

Low PAPP-A, early administration of low-dose aspirin and adverse pregnancy outcomes

OBJECTIVES

- To report on the incidence of adverse pregnancy outcomes in women diagnosed with low PAPP-A and treated with low-dose aspirin from <16 weeks' gestation.

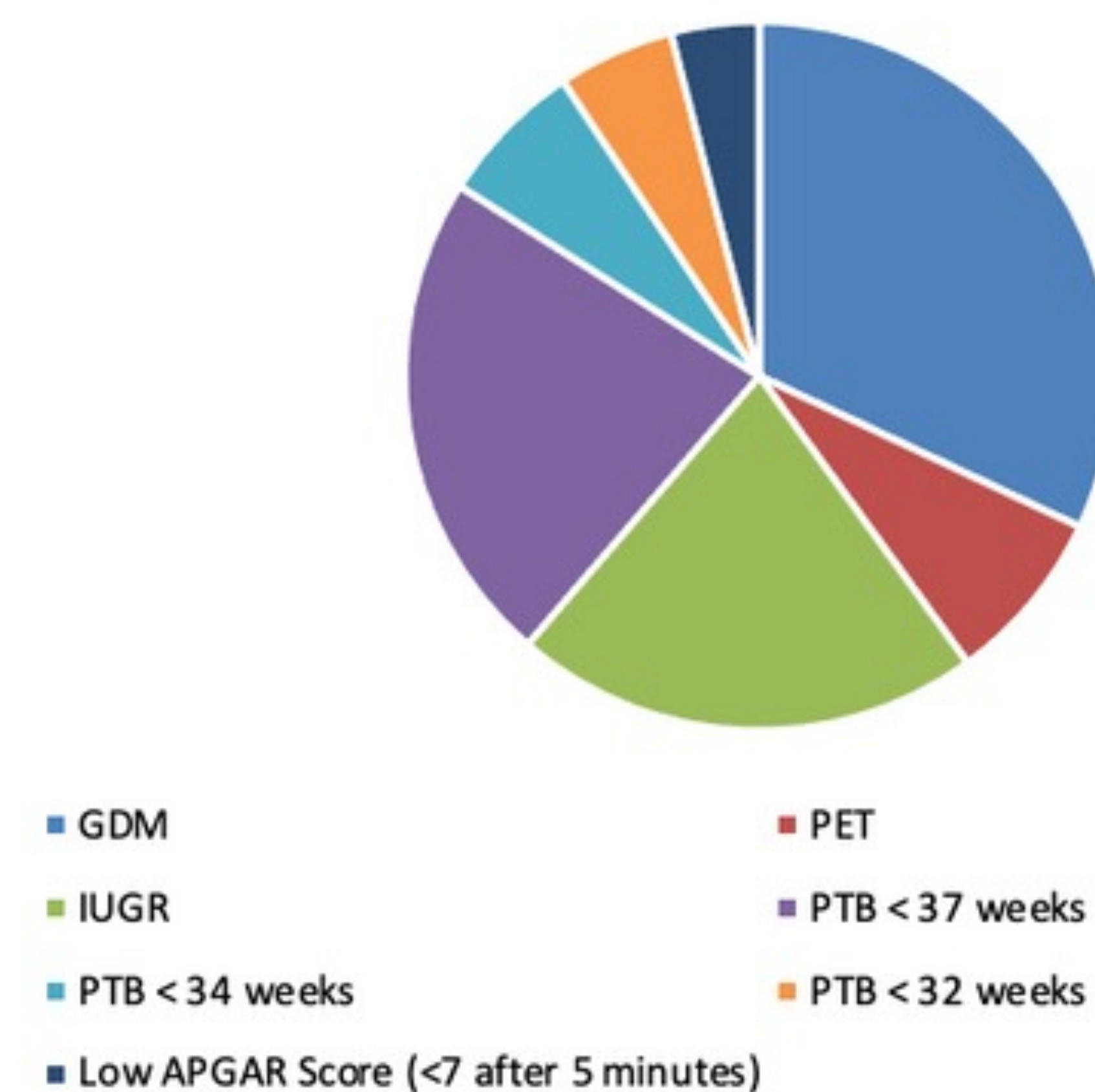
METHODS

- This retrospective audit included all pregnant women booked at Royal London Hospital and diagnosed with low PAPP-A (<0.41MoMs) at first-trimester screening (FTS), who were counseled in our dedicated clinic and offered aspirin 150 mg nocte between September 2020 and December 2021.
- Pregnancy data were extracted from the electronic maternity records and transferred on an Excel sheet for analysis.
- Adverse pregnancy outcomes included incidence of aneuploidies, perinatal loss, gestational diabetes [GDM], pre-eclampsia [PET], growth restriction [IUGR, defined as EFW<10th centile on population chart and/or birthweight <2500g after 37 weeks], preterm birth [PTB] <37, <34 and <32 weeks, emergency caesarean delivery, low Apgar score [<7 at 5 minutes].
- Aspirin compliance and side effects were also noted.

RESULTS

- During the study period, 187 out of 4699 (3.9%) women undergoing FTS were diagnosed with low PAPP-A. Mean PAPP-A level was 0.32 MoMs (range 0.06-0.40).
- FTS showed low-chance for aneuploidies in 96% of women, and high chance in 4%, which was confirmed by NIPT in 2.7% of cases (one Trisomy 18 and 4 Trisomy 21). Two additional cases of Trisomy 21 were diagnosed by amniocentesis following detection of structural defects at anomaly scan, with a total incidence of aneuploidies in our cohort of 3.7%.
- Out of the 173 patients for which we had complete follow-up data, there were 94.8% livebirths, 2.3% miscarriages, 2.3% medical terminations and 0.5% neonatal deaths. One miscarriage and all medical terminations occurred in pregnancies with high chances at NIPT or confirmed chromosomal/genetic abnormality. One NND occurred in a pregnancy with IUGR, and complicated preterm vaginal breech delivery. The total perinatal loss rate was 5.1%.
- 24% of patients developed GDM, 6% developed PET and 16% IUGR.
- The rate of PTB was 17% <37 weeks, 5% <34 weeks and 4% <32 weeks.
- The rate of emergency caesarean delivery was 20%. 3% of livebirths had low Apgar score, of which half were in babies delivered ≤34 weeks.
- Six women (3.5%) had contraindications or declined aspirin, only two (1%) discontinued it due to minor side effects.

Adverse pregnancy outcomes and their frequency



CONCLUSIONS

- In our cohort of women with low PAPP-A starting aspirin 150mg at <16 weeks, aspirin was well tolerated, and the risk of adverse pregnancy outcomes was lower than previously described in the literature.
- These findings need to be confirmed in future studies.