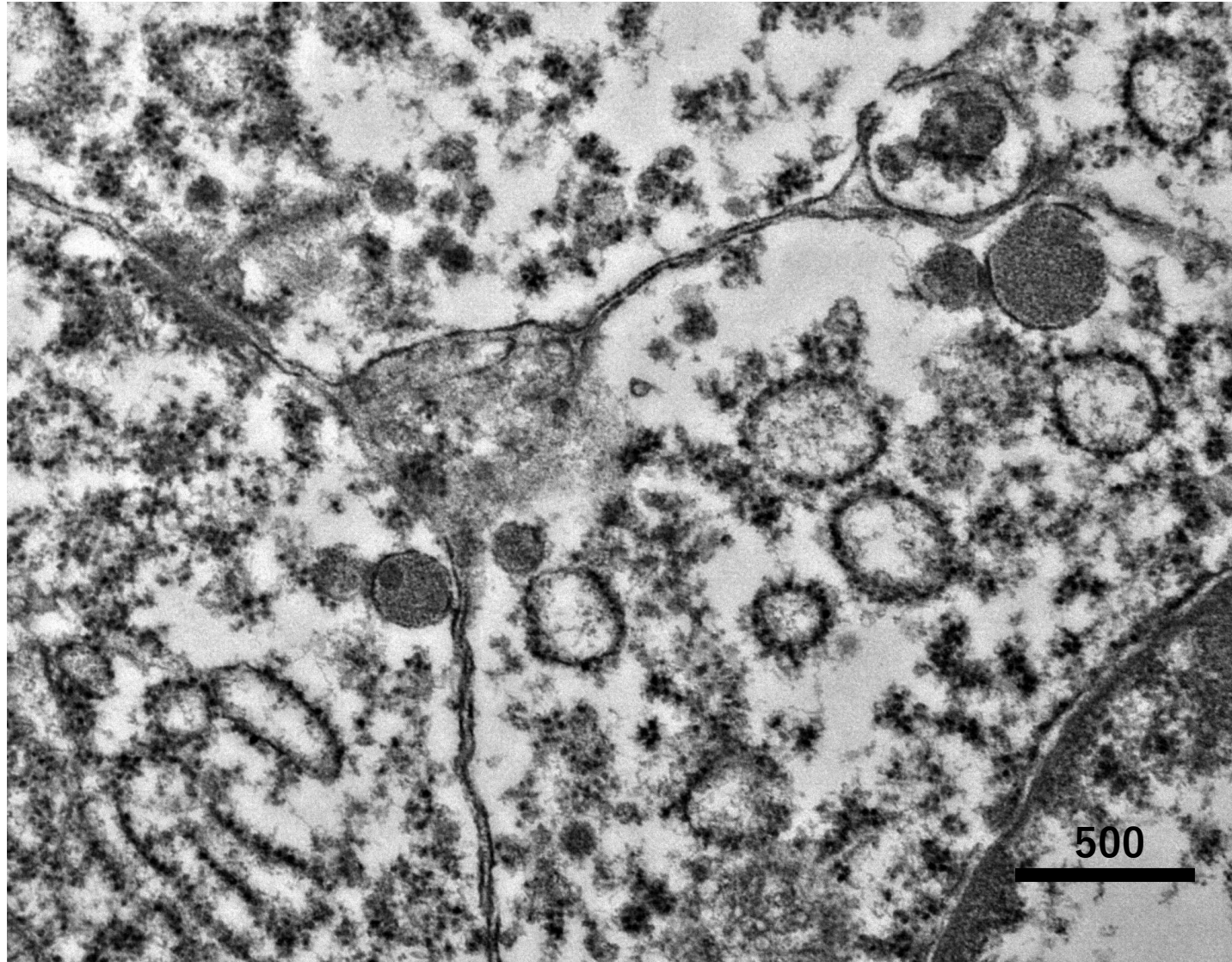
Ewing sarcoma of the small intestine seen in a 48 y-o female patient. Small round tumor cells possess monomorphous nuclei and scanty eosinophilic cytoplasm. Mitoses are scattered (H&E-6).



