

Association between Serum Biomarkers with Pregnancy Outcomes

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Objective: Early detection of adverse pregnancy outcomes are among important topics in prenatal care. This study aimed to evaluate the association between maternal serum markers with pregnancy outcomes. **Method:** This cohort study was performed according to the national Down syndrome screening protocol. Pregnancies were classified into three groups of low ($>0.5\text{MOM}$), normal, and high levels ($<2\text{MOM}$) based on each biomarker. The participants were followed up until delivery, and the pregnancy outcomes were identified according to hospital discharge records. **Results:** High levels of free-BHCG were significantly associated with an increased risk of preterm birth. Also, based on multivariate analysis the high levels of MSAFP had a direct relationship with premature birth, gestational hypertension, Intra Uterine Growth Restriction, and fetal death. Furthermore, an increase in the levels of Inhibin-A could more likely lead to gestational hypertension. **Discussion:** According to the result, maternal biomarkers especially MSAFP can be beneficial in identifying high-risk cases, in addition to examining the possibility of Down syndrome, facilitating achieving the desired pregnancy outcomes.

Keywords: *Pregnancy Outcomes, Prenatal Screening, Serum Marker*