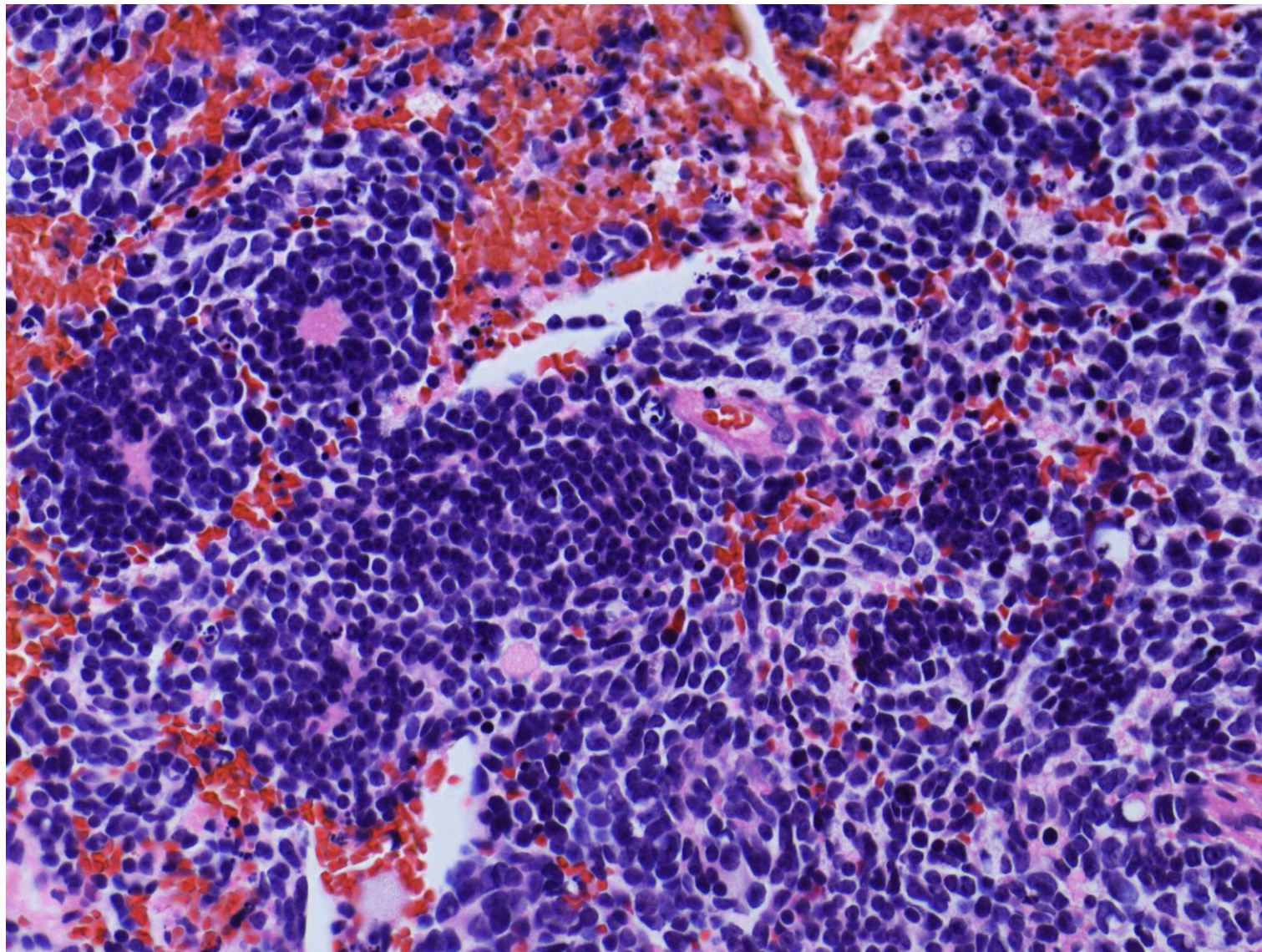


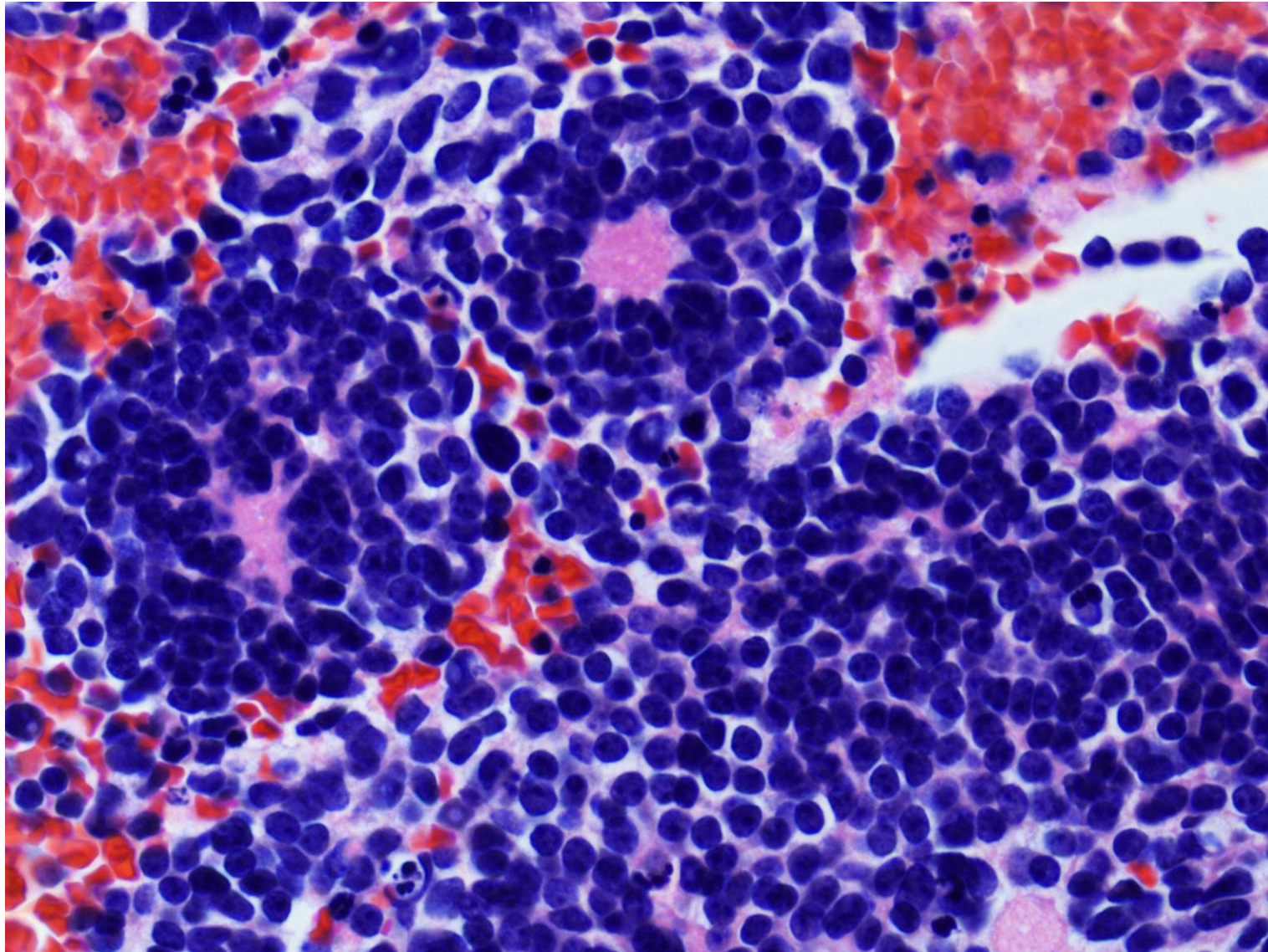
Medulloblastoma, an ultrastructural study

Medulloblastoma is a malignant embryonal tumor of the cerebellum in children, predominantly with neuronal differentiation. The peak incidence is seen between the age of 3 and 7 years. Immature neuroblastic cells often form Homer Wright rosettes. Cytologic pleomorphism is minimal. Desmoplastic