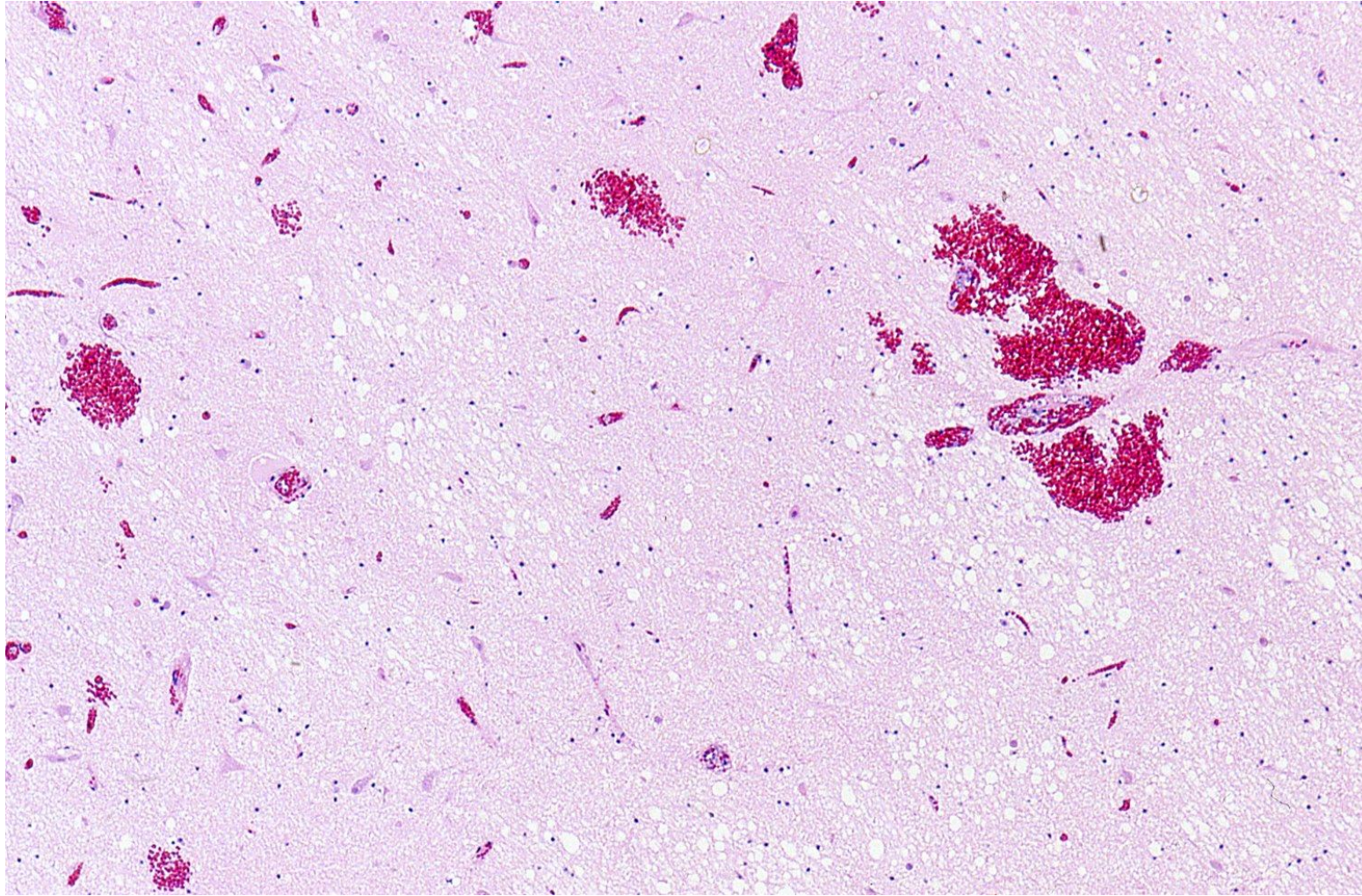


Acute necrotizing encephalopathy

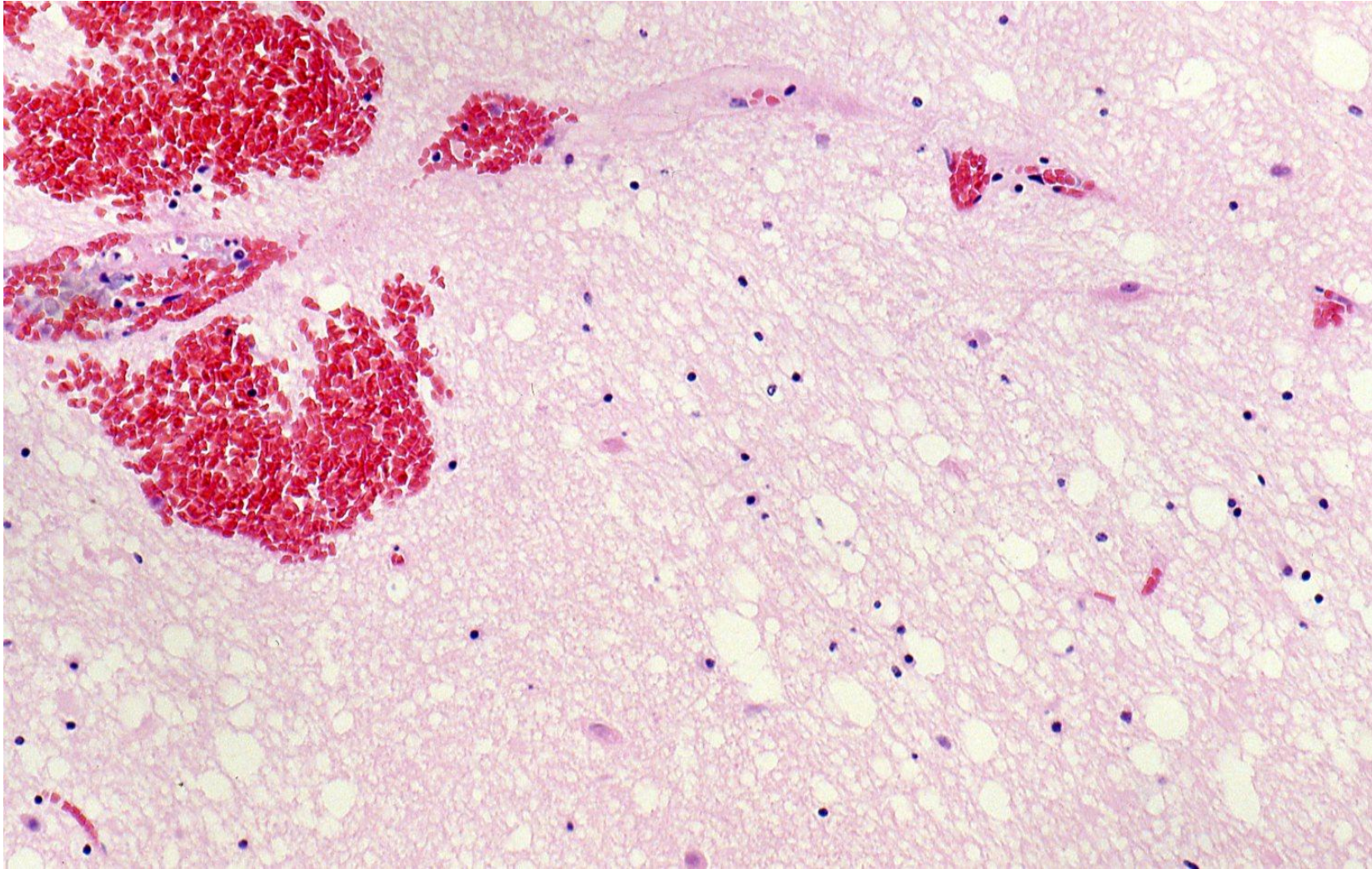
Acute necrotizing encephalopathy (infection-induced acute encephalopathy) occurs in infancy or early childhood, following acute viral infection. Common causal viruses include influenza A, influenza B and human herpes virus 6. Vaccination may also provoke the disease. A few days after flu-like symptoms, seizures, hallucinations, ataxia, and/or abnormal muscle tone develop. Eventually, most affected individuals go into coma. The involved brain reveals edema, hemorrhage and necrosis. There are familial cases with genetic changes in the RANBP2 gene. Exaggerated immune response to viral infections provokes hypercytokinemia (cytokine storms) resembling systemic inflammatory response syndrome. It is different from acute viral encephalitis.



