

Summary

Removal of olfactory bulbs (olfactory bulbectomy; OBX) belongs amongst most interesting experimental phenomena, which stimulated interesting hypotheses about the role of this structure in the CNS functions. It outreaches also to the preclinical research as an the animal model of depression-like behavior (usually pursued in the laboratory rats). Significance and all sequelae of olfactory bulbectomy probably cannot be covered in their extents by this thesis, therefore, I will first focus on short neuroanatomical description of connections between the olfactory bulbs and the limbic system, and short description of the OBX surgery will follow. Subsequently, I will discuss structural, molecular and neurochemical changes elicited by OBX. Next part of this work will be dedicated to OBX in relation to behavior; first I will present behavioral changes elicited by OBX with focus on learning and memory (and other cognitive functions) and then I would briefly summarize the putative (for example endocrine, immune) changes, which can be caused following OBX. In conclusions, I will discuss usage of OBX as an animal model of depression.