or nodular variants may be encountered. Ultrastructurally, the presence of developing axons and synapse devices can be the hallmark of neuronal differentiation. Glial differentiation is scarcely observed. Light and electron microscopic features of a representative lesion of medulloblastoma biopsied from a 13 y-o girl is demonstrated.

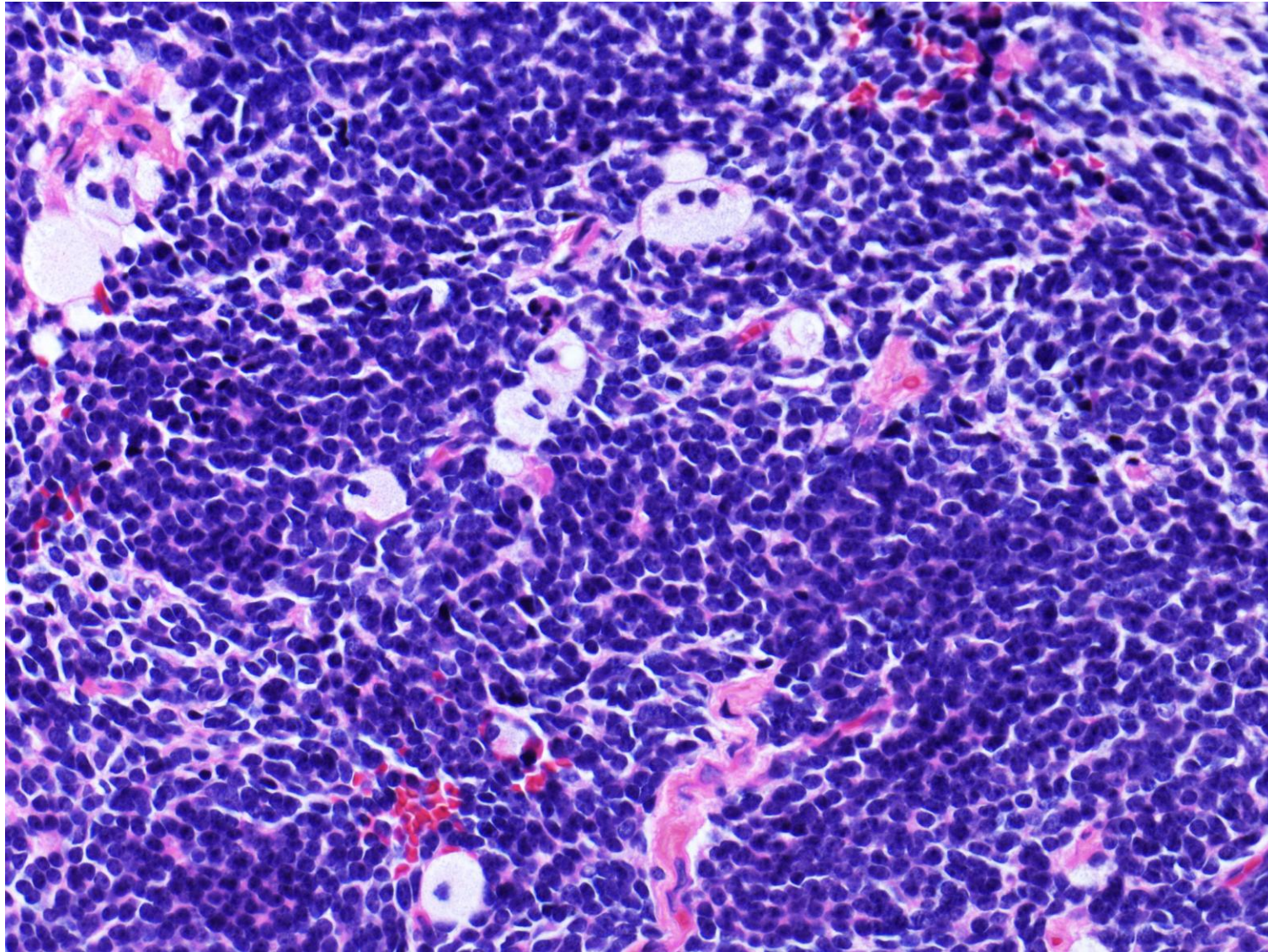
