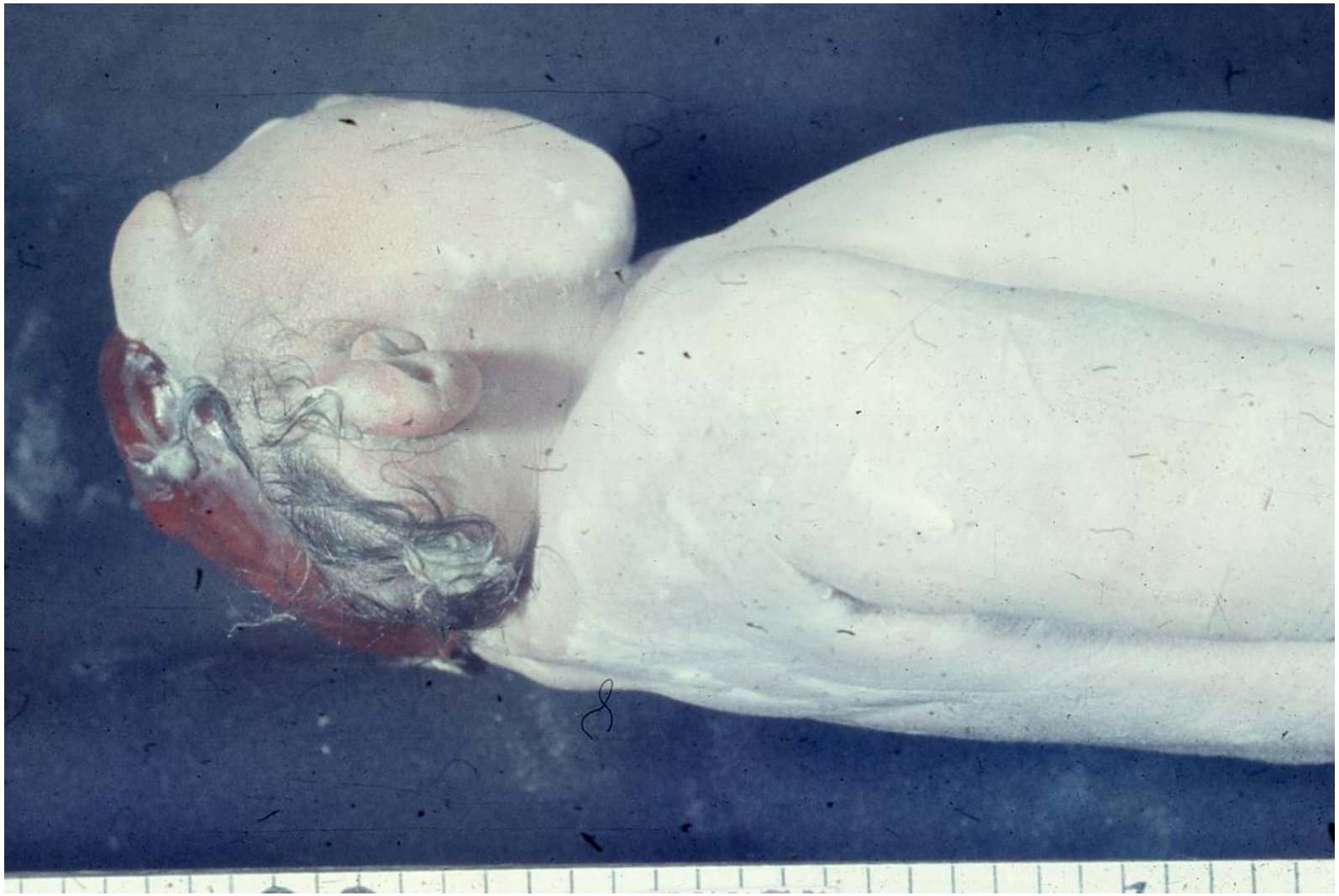
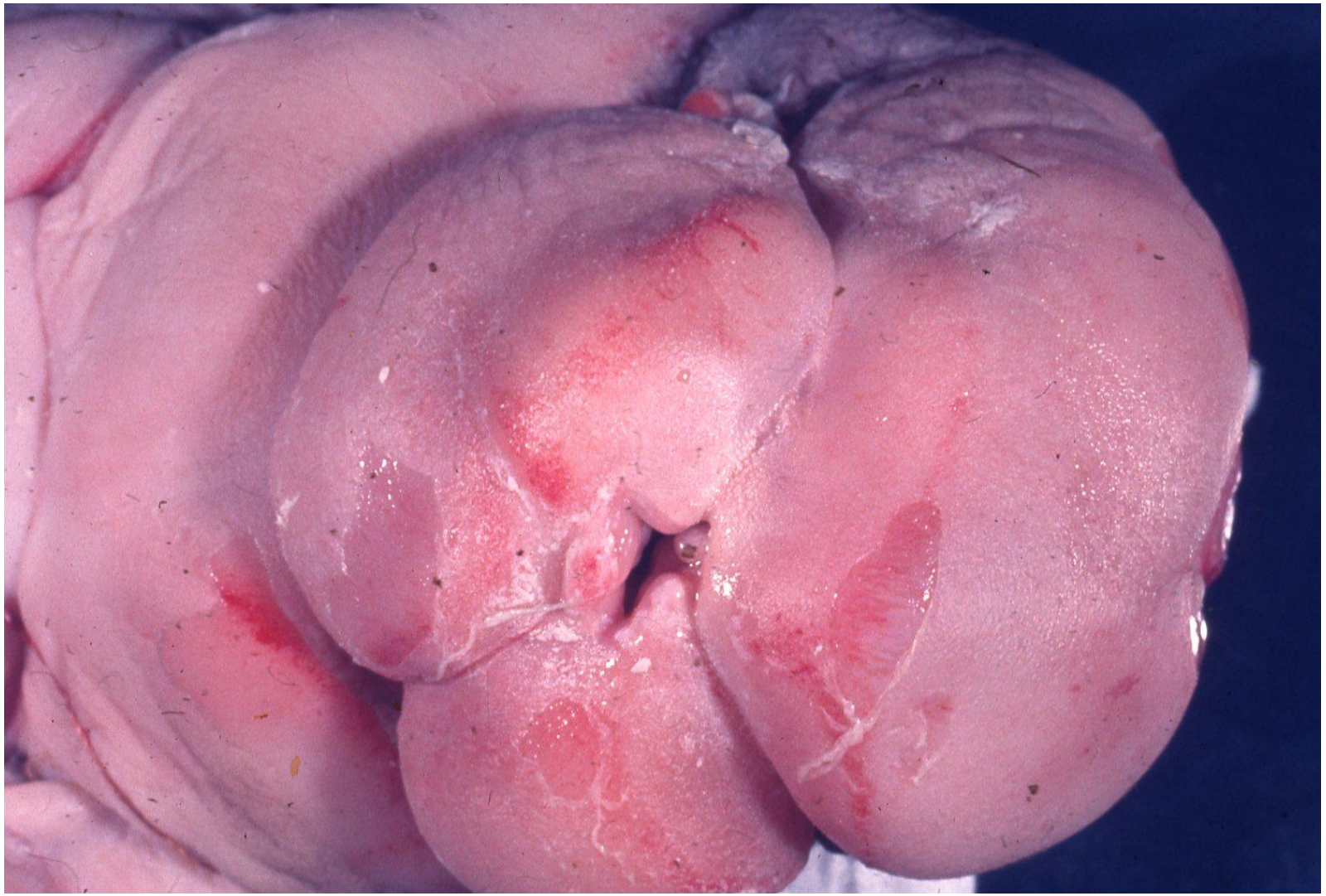
Gross appearance of congenital and neonatal CNS anomalies

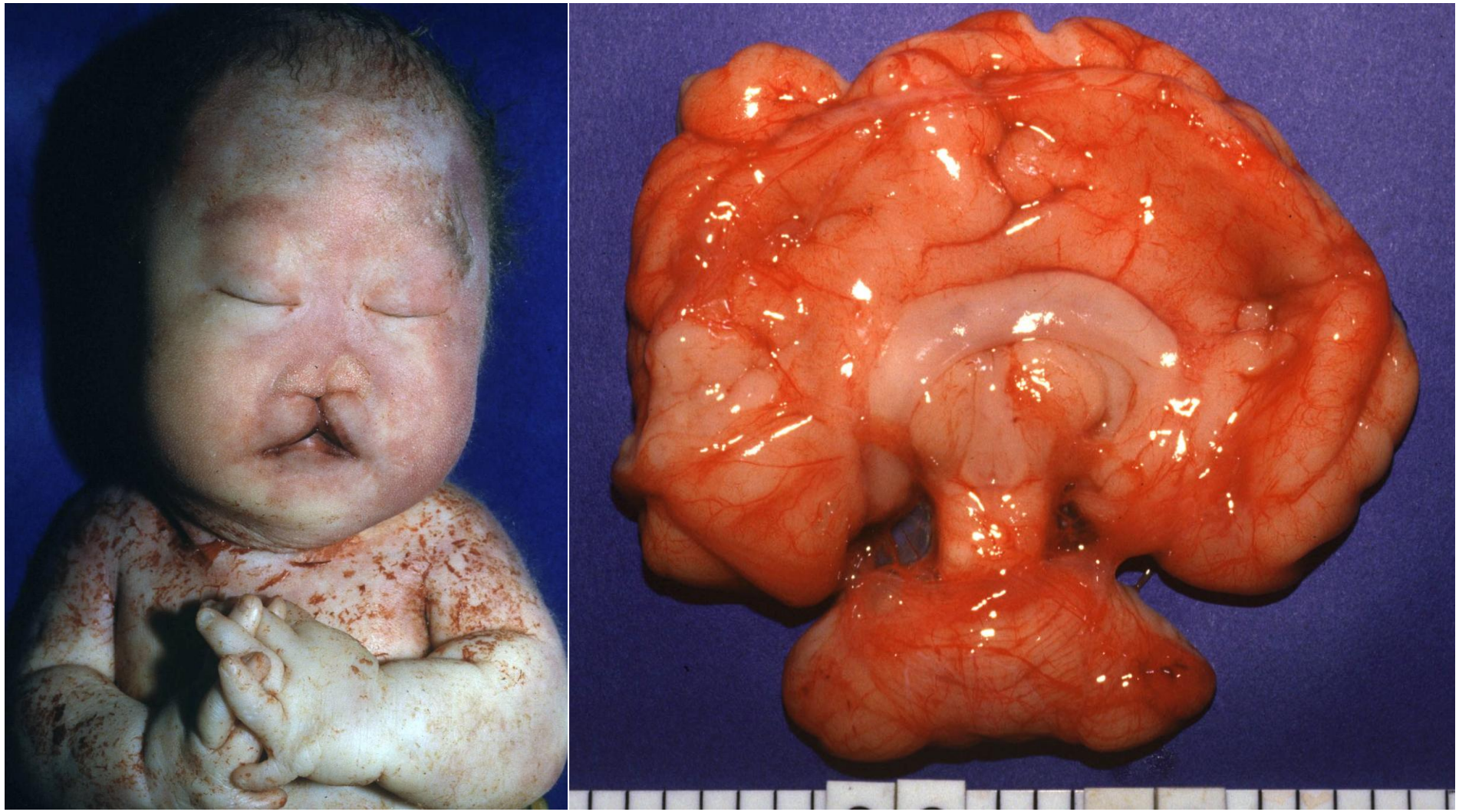
Gross appearance of a variety of congenital and neonatal CNS anomalies are shown. These include 1) anencephaly, 2) acardius acephalus, 3) holoprosencephaly, 