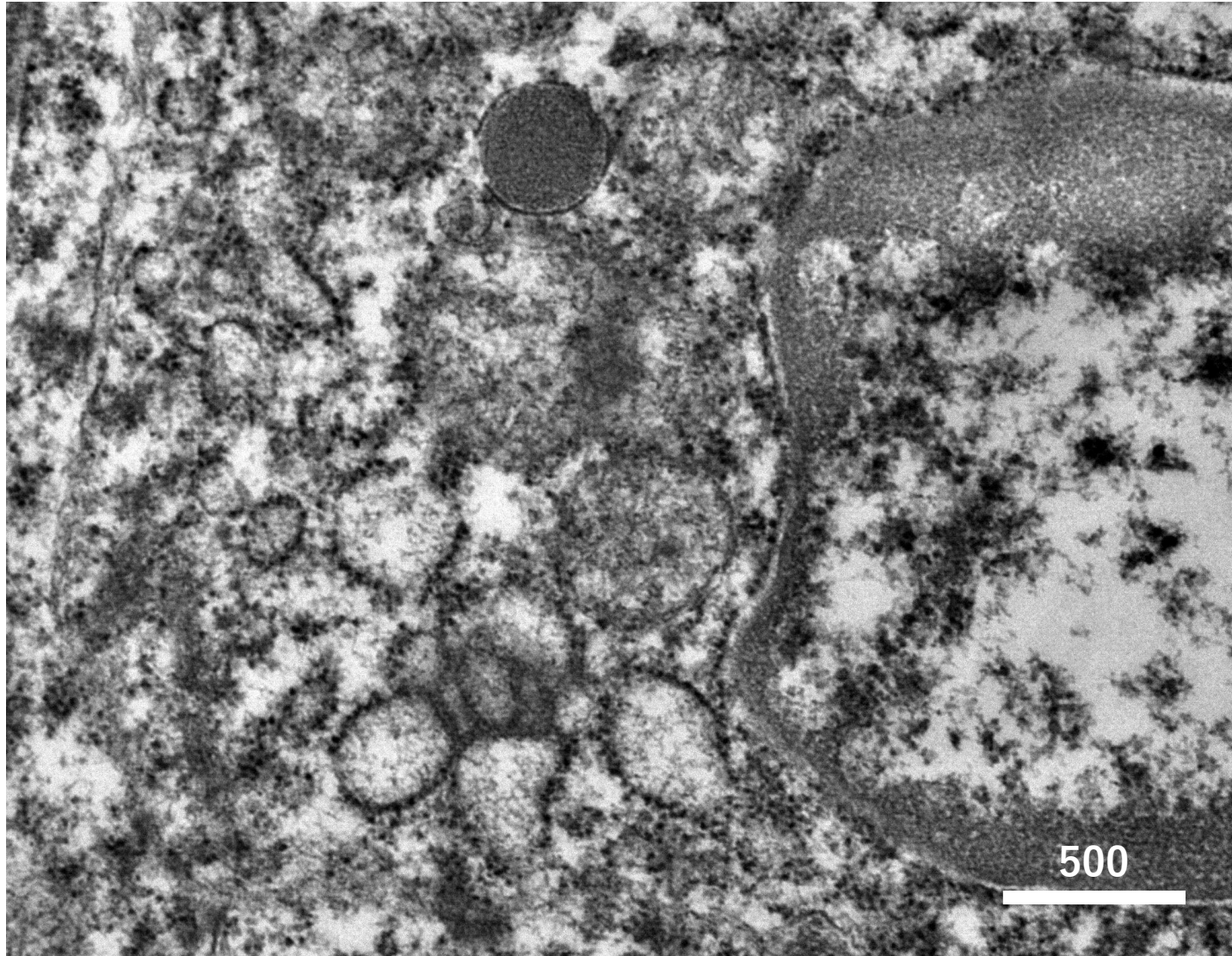
Ultrastructure of Ewing sarcoma of the small intestine seen in a 48 y-o female patient. The cytoplasm of the small round tumor cells is filled with small vesicles. The nuclei contain small nucleoli (TEM-1).



Ultrastructure of Ewing sarcoma of the small intestine seen in a 48 y-o female patient. In the cytoplasm of the small round tumor cells, a few neuroendocrine-type granules measuring 150-370 nm (mean: 260 nm) are dispersed. Desmosomal junctions are observed (TEM-2).



Ultrastructure of Ewing sarcoma of the small intestine seen in a 48 y-o female patient. In the cytoplasm of the small round tumor cells, a few neuroendocrine-type granules measuring 150-370 nm (mean: 260 nm) are dispersed. Desmosomal junctions are observed (TEM-3).



Ultrastructure of Ewing sarcoma of the small intestine seen in a 48 y-o female patient. In the cytoplasm of the small round tumor cells, a few neuroendocrine-type granules measuring 150-370 nm (mean: 260 nm) are dispersed (TEM-4).