

ZGODNJI PRESEJALNI TESTI ZA TRISOMIJO 21 PRI NOSEČNICAH PO OPLODITVI Z BIOMEDICINSKO POMOČJO

SCREENING FOR TRISOMY 21 IN THE FIRST TRIMESTER IN PREGNANCIES AFTER ASSISTED REPRODUCTION

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Izvleček – Izhodišča. Nosečnice, ki zanosijo po oploditvi z biomedicinsko pomočjo (OBMP), imajo pri trojnem presejalnem testu v drugem trimesečju večji delež lažno pozitivnih rezultatov (LPR), zato smo želeli ugotoviti, ali imajo te nosečnice tudi pri presejalnih testih za trisomijo 21 (T21) v prvem trimesečju več LPR.

Metode. Vključili smo 1122 nosečnic, za katere smo imeli podatke o načinu zanositve. Razdelili smo jih v skupine glede na način zanositve (130 jih je zanosilo po IVF, 54 po ICSI, 24 po indukciji ovulacije in 914 spontano) ter med njimi primerjali vrednosti nuhalne svetline (NS) pri plodu, ter serumске vrednosti prostega β humanega horionskega gonadotropina (f β hCG) in PAPP-A (Pregnancy Associated Plasma Protein A) pri nosečnicah med 10. in 14. tednom nosečnosti. Izračunali smo tveganja za T21 na podlagi starosti nosečnice ter v kombinaciji z NS, f β hCG in PAPP-A. Izračunali smo deleže LPR za posamezne skupine.

Rezultati. Metode OBMP niso vplivale na vrednosti NS. Vrednosti f β hCG pri nosečnicah po OBMP niso bile statistično pomembno različne od vrednosti pri nosečnicah, ki so zanosile spontano; vrednosti PAPP-A so bile nižje, še zlasti pri nosečnicah po ICSI. Pri izračunavanju tveganja za T21 na podlagi starosti nosečnice in NS je imelo po spontani zanositvi 4,6% nosečnic LPR, po IVF 8,5%, po ICSI 7,4%. Po dvojnem presejalnem testu (starost nosečnice, f β hCG, PAPP-A) je imelo LPR po spontani zanositvi 8,3% nosečnic, po IVF 21,5%, po ICSI 22,2% nosečnic. Sestavljeno presejanje (starost nosečnice, NS, f β hCG, PAPP-A) je dalo LPR pri 3,1% nosečnic po spontani zanositvi, pri 9,2% nosečnic po IVF in pri 13% nosečnic po ICSI. Statistično najbolj pomembna odstopanja od normalnih vrednosti so imele nosečnice, kjer je bila za IVF ali ICSI vzrok moška neplodnost.

Zaključki. Presejanje z NS je enako primerno za vse nosečnice ne glede na način zanositve. Pri sestavljenem presejanju na podlagi starosti nosečnice, NS, f β hCG in PAPP-A je bil med nosečnicami po IVF delež LPR nekoliko večji kot pri istih nosečnicah ob presejanju le z NS, zato je tudi sestavljeni presejalni test primeren za nosečnice po IVF, zlasti, ker je delež odkritih plodov s T21 s sestavljenim presejalnim testom večji. Spremenjene vrednosti označevalcev so najbrž povezane s samimi postopki OBMP ali s še neprepoznanimi lastnostmi pri neplodnih parih.

Key words: assisted reproduction; screening test; trisomy 21; nuchal translucency; free β hCG; PAPP-A

Abstract – Background. At the second trimester screening for trisomy 21 (T21), the false positive results (FPR) are higher in pregnancies achieved after assisted reproduction techniques (ART). The aim of this study was therefore to examine the effects of ART on the FPR at the first trimester screening for T21.

Methods. Of the 1122 pregnant women enrolled, 130 achieved pregnancy after IVF, 54 after ICSI, 24 after induction of ovulation and 914 spontaneously. Fetal nuchal translucency (NT), maternal serum free β human chorionic gonadotropin (f β hCG) and pregnancy associated plasma protein A (PAPP-A) levels were measured at the 10–14 week of gestation. Calculation of the risk for T21 was based on maternal age and in combination with NT, f β hCG and PAPP-A; FPR rates were calculated for each subgroup.

Results. Fetal NT was not affected by ART. In pregnancies after ART f β hCG levels were not statistically significantly different from those in spontaneous pregnancies; PAPP-A levels were lower, particularly in pregnancies after ICSI. In risk calculation based on maternal age and NT, FPR were found present in 4.6% of spontaneous pregnancies, in 8.5% of IVF and in 7.4% of ICSI-derived pregnancies. At the double test (maternal age, f β hCG, PAPP-A) FPR were found in 8.3% in spontaneous pregnancies, in 21.5% of IVF and in 22.2% of ICSI pregnancies. At screening by maternal age, NT, f β hCG and PAPP-A, FPR was 3.1% after spontaneous conception, 9.2% after IVF and 13% after ICSI. If male factor infertility was the indication for IVF or ICSI, the marker levels were most abnormal.

Conclusions. Screening by NT is equally appropriate for all pregnant women, regardless of the way of conception. In IVF pregnancies, FPR was somewhat higher after combined screening based on maternal age, NT, f β hCG and PAPP-A levels than after screening based only on maternal age and NT. Different levels of markers in pregnancies after ART can be associated with ART procedures, or with yet unrecognised properties of the unfertile couple.