4) cerebellar hypoplasia, 5) open spina bifida with myelomeningocele, 6) ulegyria, and 7) neonatal post-meningitis hydrocephalus and syringomyelia.



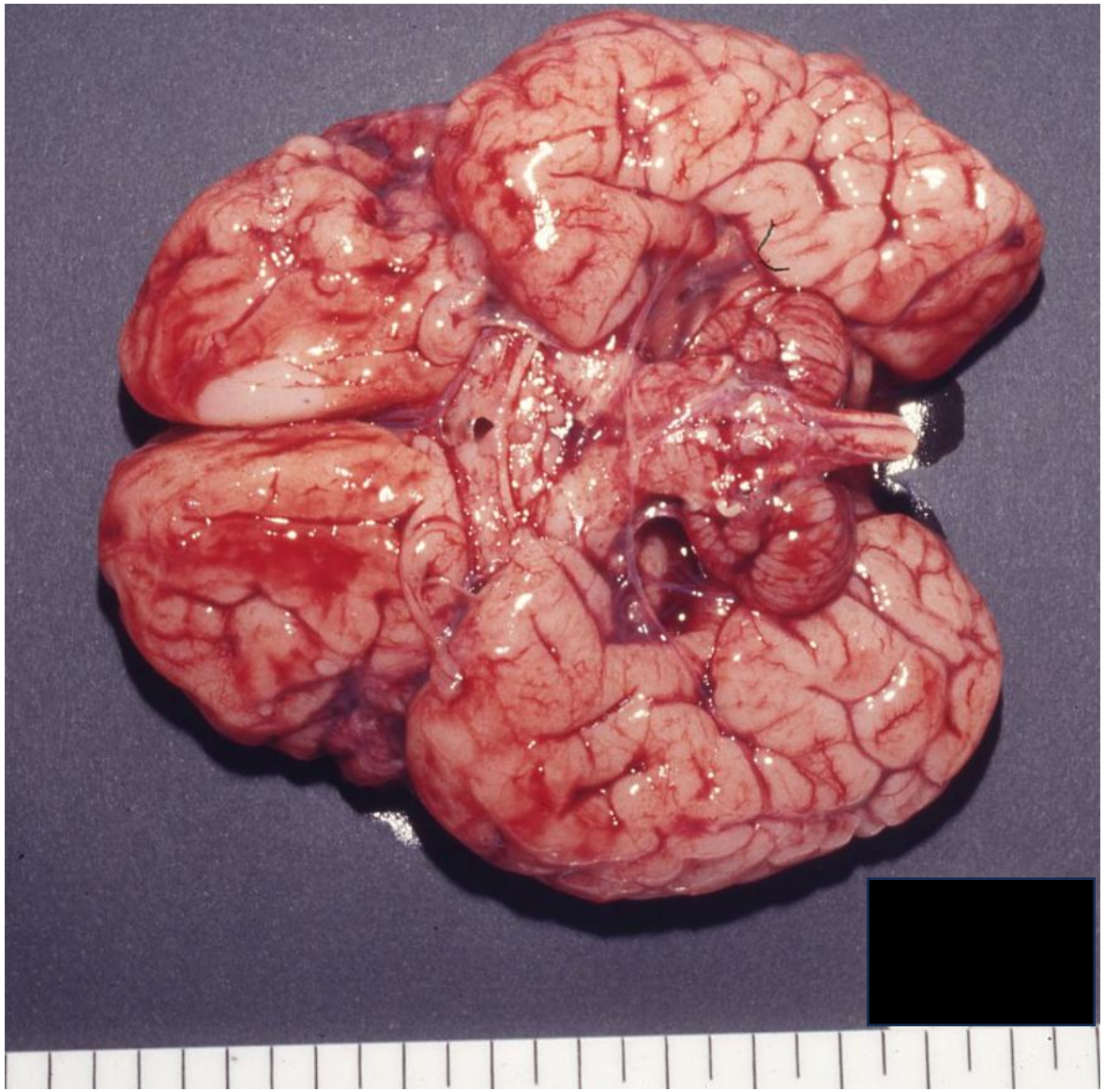
Anencephaly is the absence of a major portion (telencephalon) of the brain, skull and scalp. It results from a neural tube defect: the rostral (head) end