

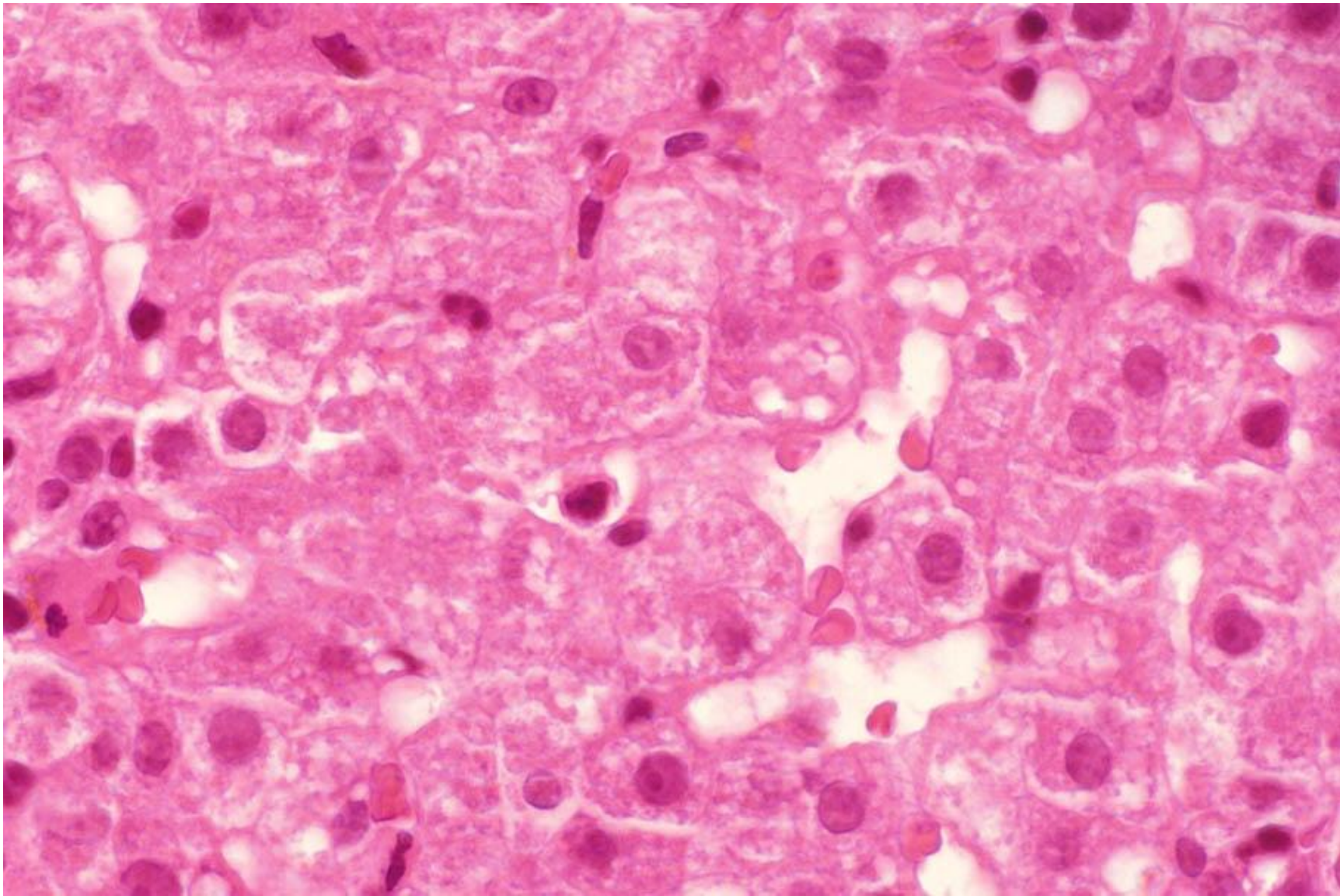
Reye syndrome (aspirin-induced encepharopathy)

Reye syndrome is a rapidly worsening encephalopathy seen in children. It begins shortly after recovery from viral infection, such as influenza or chickenpox. Most cases are associated with aspirin (salicylate) use. Symptoms include vomiting, confusion, seizures, and loss of consciousness. Jaundice is not associated. Abnormal blood tests include high blood ammonia level, low blood sugar level, and prolonged prothrombin time. The disease is often lethal. Those who survive are left with a significant degree of brain damage. The enlarged liver reveals fatty change of small droplet type. The brain is markedly swollen. Mitochondrial damage is a common mechanism of the disease.