Ref.: Yagishita S. Electron microscopy of cerebellar neuroblastoma-medulloblastoma group. Prog Neuro-Oncol 2010; 19 (1): 49-53. doi: 10.11452/neurooncology.19.1_49



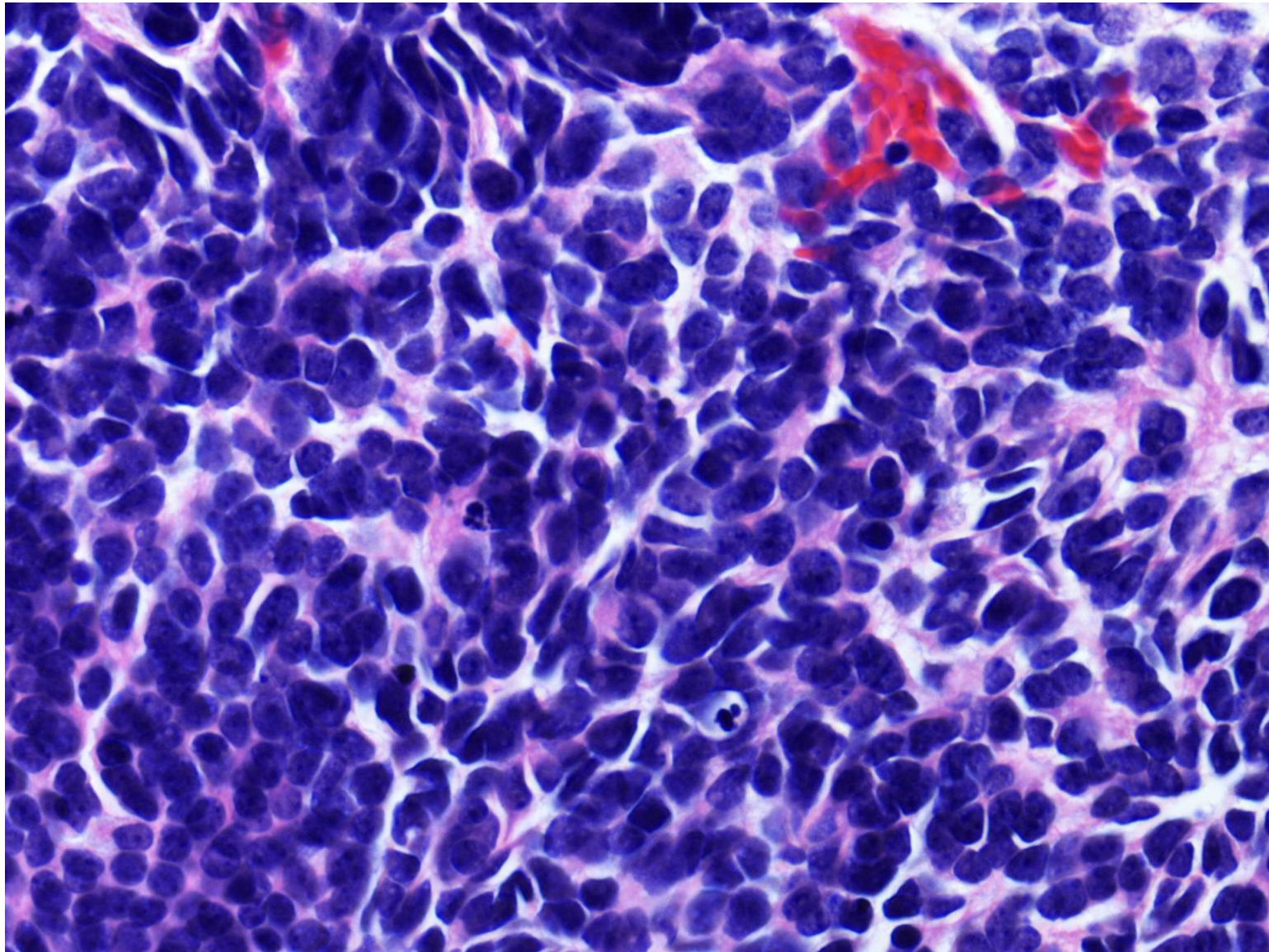
Medulloblastoma of the cerebellar vermis of a 13 y-o girl. Small-sized tumor cells with hyperchromatic nuclei and scanty cytoplasm show medullary growth with formation of cell clusters accompanying Homer-Wright rosettes (H&E-1).



