Abstract

This bachelor thesis focuses on the issue of premature birth prediction. Premature delivery is one of the most serious problems in obstetrics and the cause of many perinatal complications. The incidence in the Czech Republic today is around 7,2 %. The problem of prediction of this serious pathology is false negativity or converselyfalse positivity. Regarding the latter, women are unnecessarily hospitalized and treated. It is very important to find a method that could detect as many impending premature births as possible and at the same time show the lowest possible false positivity. However, this is very difficult. Premature birth is caused multifactorial effects.

The aim of the study was to determine the premature birth prediction using vaginal ultrasound cervicometry in combination with the examination of fetal fibronectin levels in the transvaginal fluid and the effectiveness of the QUIPP algorithm in predicting the premature birth. These goals were accompanied by 6 hypotheses that helped to fulfill the goals.

From January 2019 to March 2020, asymptomatic women with a high risk of premature birth in the week of pregnancy 22^{+0} to 25^{+6} were examined. Also, women who then gave birth at the Department of Gynecology and Obstetrics of the First Faculty of Medicine and General Teaching Hospital in Prague, were selected for this study. The data collected from these women were then processed, statistically calculated and described using tables and graphs.

The results show that combination the examination of fetal fibronectin levels to vaginal ultrasound cerviometry significantly improves the prediction of preterm birth. Even better results were achieved using the QUIPP algorithm, especially in the prediction of premature birth before 34^{+0} weeks of pregnancy.

The use of these methods appears to be suitable for predicting premature birth, but further research and studies with a larger research sample are needed.

Keywords

preterm labour, prediction, fetal fibronectin, ultrasound cervicometry