[**PO-0645**] **COMPICATIONS OF PROLONGED PREGNANCY ON THE GROWTH RESTRICTED FETUS**

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Background: Prolonged pregnancy is defined as any pregnancy exceeding 294 days or more. It is now well known that prolonged pregnancy is associated with an increased risk of perinatal mortality and morbidity, both maternal and fetal, particularly in intraterine growth restricted fetuses.

Material and methods: We analysed in a retrospective study all births complicated by intraterine growth restriction of all births in the period 2010–2012. Criteria for inclusion in the study were represented by the diagnosis of intraterine growth restriction and prolonged pregnancy.

Results: Rates of transient tachypnea, hypoxia, neonatal apnea, sepsis, thrombocytopenia and hypoglycemia were higher in the postdated growth restricted newborns. An increased frequency of children who needed intensive care after birth, a longer period of hospitalisation and a higher frequency of oligohydramnios were observed in patients who associated both pathologies.

Conclusions: Chronologically prolonged pregnancies associated with intraterine growth restriction represent a pathology that requires close monitoring in order to anticipate possible matero-fetal complications.

[**PO-0646**] **ACOUSTIC ENVIRONMENT STUDY IN A NEONATAL INTENSIVE CARE UNIT**

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Background and aims: NICU’s environment is rich from an acoustical point of view. Long-term effects of exposure to repeated noise in preterm’s neurological and sensorial development is of concern.

We aimed to analyze the acoustic environment of the NICU, the types of sounds present in it and their characteristics (both intensity and frequency).

Patients and methods: Ten recording sessions were carried out. Duration of acquired data: 108.7 min. Two microphones connected to the Olympus LS-5 Linear-PCM Recorder were used. One microphone was placed inside the incubator; the other, outside.

Results: More than 65 different sounds were found. We divided them intoacoustically homogeneous groups:

1. Tones (mostly equipment alarms), were present in 21% of the total recorded time.
2. Vocalisations (with a lot of different subcategories here: speech, cry, laugh, cough... both from infants and adults) in 63%.
3. Other (all the other sounds: equipment moving, respiratory devices, caregiving tasks, etc.) in 70%.

Average/Maximum sound intensity was 54/72.3 dB inside the incubator and 51.6/69.7 dB outside.

With respect to the spectral domain, the fundamental frequencies of alarms are mostly around 1.5 kHz, and the content of vocalisations can be observed up to 8 kHz. The group other is diverse, since it contains lower- and higher-frequency sounds, and also sounds spread over wide frequency range (e.g. ventilation noise).

Conclusions: 1. In our NICU noise levels exceed recommendations.
2. There is a large and diverse set of sounds; vocalisations are the most common.
3. Noise inside the incubator is higher than outside it.