



Pregnancy outcome with extremely low first trimester PAPP-A levels – retrospective audit

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Objective

To assess the incidence of pregnancy adverse outcome when PAPP-A levels are at or below 0.2 multiple of the median (MoM). To evaluate our results, we made retrospective audit.

Methods

Patients data were collected from first trimester screening program – Astraia. Those with PAPP-A at or below 0.2 MoM were divided into two groups – at or below 0.1 MoM and 0.11 – 0.2 MoM. Patients underwent first trimester screening from July 2009 to January 2018. Post partum outcome information was obtained from hospital records or by direct contact with patients.

Results

In given period 14 182 fetuses were screened for aneuploidies and major structural defects in first trimester. In 49 cases (0.35 % of patients) PAPP-A level was at or below 0.2 MoM. The incidence of karyotype abnormality was from 41 % (with PAPP-A 0.11 MoM – 0.2 MoM) to 57 % (when PAPP-A at or below 0.1 MoM). Although karyotype and second trimester ultrasound was normal and pregnancy continued after 24 weeks we observed high percentage of pregnancy complications (stillbirth, neonatal death, fetal growth restriction, preterm delivery, placenta praevia). Normal pregnancy outcome (baby born after 37 weeks with birthweight above 10th centile and no congenital abnormality) was at 39 % of pregnancies with PAPP-A 0.11 MoM – 0.2 MoM, and only at 25 % of pregnancies with PAPP-A at or below 0.1 MoM.

Conclusion

If the PAPP-A level is at or below 0.2 MoM there is a high risk of pregnancy complications and abnormal outcome. Careful parental counseling and intensive pregnancy monitoring are needed.