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CHURAIRAT DUANGCHAN : MICROVASCULARIZATION OF
THE MIDBRAIN IN COMMON TREE SHREW (*Tupaia glis*). THESIS ADVISORS
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The study of the midbrain in the common tree shrew (*Tupaia glis*) with vascular corrosion cast under a stereomicroscope and a scanning electron microscope (SEM) reveals that the midbrain is supplied by the branches of the vertebrobasilar system which are the basilar artery bifurcation, posterior cerebral, superior cerebellar, medial posterior choroidal and collicular arteries. They give off the penetrating arteries which radially course into the internal part of the midbrain and reach the cerebral aqueduct. This is the centripetal arrangement. The internal artery of the midbrain is divided into anteromedial, anterolateral, lateral and posterior groups according to the points of entry and territories that they supply. The penetrating arterioles terminate as capillary networks. The degree of capillary density in the midbrain is closely related the density of the nerve cells that accumulate in the areas of the midbrain nuclei. Less vascularity is obvious in the areas occupied by nerve fibers. The arterial anastomoses could be observed in the perimesencephalic or external part of the midbrain. The midbrain capillaries are without fenestrations. The venous drainage in the midbrain could be divided into three groups. The venous blood from the area ventral to the cerebral aqueduct drains into the tributaries of the veins of the anterior or petrosal group. The posterior group collects the venous blood from the collicular vein and the superficial vein of the quadrigeminal plate. The superior or galenic group receives the blood from the thalamocollicular, the lateral and dorsal aqueductal veins that empty the venous blood into the great cerebral vein of Galen, rectus sinus. Finally, the venous blood from both rectus and superior petrosal sinuses drain mainly into the external jugular vein and some into the internal jugular vein.