of the neural tube fails to close, usually between the 23rd and 26th day following conception. Because of the defect of pituitary gland, the size of the adrenal glands is very small in anencephalic baby.



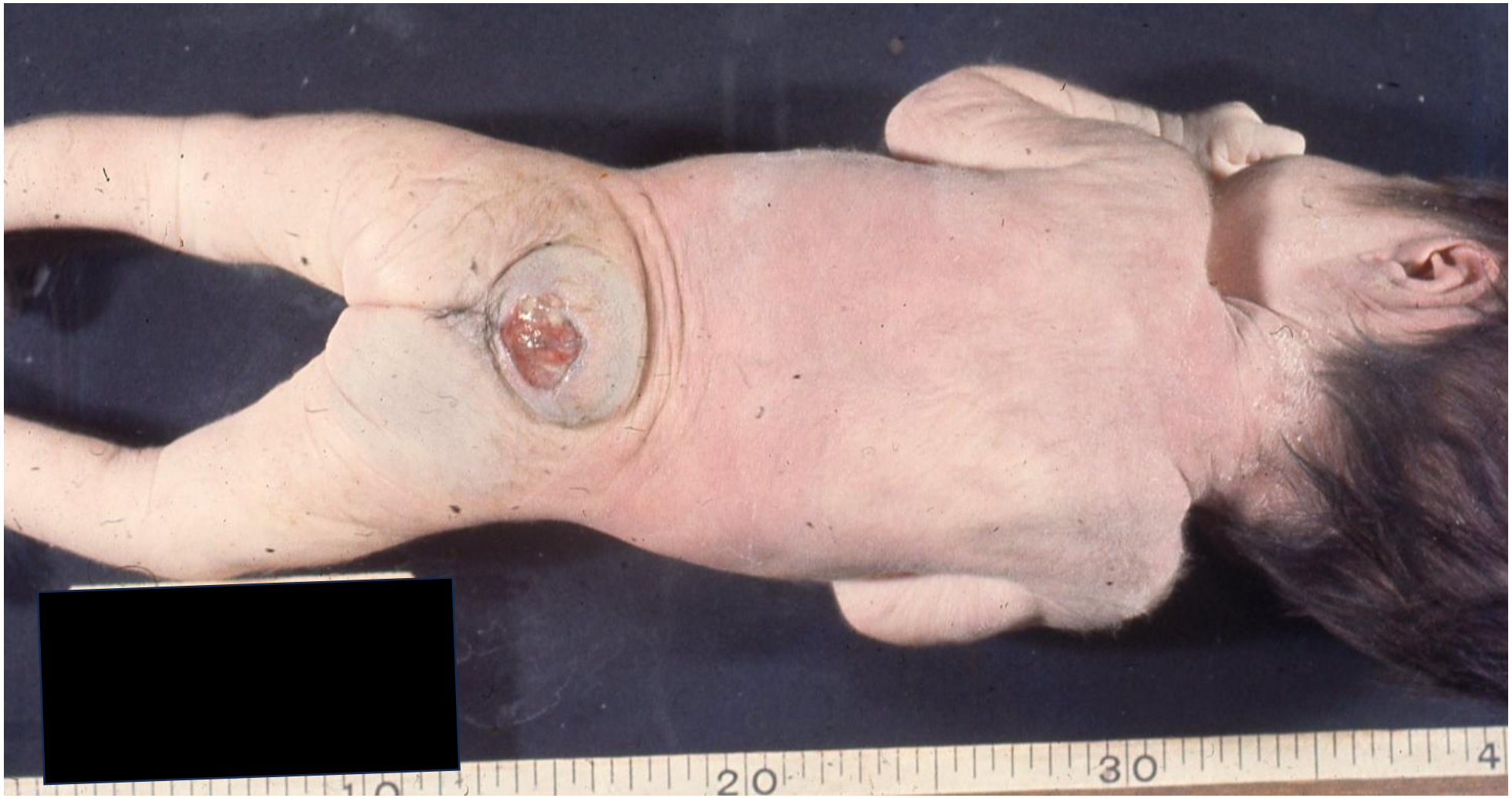
Acardius acephalus seen in a monochorionic twin. Acardius is commonly associated with