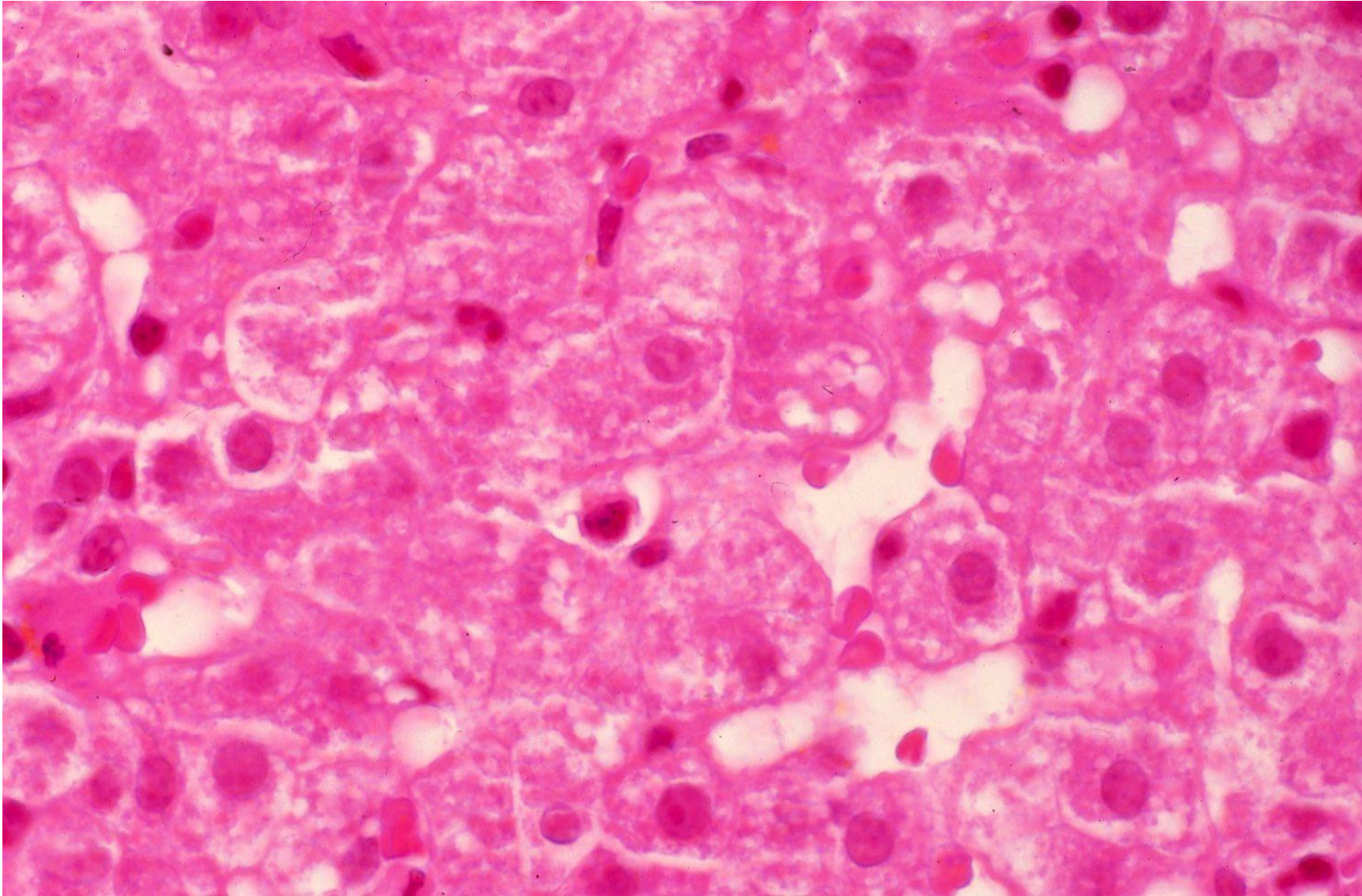
For prevention, avoiding the use of aspirin for febrile children is essentially important. In fact, when aspirin was withdrawn for use in children in the US and UK in the 1980s, a significant decrease of Reye syndrome was obtained.



