

Lab 4. Dissection of sheep brain

Objective

To observe the major features of the sheep brain and compare with those of the human brain.

Overview

Like all mammalian brains, the sheep and human brains share many features in common. In this lab you should be able to identify the following structures:

- 1) The meninges: dura, arachnoid and pia matters
- 2) Brain
- 3) Cerebral hemispheres
- 4) Frontal lobe
- 5) Parietal lobe
- 6) Temporal Lobe
- 7) Occipital lobe
- 8) Longitudinal fissure
- 9) Central sulcus
- 10) Corpus callosum
- 11) Cerebellum
- 12) Brain stem: midbrain, pons and medulla oblongata
- 13) Cranial Nerves
- 14) Spinal cord and central canal
- 15) Olfactory bulb
- 16) Optic nerve/Optic tract
- 17) Thalamus
- 18) Pituitary gland
- 19) Ventricular system: First, third, and fourth ventricles

The dissection

- 1 Obtain preserved sheep brain. Rinse with water to remove as much of preserving fluid.
- 2 Examine the surface of the brain for the presence of the meninges. Locate the dura matter, arachnoid matter, and pia matter. For easier observation, use pins to lift membranes
- 3 Remove the dura matter
- 4 Set brain on dissecting tray with ventral surface down. Locate cerebral hemispheres, convolutions (gyri), sulci, longitudinal fissure, cerebral lobes (frontal, parietal, temporal, occipital), cerebellum, and medulla oblongata
- 5 Position the brain with its ventral surface upward. Identify longitudinal fissure, olfactory bulbs, optic nerves and chiasm, pituitary stalk (or infundibulum), midbrain, pons, medulla oblongata, and spinal cord
- 6 Position the brain with its ventral surface downward. Separate cerebral hemispheres along the longitudinal fissure using a scalpel. Make a longitudinal cut until you reach the pons. Locate the corpus callosum, white and gray matters of the brain, thalamus, hypothalamus, ventricular system, and pineal gland
- 7 Identify the spinal cord. Made a cross section of the spinal cord. Identify the central canal, and the location of the white and gray matters

8 After finishing the dissection, please clean all instruments and tray

Exercise 1:

Observe and draw the main components of the sheep brain. Pay special attention to those structures listed in the **Overview**

Also pay attention to the different coloration of nervous tissue in the spinal cord and the brain? How the white and gray matters are arranged in the brain and the spinal cord? Why?

Explain how different the sheep brain is from a human brain.