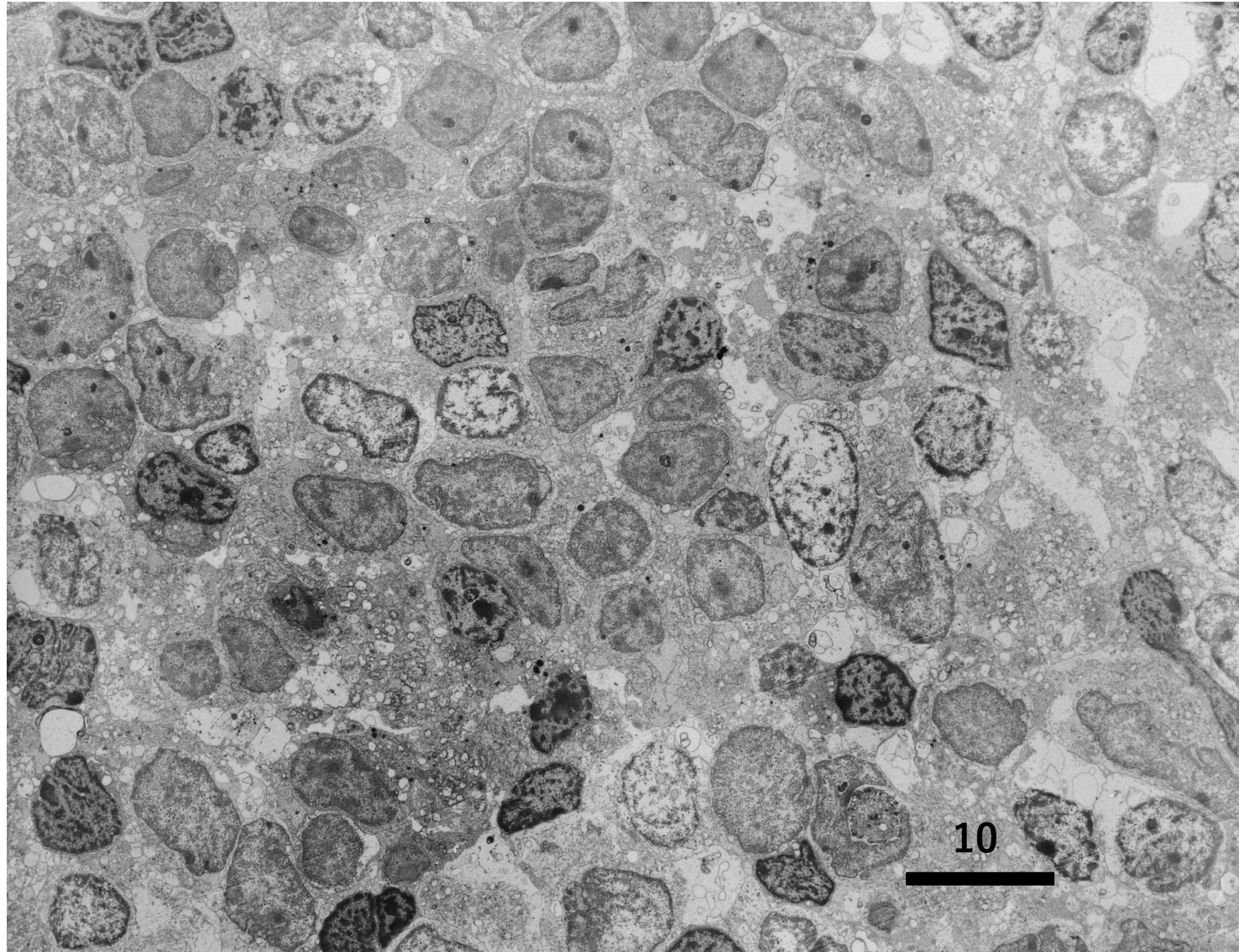
Medulloblastoma of the cerebellar vermis of a 13 y-o girl. Small-sized tumor cells with hyperchromatic nuclei and scanty cytoplasm show medullary growth with formation of cell clusters accompanying Homer-Wright rosettes (H&E-2).



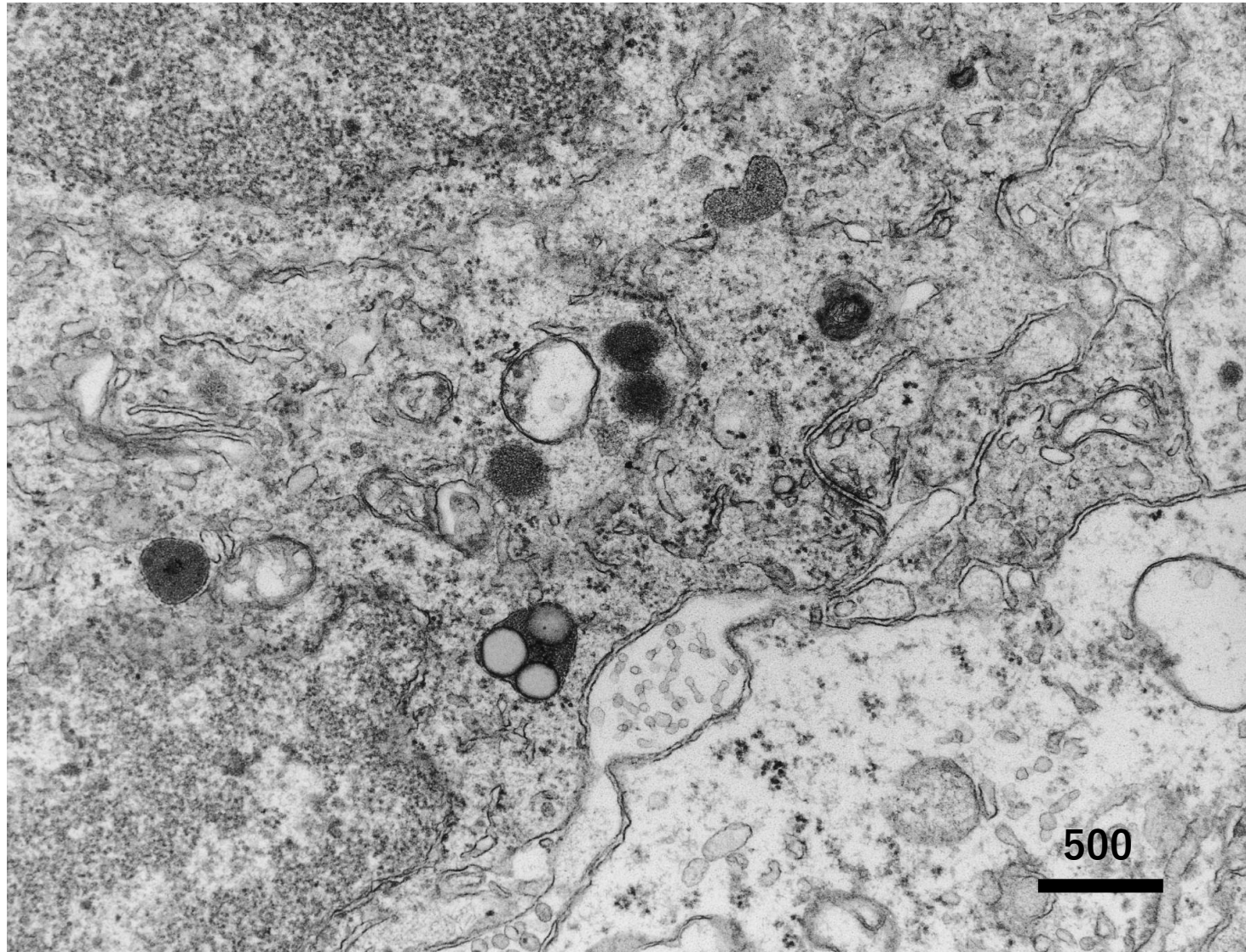
Medulloblastoma of the cerebellar vermis of a 13 y-o girl. Small-sized tumor cells with