

Variability of the human brain and its meninges.

Chicu Gabriela^{1*}, Hacina Tamara¹

¹State University of Medicine and Pharmacy *Nicolae Testemitanu*, Department of Anatomy and Clinical anatomy.

Background. Over the past decade, neurology, and other disciplines have begun to demand more detailed information regarding the normal and pathological individual anatomical variability of the brain due to the rapid development of neurosurgery.

Materials and methods. Fifty-five formalin-fixed anatomical specimens of the human brain, as well as, searches of the following Database: Medline; Embassies; Web of Science; Google search were used in this study.

Results. The study of the relief of cerebral cortex showed a variety in the number of gyri, their sizes and the depth of the sulci. There are many small variations in the secondary and tertiary gyri. For instance, the number of insular gyri constituencies is not constant, it varies from four to six. A number of morphometric variants of the hippocampus have been found, and the variety of the hippocampus head. All types of white substance fibers are characterized by size diversity. The authors note the greater thickness of the corpus callosum in women than in men. Variations of corpus callosum are: complete agenesis, partial agenesis, hypoplasia of corpus callosum, it can have the appearance of a stripe, being uniformly thinned, or atypical curves. The ventricular system likewise does not differ by permanence. Bilateral symmetrical development of the lateral ventricles is found in only 10% of subjects. Other variants are: underdevelopment, aplasia or hypoplasia of the posterior horn, cavum septum pellucidum. The dural sinuses show considerable anatomical variation. Transverse sinuses are often unequal in size, one sinus is usually larger than the other, they can be hypoplastic or atretic.

Conclusion. For the most complete data on the morphological study of the brain, an integrated approach is required, including the methods of automated computer image analysis, immunohistochemistry, and statistical analysis.

Keywords. gray substance, white substance, brain, dural sinuses, callosal body, brain ventricles, insula, hippocampus, grooves for dural sinuses.