

Thesis Title Microvascularization in Trigeminal Ganglion of the
Common Tree Shrew (*Tupaia glis*)

Name Somluk Kongstaponkit

Degree Master of Science (Anatomy)

Thesis Supervisory Committee

 Reon Soman, M.D., Ph.D.

 Kanok Pavasuthipaisit, M.D., Ph.D.

 Boonsirm Withyachumnarnkul, M.D., Ph.D.

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ABSTRACT

Sixteen adult common tree shrews of both sexes weighing 110-170g were divided into 3 groups for the study of trigeminal ganglion (TG) with LM, TEM and with corrosion cast technique/SEM, respectively. It was found that the TG was with clusters of cell bodies of neurons in the peripheral region surrounding the bundles of nerve fibers. Each ganglionic neuron was ensheated by the satellite cell and contained concentric nucleus. It was noted that there was higher density of blood vessels in the area where the neurons were predominated than that in the area occupied by nerve fibers. With TEM, it was shown that the TG contained mostly large round neurons with big nuclei and prominent nucleoli. The capillaries scattering in the TG were continuous type. The blood supply of the TG was from three sources. The first branch was from the most rostral branch of pontine artery. The second branch arise from the stapedia artery and sometimes from the supraorbital artery. The third branch was accessory meningeal artery which is a branch from maxillary artery passing through the foramen ovale. These arteries gave off branches to become capillaries network in the ganglion before draining the blood to the peripheral region. The veins at medial border drained the blood into the cavernous sinus (CS) directly or through the inferior hypophyseal vein. Those at the lateral side drained into pterygoid plexus via accessory meningeal vein. While the vein at the trigeminal nerve root joined the posterior part of the CS.