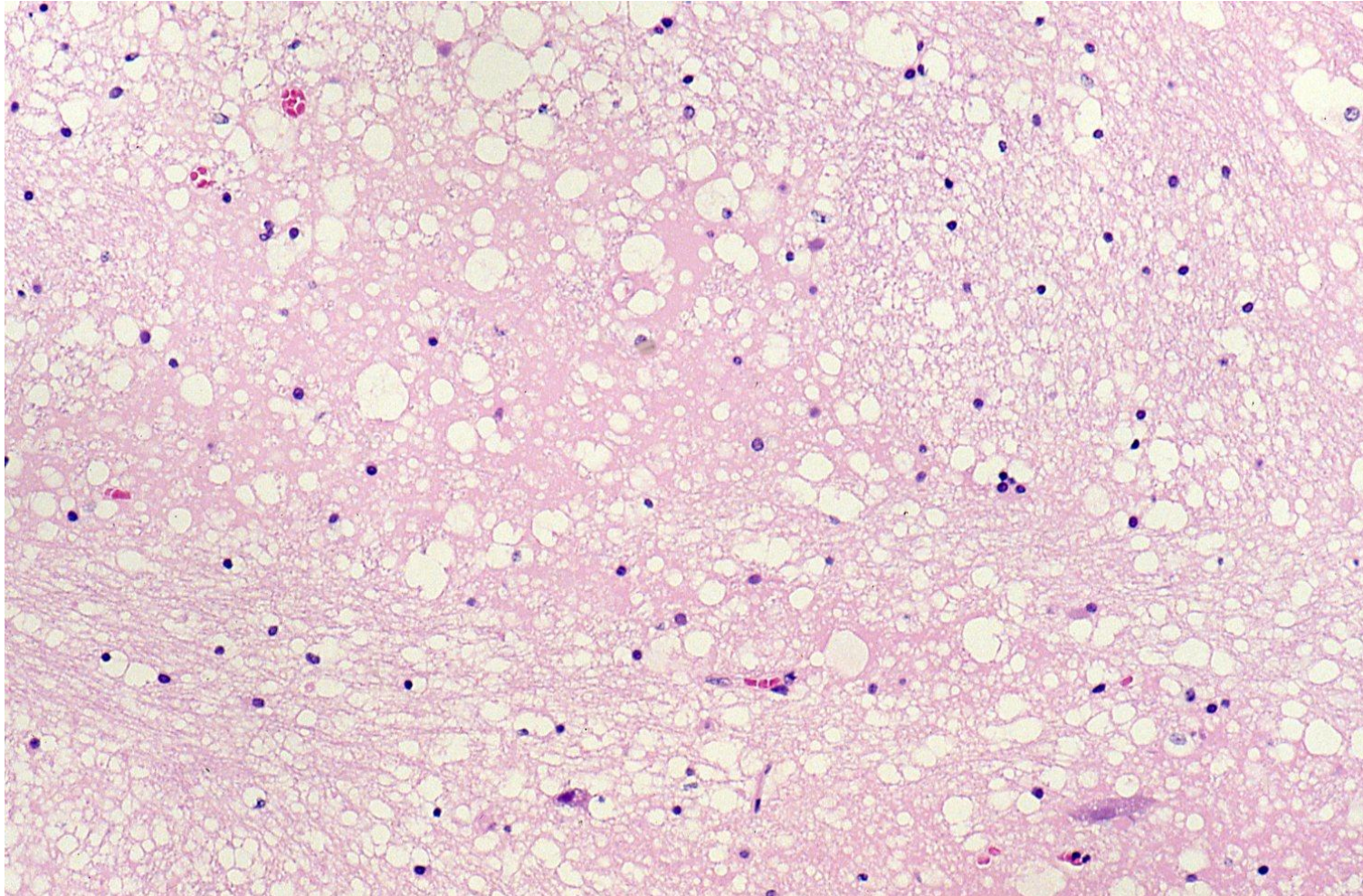
Acute necrotizing encephalopathy of childhood. A horizontal cut surface of the brain of a 1-year-old boy is demonstrated. The brain was swollen, weighing 1,155 g. Bilateral thalami symmetrically show petechiae. The disease was provoked by DPT vaccination.