acephaly and failure of development of most of the thoracic organs and upper limbs. Twin reversed arterial perfusion (with arterial–arterial and venous–venous anastomoses without any arterial–venous connection) assists at growth of the acardiac by getting blood supply from the twin partner.



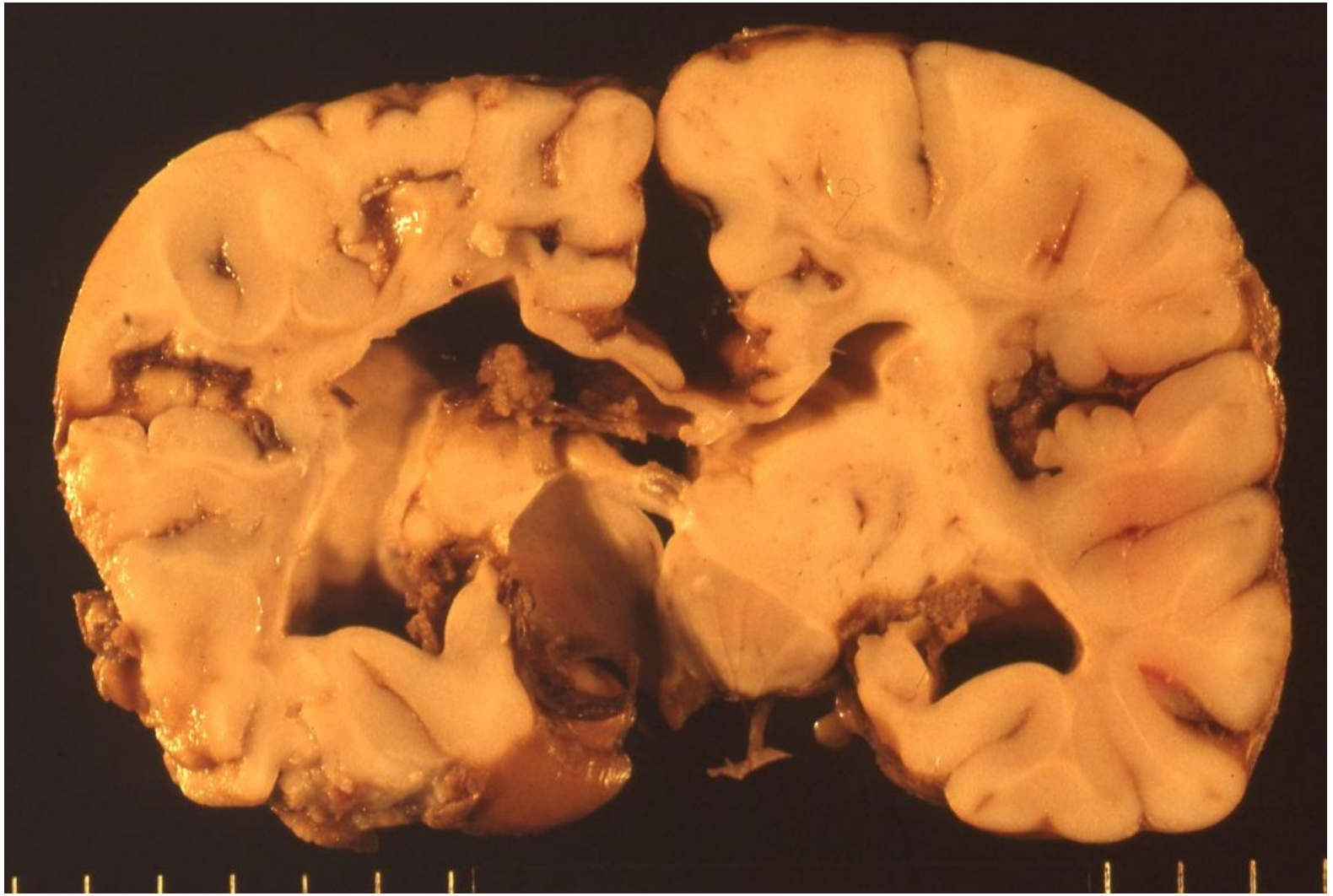
Holoprosencephaly seen in a male fetus with 13 (D1) trisomy (left: cleft lip/palate, right: holoprosencephaly). Intrauterine fetal death happened at the 34th gestational week. In holoprosencephaly, the prosencephalon (the forebrain of the embryo) fails to develop into two hemispheres, typically insulting between the 18th and 28th day of gestation.