hyperchromatic nuclei and scanty cytoplasm show a medullary growth pattern. Foamy cells are scattered among the tumor cells (H&E-3).



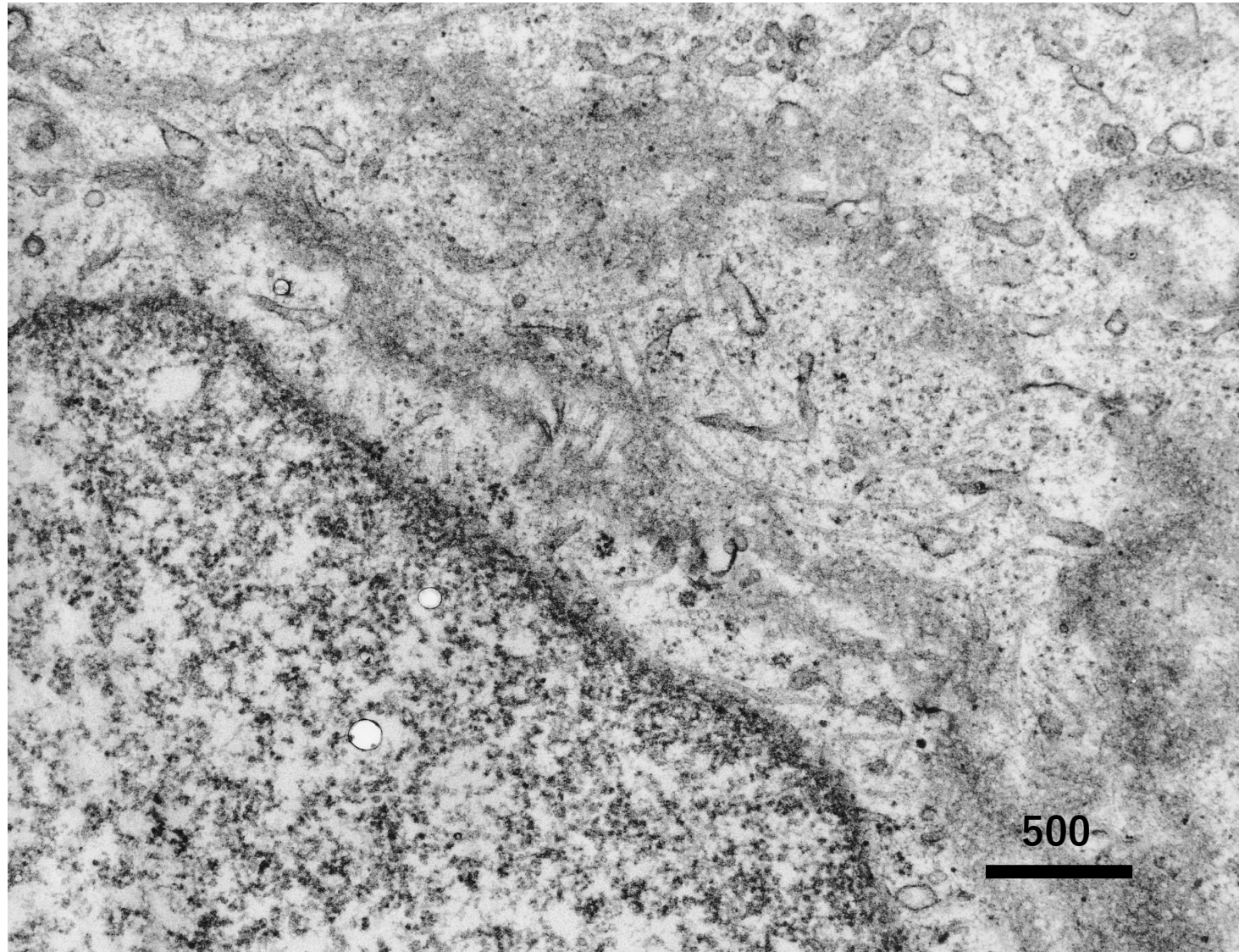
Medulloblastoma of the cerebellar vermis of a 13 y-o girl. Small-sized tumor cells with hyperchromatic nuclei and scanty cytoplasm show a medullary growth pattern. Mitoses are infrequent, while apoptotic bodies are scattered (H&E-4).