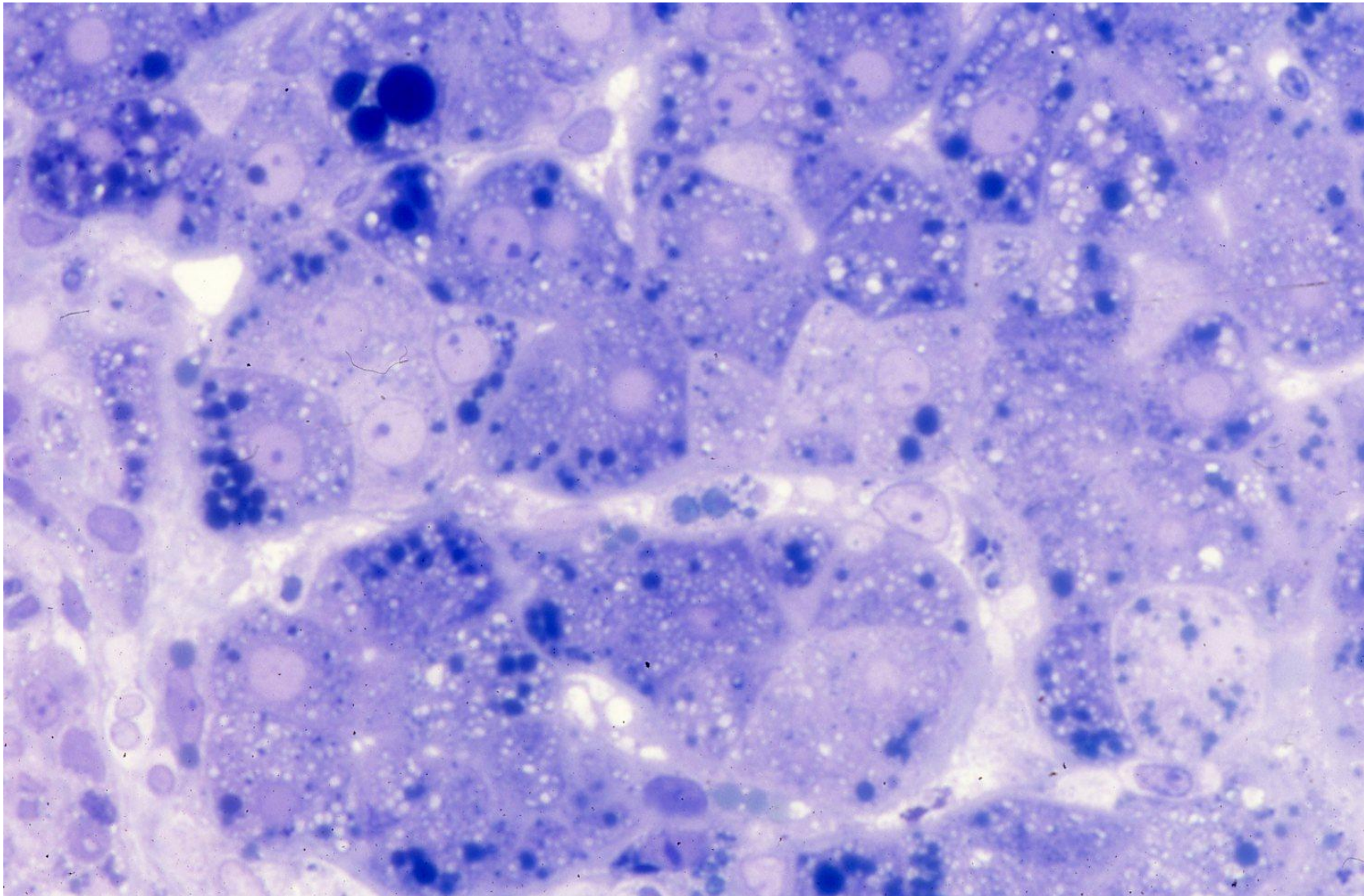
Reye syndrome after the use of aspirin against influenza-related fever seen in a 6-year-old girl. The patient died in three days. At autopsy, the liver is swollen weighing 1,400 g with slightly yellowish color on the cut surface.