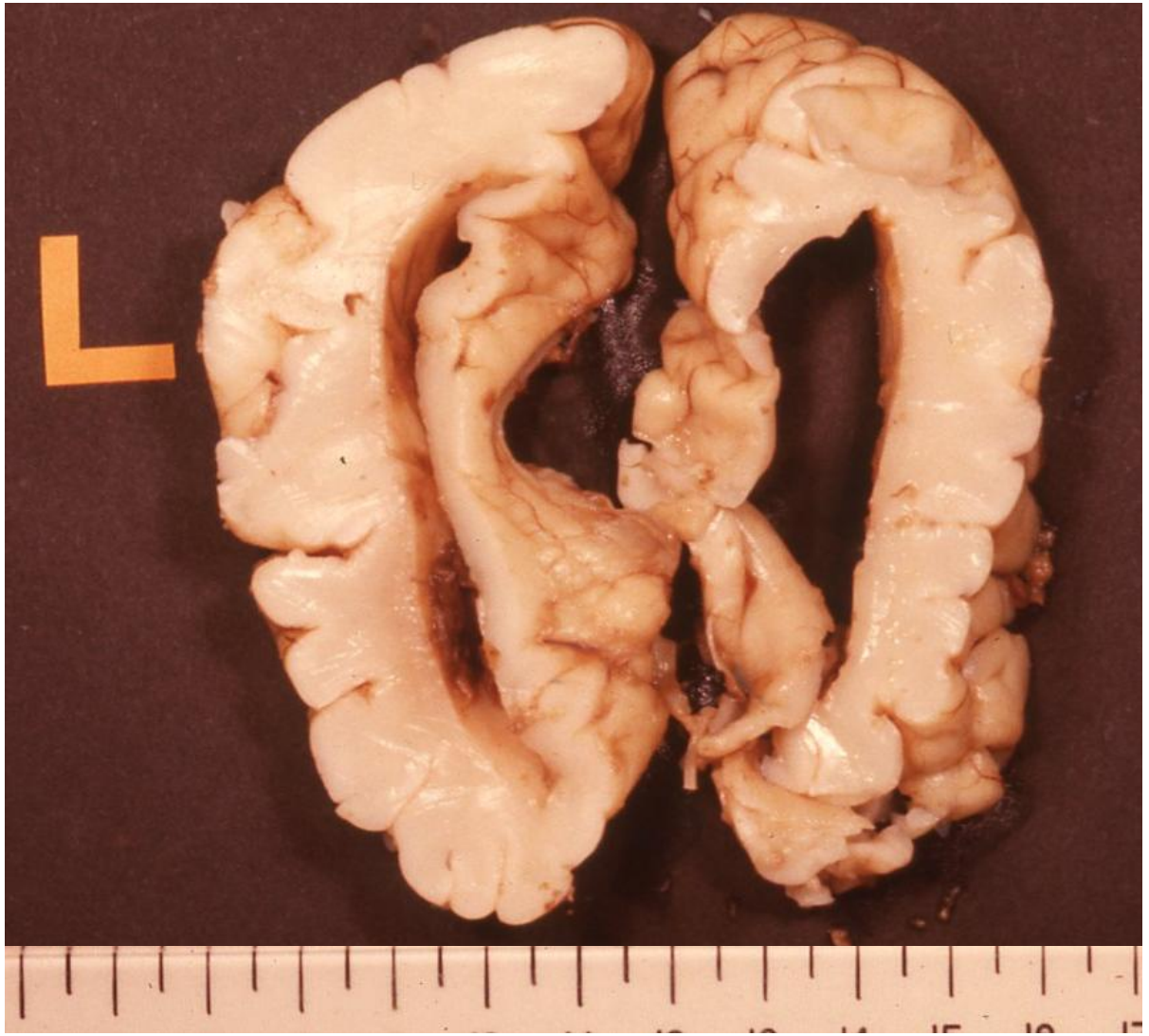
Cerebellar hypoplasia seen in a case of 18 trisomy (Edwards syndrome).