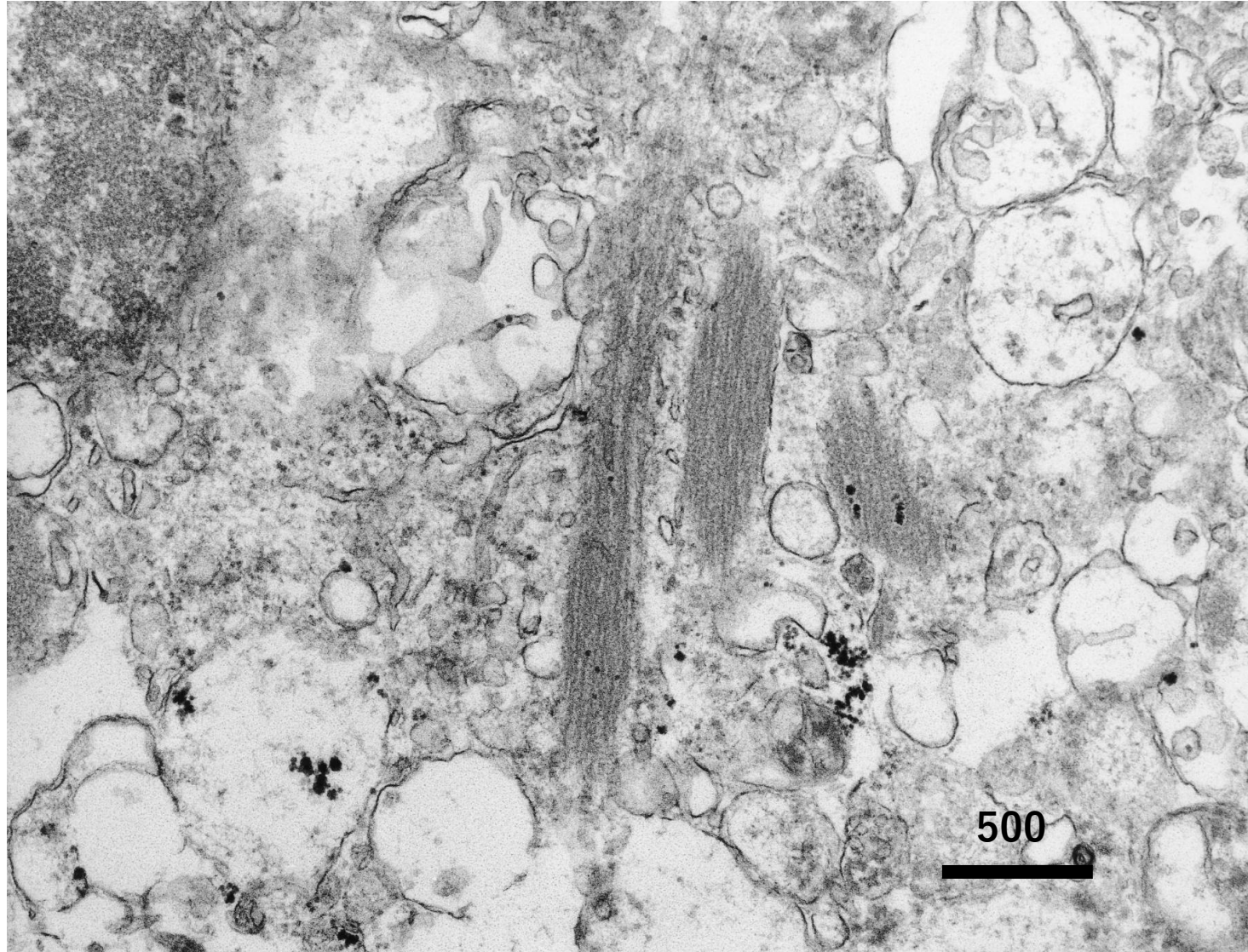
Ultrastructure of medulloblastoma of the cerebellar vermis seen in a 13 y-o girl. Small-sized tumor cells possess round to oval nuclei with small nucleoli. Nuclear indentation is focally associated. A Homer-Wright rosette is formed (EM-1).