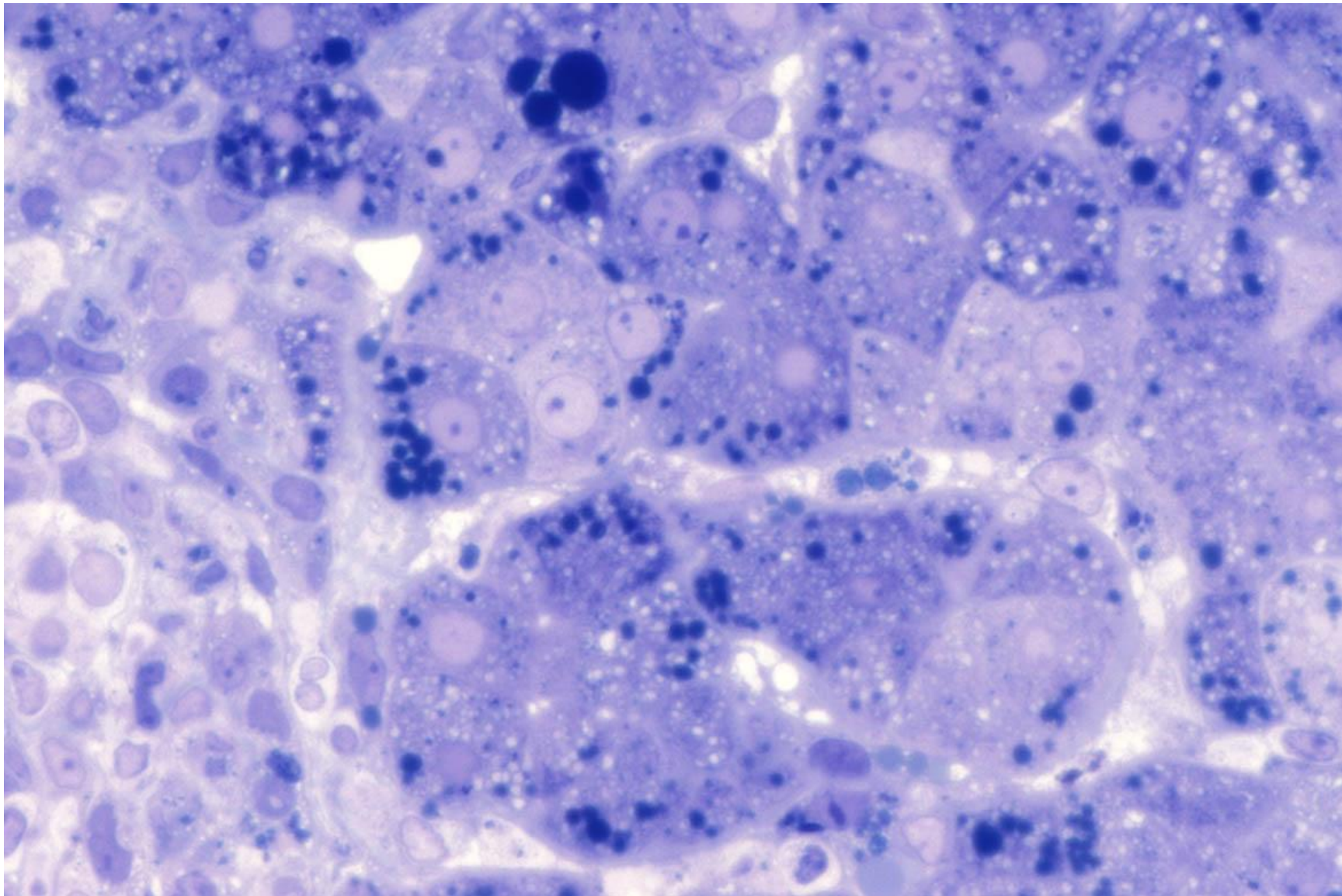
Reye syndrome after the use of aspirin against influenza-related fever seen in a 6-year-old girl. Microscopically, the hepatocytes reveal fatty change of fine droplet type. H&E-1



Reye syndrome after the use of aspirin against influenza-related fever seen in a 6-year-old girl. Microscopically, the hepatocytes reveal fatty change of fine droplet type. H&E-2