Hypoplasia of the cerebellum is consistently seen in 18 trisomy.



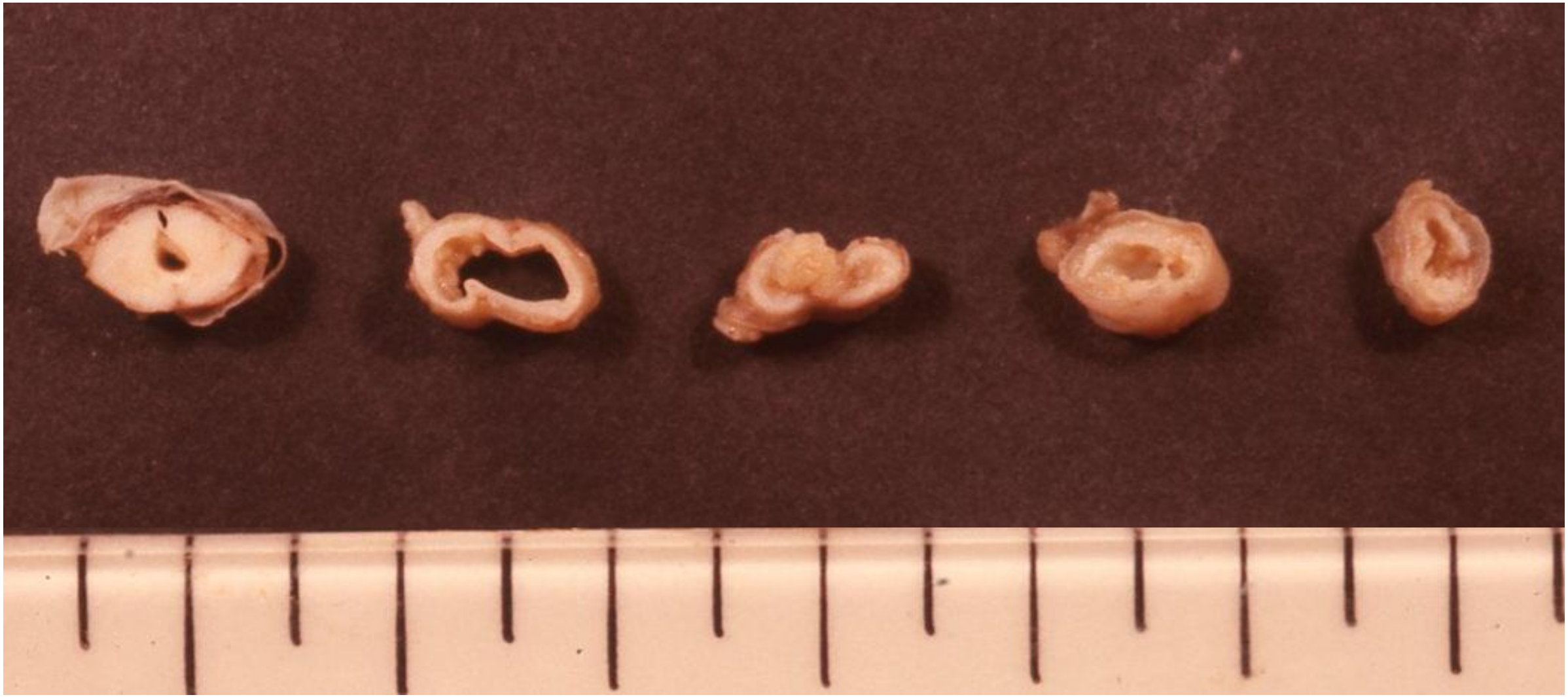
Open spina bifida with myelomeningocele (the most severe form of spina bifida) in a 6-day-old newborn girl. The most common location is the lower back.