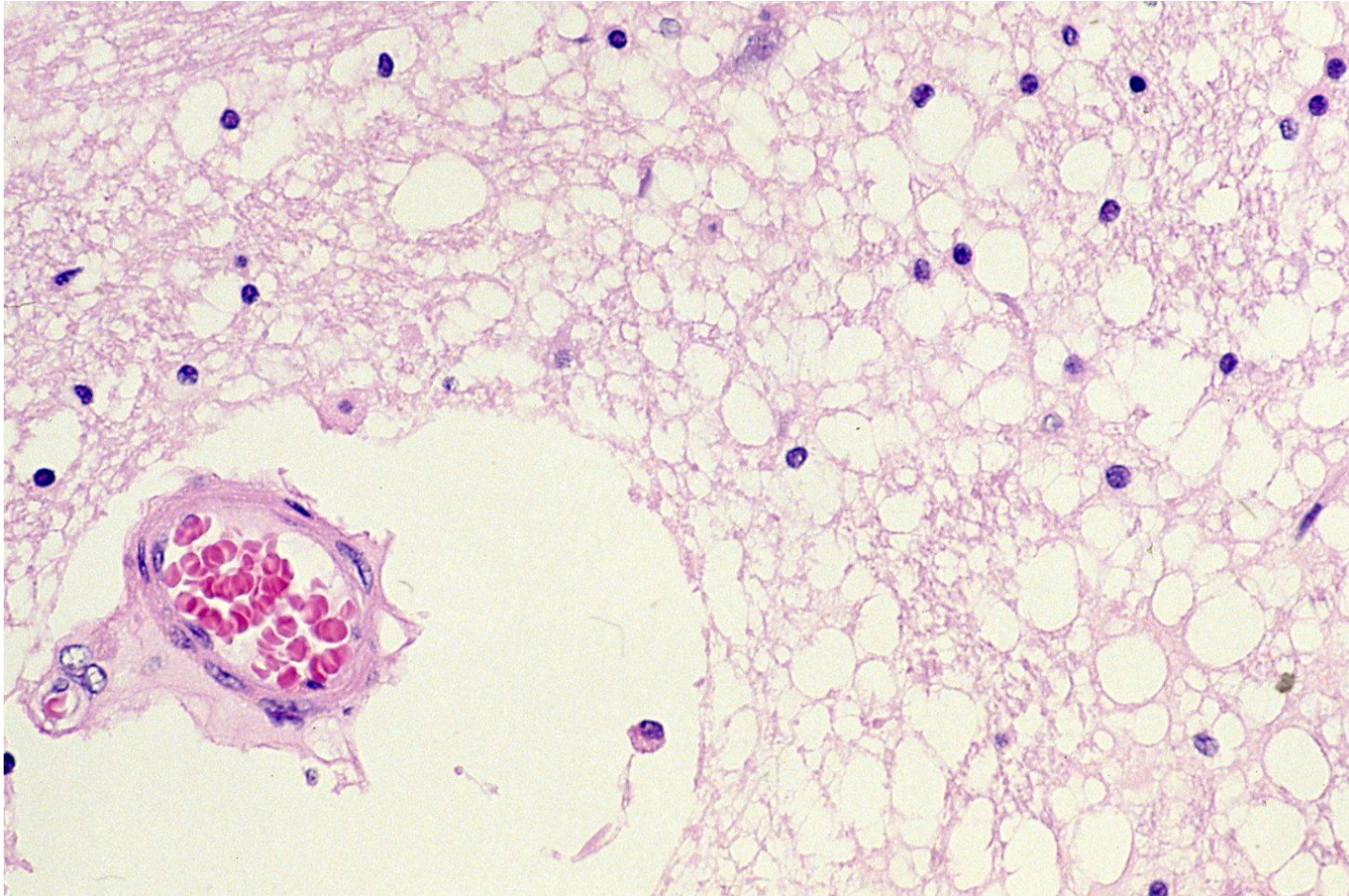
Acute necrotizing encephalopathy seen in a 1-year-old boy. The thalamus reveals multifocal perivascular fresh hemorrhage. Edematous change with spongy appearance is also noted in the thalamic parenchyma. H&E-1



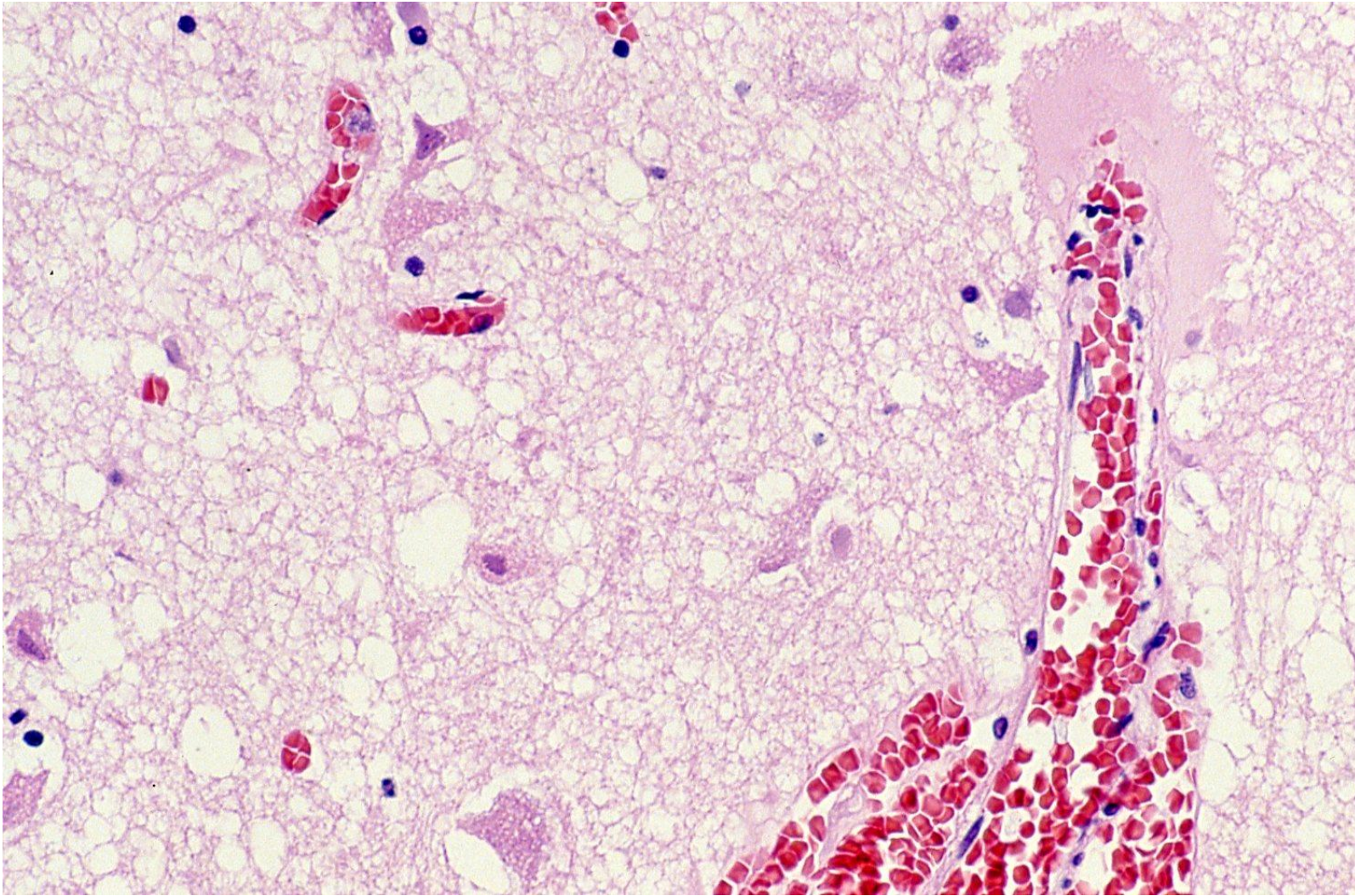
Acute necrotizing encephalopathy seen in a 1-year-old boy. The thalamus reveals multifocal perivascular fresh