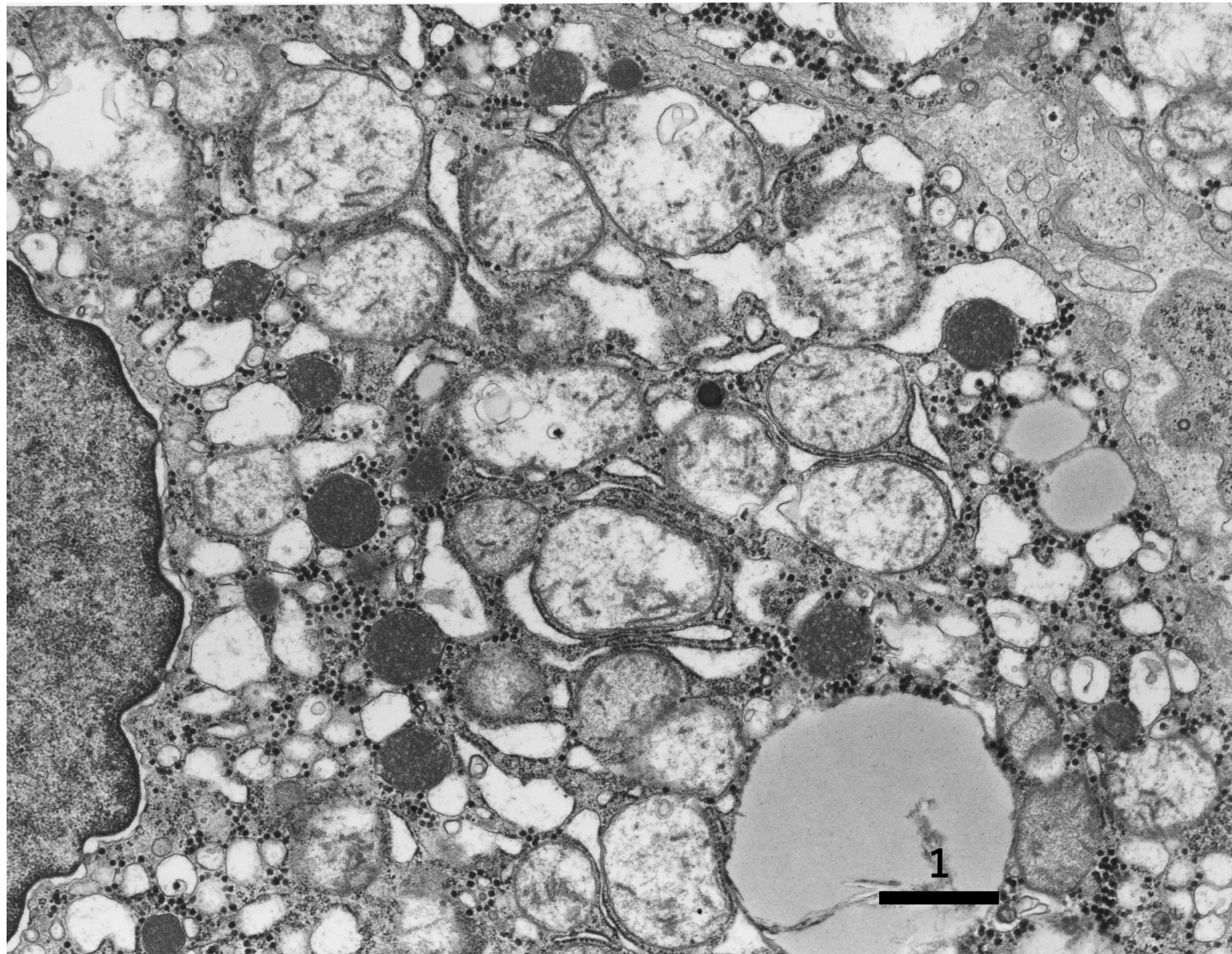
Reye syndrome after the use of aspirin against influenza-related fever seen in a 6-year-old girl. Microscopically, the hepatocytes reveal fatty change of fine droplet type (stained blue). Toluidine blue staining for thick section for EM-1



Reye syndrome after the use of aspirin against influenza-related fever seen in a 6-year-old girl. Microscopically, the hepatocytes reveal fatty change of fine droplet type (stained blue). Toluidine blue staining for thick section for EM-2