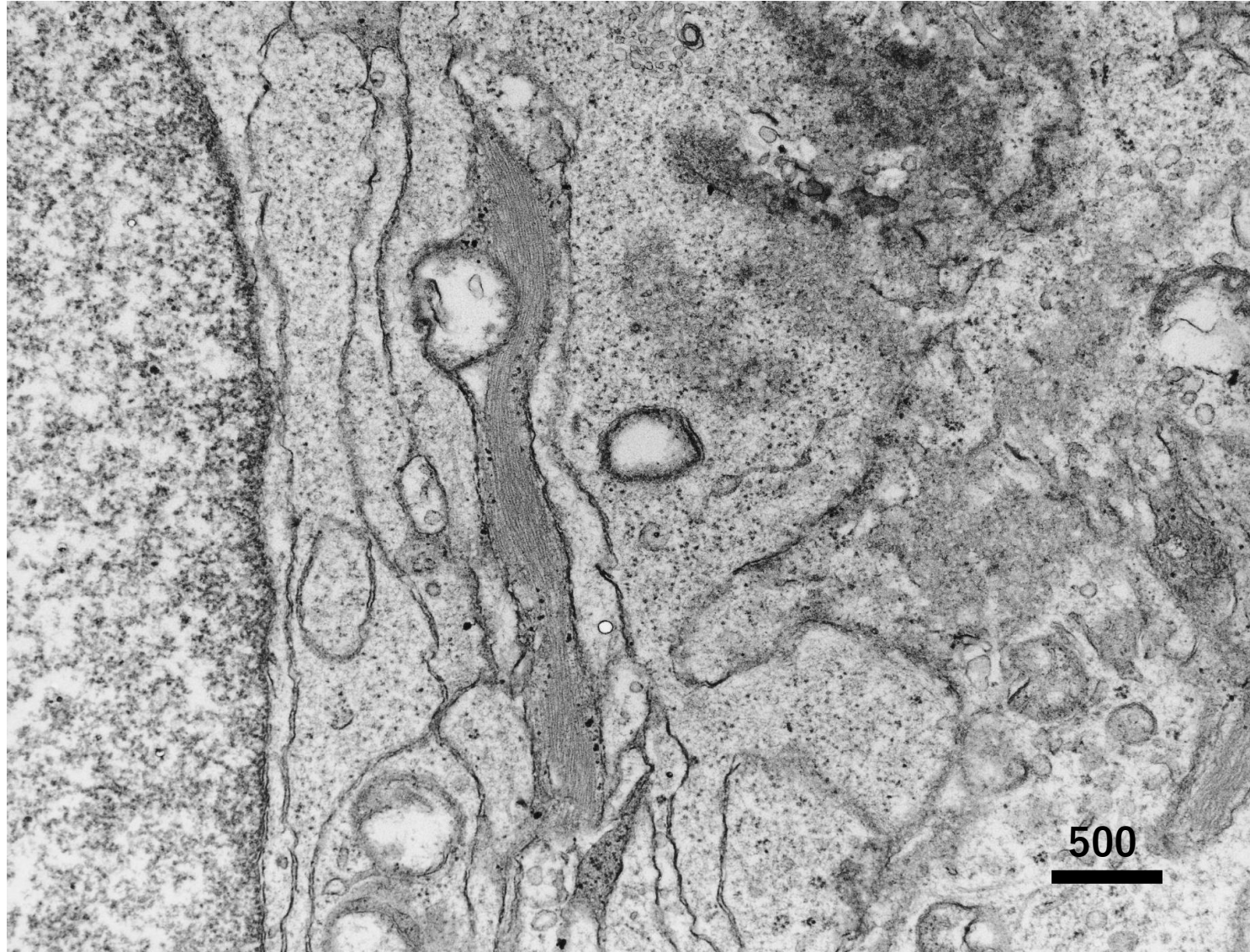
Ultrastructure of medulloblastoma of the cerebellar vermis seen in a 13 y-o girl. The tumor cells possess neuroendocrine-type granules, around 200 nm in size. Synaptic vesicle-like structures are observed (EM-2).



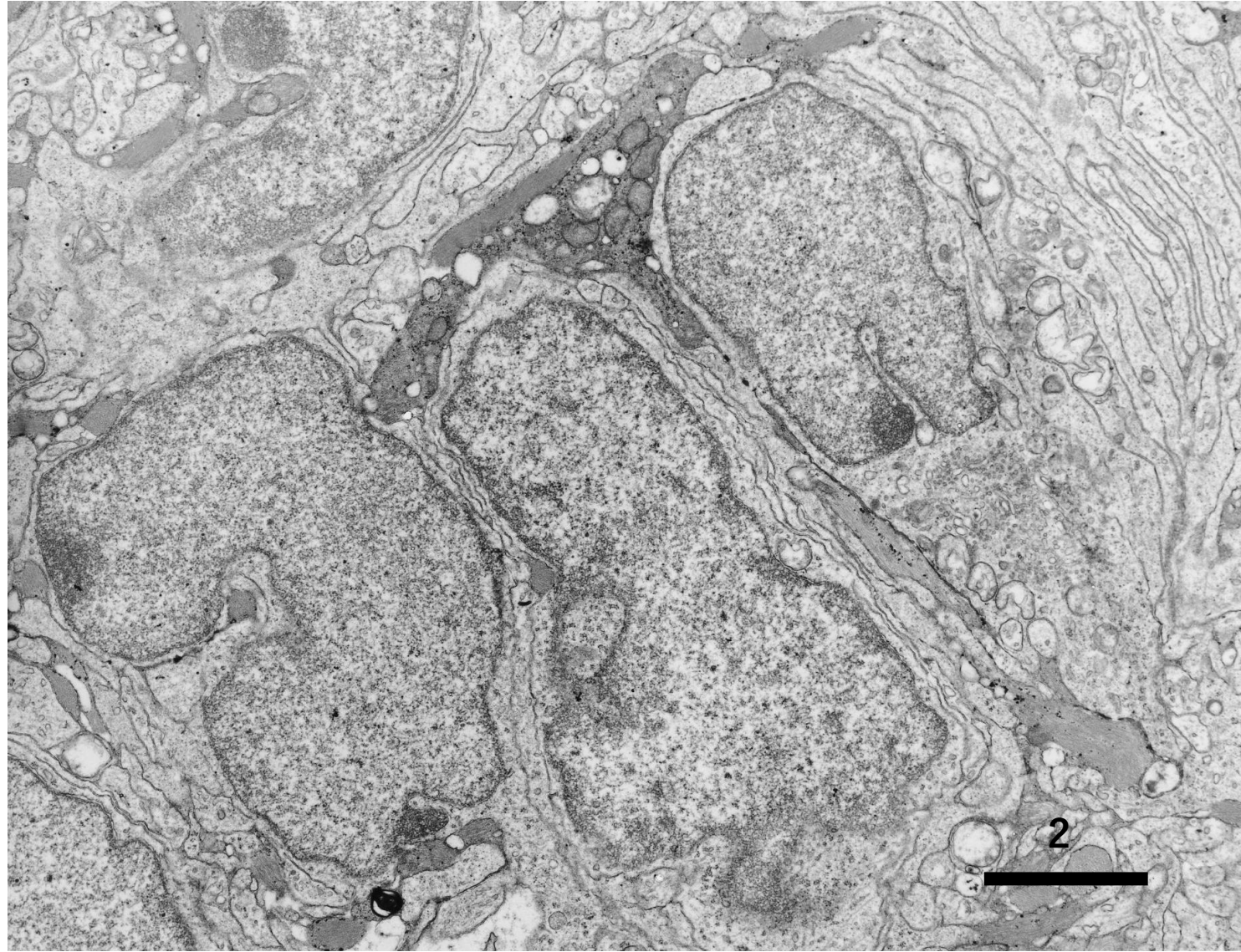
Ultrastructure of medulloblastoma of the cerebellar vermis seen in a 13 y-o girl. Elongated neurotubules are scattered in the cytoplasm of the tumor cell (EM-3).