hemorrhage. Edematous change with spongy appearance is also noted in the thalamic parenchyma. H&E-2



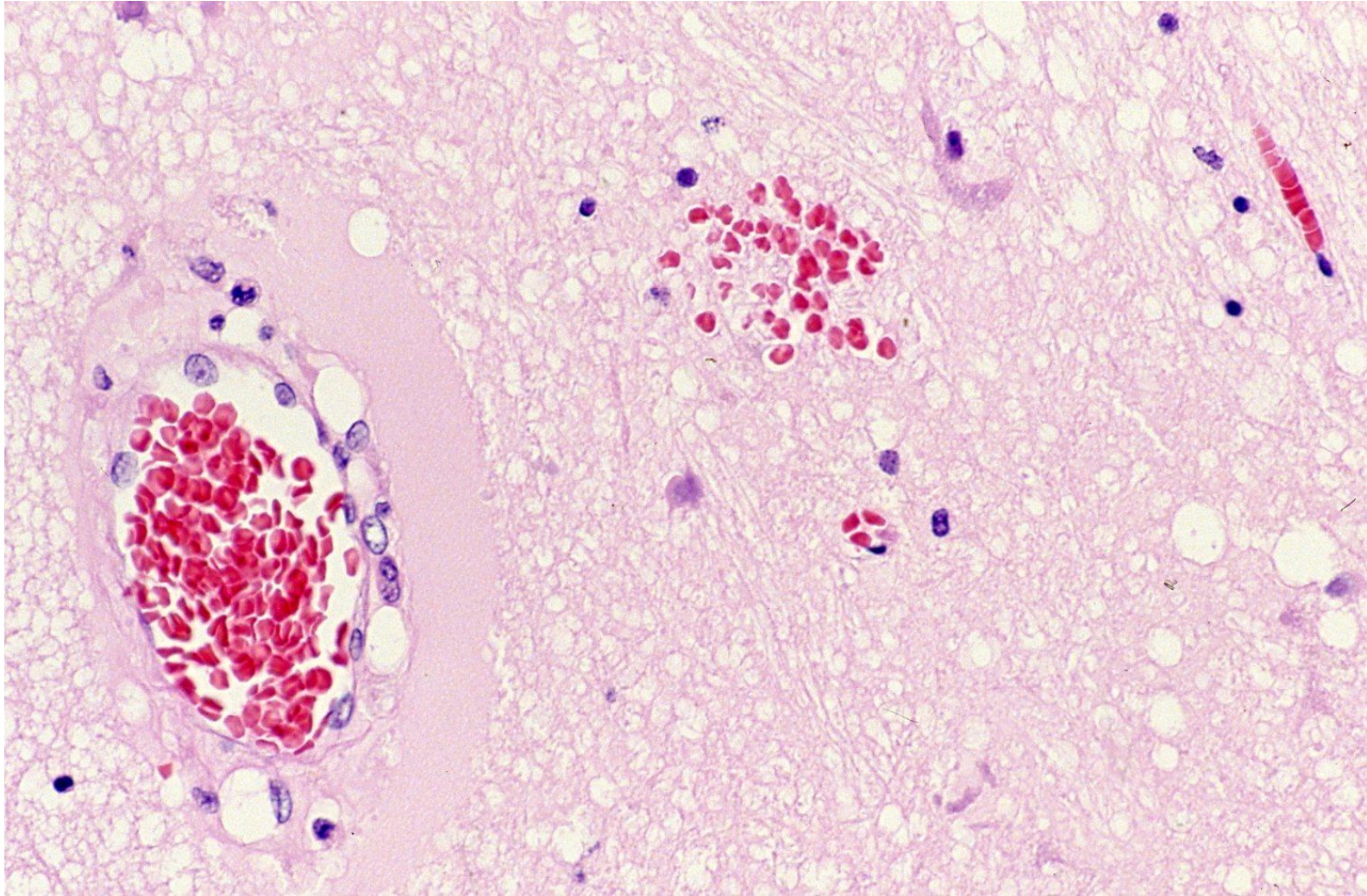
Acute necrotizing encephalopathy seen in a 1-year-old. The thalamus reveals marked edematous change with spongy appearance in the thalamic parenchyma. No inflammatory change is discerned. H&E-3



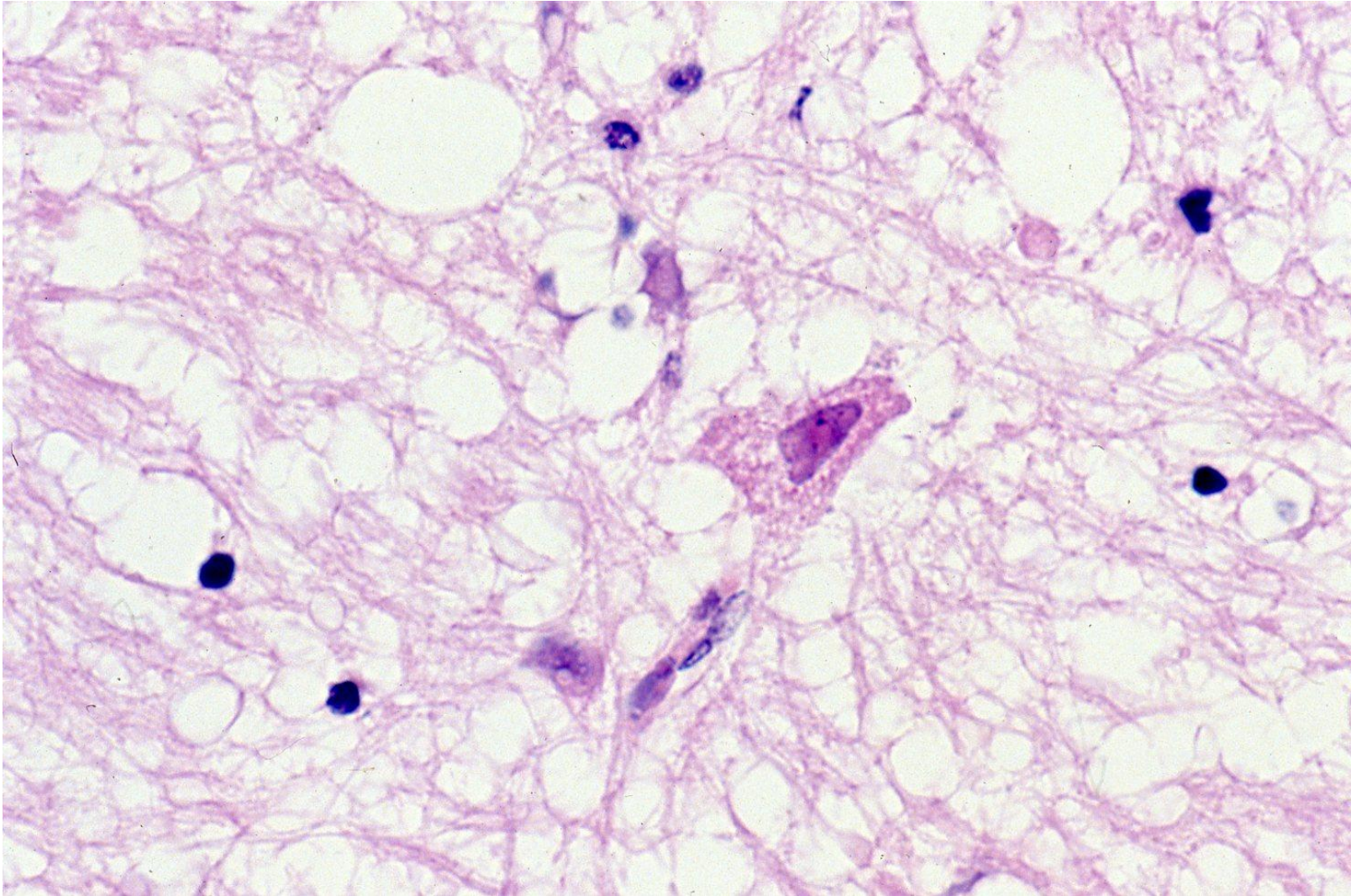
