
Oral

[O25-5] O25-5: Clinical toxicology (2)

Chairs: Kei Zaitzu, Japan / Manuela Neuman, Canada

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[O25-5-1] Prevalence estimation of pregnant womens alcohol consumption using the new biomarker phosphatidylethanol

Birgit C. P. Koch¹, Wassenaar Sophie², Hilmar Bijma³, Barbara Sibbles⁴, Tom Schneider⁵, Ab Aaldriks⁶, Bart Van Der Nagel⁷, Eric Steegers⁸ (1.Erasmus MC, 2.Erasmus MC, 3.Erasmus MC, 4.Erasmus MC - Sophia Childrens Hospital, 5.Erasmus MC, 6.Reinier de Graaf Gasthuis, 7.Erasmus MC, 8.Erasmus MC)

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Background

Pregnant women's alcohol consumption can cause damage to the unborn child. Children with Fetal Alcohol Syndrome (FAS) experience lifelong physical, behavioral, and cognitive disabilities. To improve preventive actions, we should know which and how many women continue alcohol consumption during pregnancy. Compared to conventional markers for alcohol consumption, phosphatidylethanol (PEth) is a more reliable marker to study this subject and can be detected for a longer period of time. In this study PEth was measured anonymously in blood of pregnant women visiting the outpatient department.

Methods

We conducted a two-phase study; in phase 1 women were asked for informed consent for withdrawal of an extra blood sample. When inclusion-ratio turned out to be <95%, phase 2 was started in which residual material was used anonymously. Both studies were approved by the MEC of Erasmus MC. Women that visited the department and by whom a blood sample was taken for 12th-week-screening, were eligible. Exclusion criteria were 1) non-Dutch speaking; 2) objection to use residual material; 3) <18 years old.

PEth-analysis was performed using a validated UPC2-MS/MS-method. A result of 5,0 g/L for POPEth, 4,0 g/L for PLPEth or 2,5 g/L for DOPEth resulted in a positive PEth-test. Primary endpoint was the percentage with a positive PEth-test. Secondary endpoint was the relation between a positive PEth-test and potential predictive variables.

Results

Inclusion-ratio in phase 1 was 84%, therefore phase 2 was started and at time of this interim-analysis 336 women were included in phase 2. 6,9% of the women had a positive PEth-test in the first trimester of pregnancy (n=248). Creole ethnicity was found as potential predictive variable (OR 4,52; CI 1,47 -13,83). Furthermore, smoking seems a potential predictive variable (OR 3,22; CI 0,96 -10,79).

Conclusions

6,9% of the women had a positive PEth-test. The percentage of women that continue alcohol consumption during pregnancy is probably higher, since the PEth-test also remains a snapshot and many women in our population probably have a healthy lifestyle because of fertility problems. On the other hand, our population is highly multicultural. It would be interesting to extend this study with a larger group, including other hospitals or obstetric clinics.