

Abstract

Sexual dimorphism in the human pelvis is usually being explained as an adaptation to upright walking and giving birth to newborns with large heads. This process led to the formation of a complicated birth mechanism. A relationship between size of the mother's pelvis and a head of the fetus is called an obstetrical dilemma. Under the influence of this evolution concept, the female pelvis is considered a strongly limited evolutionary structure. It is necessary that the female pelvis is wide enough, so that a baby can be born while allowing an effective bipedalism at the same time. Recent publications, however, are discussing this concept focusing more on the pelvic variability in the population. New findings have recently emerged concerning effects of ecological factors and neutral processes. The hypothesis of the developmental concept of the obstetrical dilemma is also proposed. Together, all these findings undermine the original model of human pelvis evolution, which is primarily based on selective compromise between two contradictory forces. The aim of the thesis is to describe the evolution of pelvic structures during evolution, to summarize the factors that contribute to the origin of sexual dimorphism in human pelvis and to approach the birth mechanism of humans compared to primates.

Keywords

Sexual dimorphism, pelvis, obstetrical dilemma, birth, bipedalism, encefalization, evolution, adaptation, genetic drift, migration, nutrition