Acute necrotizing encephalopathy seen in a 1-year-old boy. The thalamus reveals marked edematous change with spongy appearance in the thalamic parenchyma. Pyknotic change of the glial nuclei is noted. H&E-4



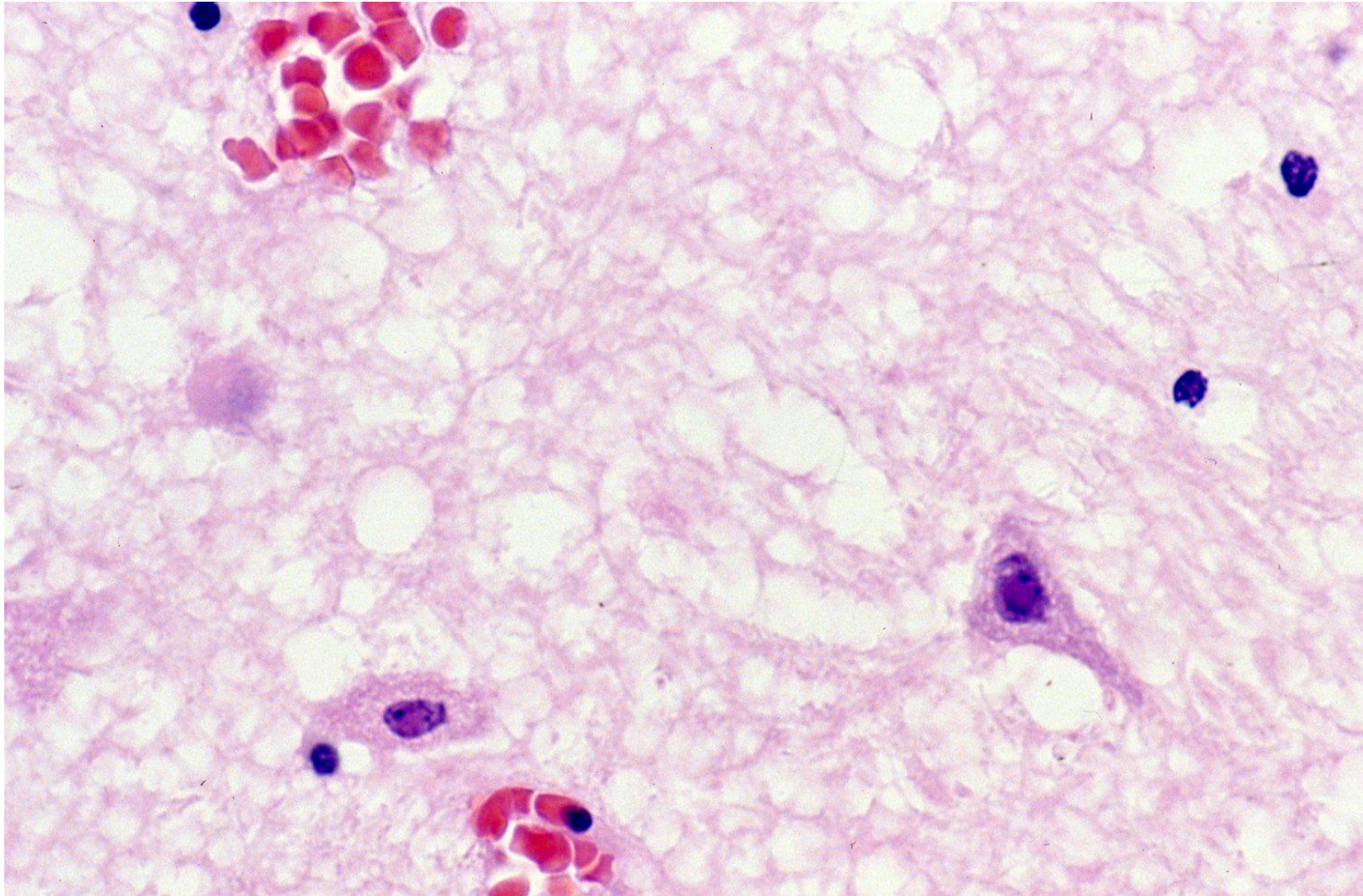
Acute necrotizing encephalopathy seen in a 1-year-old. The thalamus reveals multifocal perivascular fresh hemorrhage. Edematous change with spongy appearance is also evident in the thalamic parenchyma. Ischemic change is seen in the nuclei of neurons. H&E-5



Acute necrotizing encephalopathy seen in a 1-year-old. The thalamus reveals focal perivascular fresh hemorrhage. Edematous change with spongy appearance is also evident in the thalamic parenchyma. Ischemic change is seen in the nuclei of neurons. H&E-6



Acute necrotizing encephalopathy seen in a 1-year-old boy. The thalamus reveals marked edematous change with spongy appearance in the thalamic parenchyma. Pyknotic change of the glial nuclei and ischemic change of the neurons are noted. H&E-7



Acute necrotizing encephalopathy seen in a 1-year-old boy. The thalamus reveals marked edematous change with spongy appearance in the thalamic parenchyma. Pyknotic change of the glial nuclei and ischemic change of the neurons are noted. H&E-8