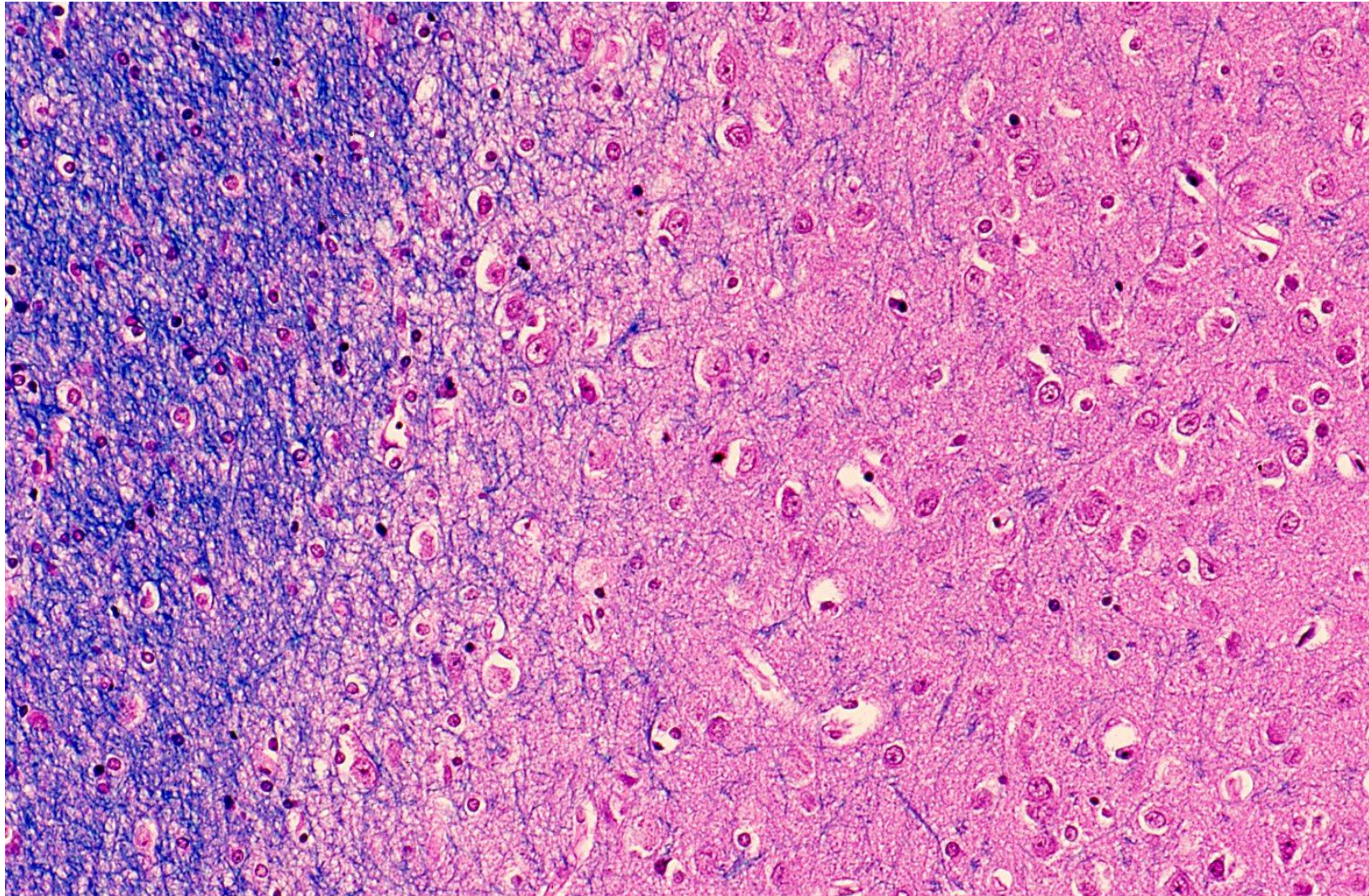
Reye syndrome after the use of aspirin against influenza-related fever seen in a 6-year-old girl. Electron microscopically, cristae of mitochondria are lost or deranged. Fine fat droplets are dispersed in the hepatocytes. EM- 1



Reye syndrome after the use of aspirin against influenza-related fever seen in a 6-year-old girl. Electron microscopically, cristae of mitochondria are lost or deranged. Fine fat droplets are dispersed in the hepatocytes. EM-2



In Reye syndrome, the brain is markedly swollen, weighing 1,500 g. Mitochondrial dysfunction is a mechanism of the brain damage.



In Reye syndrome, the brain is markedly swollen, weighing 1,500 g. Microscopic abnormality is scarcely discernible. LFB-HE