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 intrauterine growth restricted fetuses.

Material and methods We analysed in a retrospective study all births complicated by intrauterine growth restriction of all births in the period 2010–2012. Criteria for inclusion in the study were represented by the diagnosis of intrauterine 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 intrauterine growth restriction represent a pathology that requires close monitoring in order to anticipate possible materno-fetal complications.

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 a 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.

Materials and methods Retrospective analysis of 12 years data, of all VLBW screened for ROP managed by Singapore General Hospital, for maternal, neonatal risk factors using univariate and multiple logistic regressions.

Results Incidence of ROP was 24.8% among all screened VLBW. By univariate analysis, maternal risk factors for severe ROP were prolonged rupture of the membranes (PROM), pyrexia, multiple births, tocolysis, fetal distress and vaginal delivery. Neonatal risk factors for ROP were, infant with lower gestational age than 25 ± 2 weeks (mean ± SD), birth weight lesser than 689 ± 147 gm (mean ± SD), low Apgar scores, hyaline membrane disease (HMD) requiring surfactant, hypothermia, sepsis, hypotension, patent ductus arteriosus (PDA), air- leak, hypoglycaemia, intraventricular haemorrhage (IVH) increased days on assisted ventilation, CPAP, Oxygen and high mean FiO2 and Chronic lung disease (CLD), are significant risk factors for ROP (p < 0.05).

By multivariate analysis, lower GA (OR = 0.728, 95% CI = 0.609–0.870), lower BW (OR = 0.996, 95% CI = 0.994–0.997) and increased days on oxygen (OR = 1.015, 95% CI = 1.006–1.025) were independent risk factor for ROP.

Conclusion High risk factors for severe ROP are extreme preterm infants born vaginally to mother with infection and PROM, multiple birth, used tocolysis, fetal distress with lower GA than 25+2 weeks (mean±SD), with BW lesser than 689 + 147 gm mean±SD), having low 1, 5 min Apgar score, HMD requiring surfactant, hypothermia, sepsis, hypotension, patent ductus arteriosus (PDA) chronic lung disease (CLD), air-leak, hypoglycaemia, intraventricular haemorrhage (IVH). Longer duration of mechanical ventilation, CPAP and oxygen with increased FiO2 due to CLD, are also higher risk of ROP. By multivariate analysis lower GA, BW and increased days on oxygen were found to be high risk factors for ROP. Prevention of extreme prematurity, maternal infection, PROM, optimal ventilator care, with careful titration of oxygen therapy which can decrease CLD may reduce the incidence and severity of ROP in these high-risk ELBW infants.