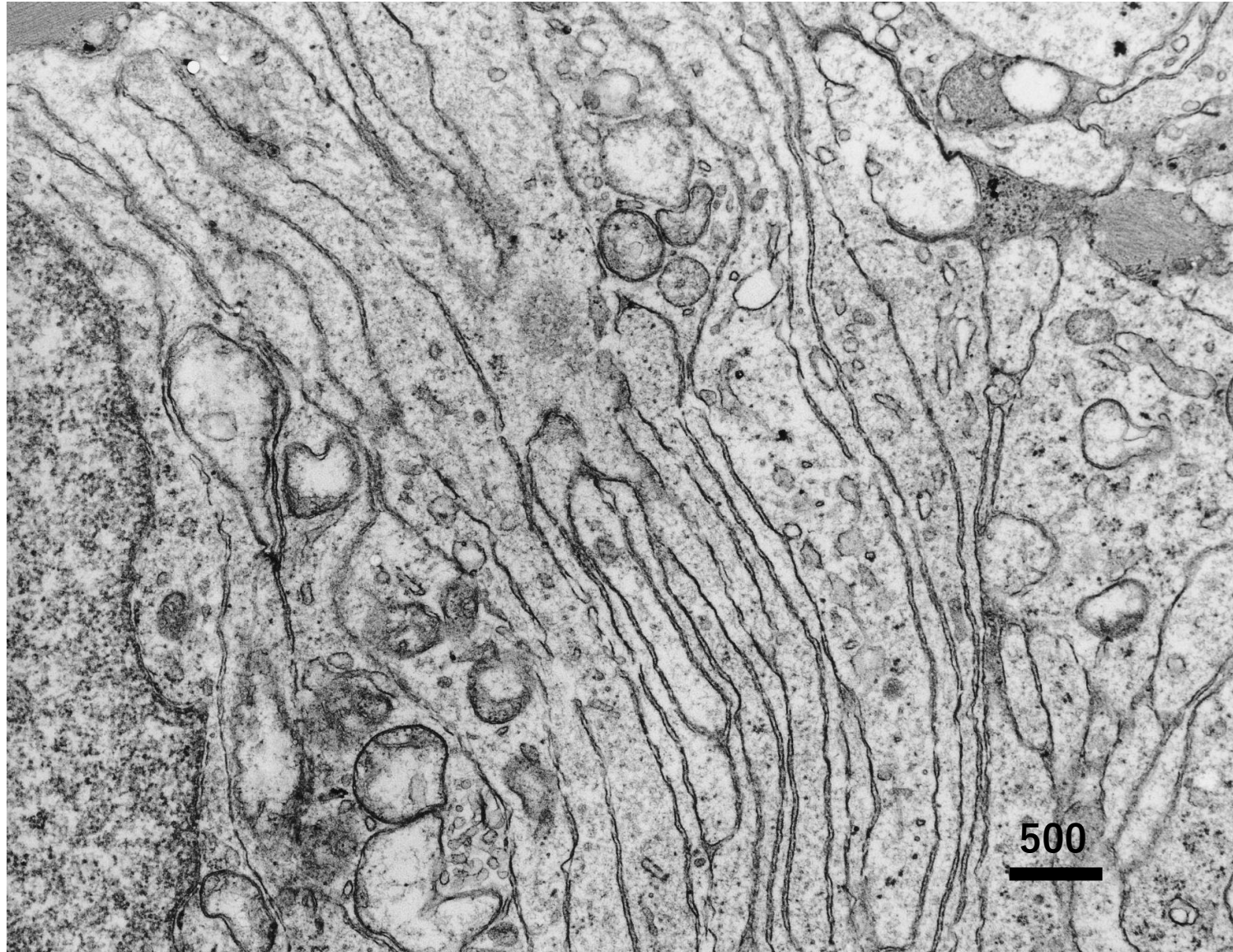
Ultrastructure of medulloblastoma of the cerebellar vermis seen in a 13 y-o girl. The tumor cells possess bundles of neurotubules in the cytoplasm (EM-4).



Ultrastructure of medulloblastoma of the cerebellar vermis seen in a 13 y-o girl. The tumor cells form fine interdigitating cytoplasmic processes, and a bundle of neurotubules is accumulated, to form an axon-like structure (EM-5).



Ultrastructure of medulloblastoma of the cerebellar vermis seen in a 13 y-o girl. The tumor cells are actively associated with fine interdigitating cytoplasmic processes to form a Homer-Wright rosette (EM-6).



Ultrastructure of medulloblastoma of the cerebellar vermis seen in a 13 y-o girl. In the center of the Homer-Wright rosette, fine interdigitating cytoplasmic processes are accumulated to form a neuropil-like structure (EM-7).