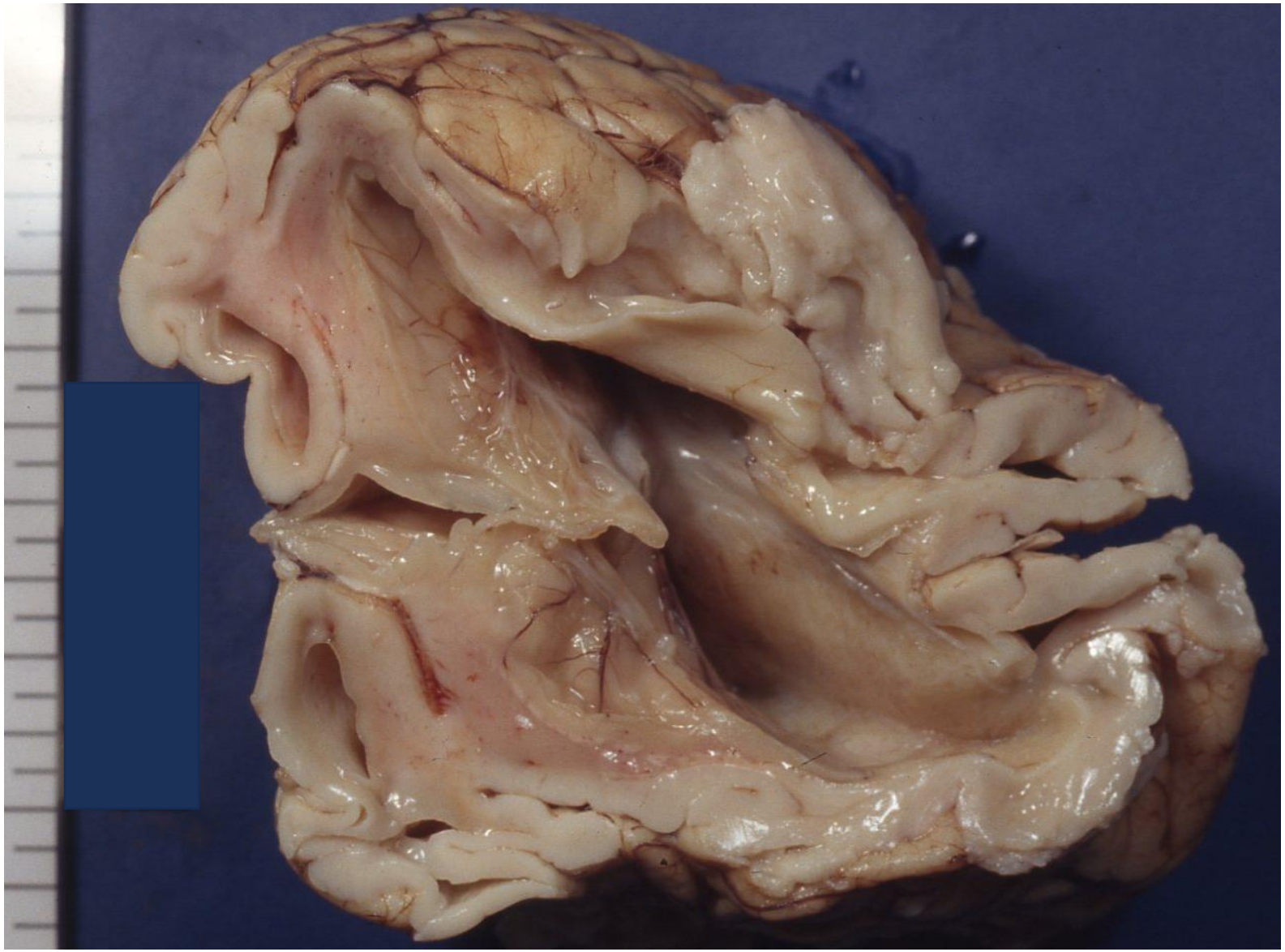
Ulegyria is a specific type of cortical scarring in the deep regions of the sulcus, leading to distortion of the gyri. Ulegyria is identified by its characteristic "mushroom-shaped" gyri. Cortical scarring causes shrinkage and atrophy in the deep sulcal regions, while the surface gyri are spared. This condition is most often caused by hypoxic-ischemic brain injury in the perinatal period. The brain lesion is seen in a body aged 5 years and 9 months. The corpus callosum is markedly thinned, representing marked atrophy of the white matter.



Post-meningitis hydrocephalus seen in a 11 day-old girl.
Meniongocele is associated.



Post-meningitis hydrocephalus seen in a 11 day-old girl. Marked syringomyelia is associated in the spinal cord, representing a dilatation of the central canal.



Post-meningitis hydrocephalus seen in a 5 month-old boy. The patient suffered from neonatal meningitis caused by infection of *Flavobacterium meningosepticum*.