

Effects of Methadone Use on Maternal Serum Screening

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Maternal serum screening during the first and the second trimesters of pregnancy has become a standard practice in prenatal care, providing expectant mothers with valuable information about the health of their pregnancies. The results of these tests can reassure anxious parents or may provide reasoning for further diagnostic testing. It is well documented that maternal factors affect the outcome of these screening tests. Factors such as maternal weight and tobacco exposure are routinely compensated for in analysis of the test. In order to provide equal care to women on methadone treatment during pregnancy, it is essential to understand what effects this drug has on serum analyte levels in order to appropriately compensate for this exposure as is done for other maternal factors. Our findings indicate that methadone use during pregnancy has a significant effect on individual analyte levels of second trimester maternal serum screens. Women who used methadone during pregnancy were more likely to have elevated Inhibin A levels and decreased human chorionic gonadotropin, unconjugated estriol and α -fetoprotein levels, correlating to an increased likelihood (10.3% vs. 2.9%) of being screen positive for trisomy 21 on a second trimester maternal serum screen. Though we did not see a significant difference in trisomy 18 screen positive rates, the risk reduction due to maternal serum screening for subjects was significantly less than the risk reduction the screen provided for controls. Further studies are needed to validate correlations between methadone use and deviations from expected maternal serum screen results.