

NAPOVEDOVANJE PORODNIŠKIH ZAPLETOV S POMOČJO PROSTEGA β hCG, PAPP-A IN INHIBINA A V SERUMU NOSEČNIC V PRVEM TRIMESEČJU

PREDICTION OF PREGNANCY COMPLICATIONS BY MEANS OF FREE β hCG, PAPP-A AND INHIBIN A IN MATERNAL SERUM IN THE FIRST TRIMESTER

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Ključne besede: prosti β hCG; PAPP-A; inhibin A; zapleti v nosečnosti

Izvleček – Izhodišča. Najučinkovitejši presejalni test za kromosomopatije v prvem trimesečju nosečnosti je izračunavanje tveganja na podlagi starosti nosečnice, nihalne svetline (NS) ploda, prostega β humanega horionskega gonadotropina (f β hCG) in PAPP-A (Pregnancy Associated Plasma Protein A) (90% odkritih plodov s trisomijo 21 [T21], 5% lažno pozitivnih rezultatov). Želeli smo oceniti vrednosti f β hCG, PAPP-A in inhibina A med 10. in 14. tednom nosečnosti za napovedovanje porodniških zapletov kasneje v nosečnosti.

Metode. Vključili smo 1136 nosečnic s kromosomsko normalnimi plodovi. Med 10. in 14. tednom smo izmerili razdalje teme – trtica in NS pri plodu, ter določili vrednosti f β hCG, PAPP-A in inhibina A v serumih nosečnic. Zbrali smo podatke o načinu zanositve, poteku in izidu nosečnosti in zdravstvenem stanju novorojenčka. Primerjali smo vrednosti vseh označevalcev pri nosečnicah, pri katerih so se pojavili perinatalni zapleti – (rojstvo otrok, premajhnih [SGA] ali prevelikih [LGA] za nosečnostno starost, nosečnostna sladkorna bolezen [NSB], hipertenzija v nosečnosti, prezgodnji porod), z vrednostmi označevalcev pri nosečnicah brez zapletov. Izdelali smo multivariantne modele za napovedovanje tveganja za posamezen zaplet.

Rezultati. Nizke vrednosti PAPP-A so bile povezane z rojstvom SGA otrok, visoke vrednosti PAPP-A pa z rojstvom LGA otrok. Nosečnice, ki so razvile NSB, so imele statistično nepomembno znižane vrednosti vseh treh biokemičnih označevalcev. Nosečnice z NSB, ki so rodile LGA otroke, so imele znižane vrednosti PAPP-A. Inhibin A je bil pogosteje visok pri nosečnicah, pri katerih so se pojavili hipertenzivni zapleti ali so rodile pred dopolnjenim 34. tednom gestacije.

Zaključki. PAPP-A, f β hCG in inhibin A niso uporabni kot presejalni test za odkrivanje nosečnic z visokim tveganjem za porodniške zaplete. Vendar pa visoke ali nizke vrednosti katerega koli biokemičnega označevalca opozarjajo, da se dogaja nekaj posebnega. Zato priporočamo, da v teh primerih nadzorovanje nosečnice poostri.

Key words: free β hCG; PAPP-A; inhibin A; pregnancy complications

Abstract – Background. Calculation of risk on the basis of maternal age, fetal nuchal translucency (NT), free β human chorionic gonadotropin (f β hCG) and PAPP-A (Pregnancy Associated Plasma Protein A) is the most efficient first trimester screening test in detection of chromosomopathies (90-percent detection rate of trisomy 21 [T21], 5% false positive results). The aim of this study was to evaluate whether the levels of f β hCG, PAPP-A and inhibin A, measured at 10–14 gestational week, predict complications later in pregnancy.

Methods. In the study 1136 women with chromosomally normal fetuses were enrolled. At 10–14 gestational week we measured fetal the crown-rump length and NT, and the levels of f β hCG, PAPP-A and inhibin A in maternal serum. From the records we collected the data on the method of conception, course and outcome of pregnancy and the neonatal condition. We compared all these parameters between the mothers, in whom perinatal complications occurred (small [SGA] or large for gestational age babies [LGA], gestational diabetes, pregnancy hypertension, preterm delivery), and those, not experiencing any pregnancy complication. We constructed multivariate models for prediction of risk of individual complications.

Results. Low PAPP-A levels were associated with the delivery of an SGA baby, high PAPP-A levels with the delivery of an LGA baby. In the women who developed diabetes in pregnancy, and in those who delivered an LGA baby, PAPP-A levels were decreased. Inhibin A levels were more frequently increased in women with hypertensive disorders and in those who delivered before the completed 34th week.

Conclusions. PAPP-A, f β hCG and inhibin A levels are not useful in the detection of women at high risk of pregnancy complications. However, a high or a low level of any of the biochemical marker indicates the occurrence of an extra event that requires most careful monitoring of the woman.