

Abstract

In mammals, embryonic and fetal development takes place in the mother's uterus under sterile conditions. The embryo, and later the fetus, is connected to the placenta by the umbilical cord and floats in amniotic fluid in the amniotic cavity lined by the amniotic membrane. Preterm birth is associated with decreased weight of newborns and increased morbidity and mortality. Intrauterine infections are one of the leading causes of preterm delivery. Various etiological agents, such as viruses, bacteria, yeasts and protozoa, can cause these infections. These infections induce expression of inflammatory mediators, which participate in triggering of preterm birth. One of these mediators are cytokines.

The bachelor thesis is based on a literature review dealing with animal models of prenatal infections, which are exploited in the study of regulatory mechanisms of preterm births or eventually in the study of experimental manipulation of these mechanisms. Various infectious agents and their parts, such as LPS, and the routes of administration are compared. In addition, the advantages and disadvantages of different animal models are discussed with respect to the type of placentation, duration of gestation, animal weight and litter size. The thesis contains the section dealing with experience with a pig model of intrauterine infections in the Institute of Microbiology of the ASCR, v.v.i. in Nový Hrádek.

Keywords: intrauterine, intraamniotic, infection, inflammation, animal, models, fetus, preterm, birth, cytokines