**Background and aims** Anti cholinergic and sympathomimetic eye drops are widely used to achieve mydriasis. Normally systemic effects of these eye drops are ignorable but adverse events in preterm infants are reported. In this study during routine screening for retinopathy of prematurity (ROP), preterm infants were searched for the systemic effects of eye drops.

**Methods** The standard protocol was to instil 3 drops per eye which is a mixture of short acting tropicamide 0.5% with long acting cyclopentolate 1% and phenylephrine 2.5% ophthalmic solution in equal volumes. Each drop instilled at a 15 min interval between examination. Body temperature, heart rate, respiration, blood pressure, spO2, presence of flashing were recorded val before examination. Body temperature, heart rate, respiratory chain complex assembly was normal, but in liver levels of Complexes I, III and IV were decreased. Whole genome sequencing identified the candidate genes Sycp2, Clybl and Foxred1. The deficient complexes all possess mtDNA encoded subunits thus nuclear encoded translator mutation or other mtDNA related mutation might be causative.

**Conclusions** Respirometry from blood cells might suggest mitochondrial dysfunction that can be verified by structural analyses of respiratory chain complexes from the target organ. Causative mutation might be achieved with next generation sequencing.

**Results** We found significantly higher serum ADMA levels but not serum hs-CRP levels in NBF when compared to BF group (p < 0.05). According to BMI data starting from the age of 12 months more overweight/ obese children were found in NBF children when compared to BF. Serum ADMA was inversely associated with HDL-cholesterol levels and breastfeeding duration in studied children (p < 0.05). Positive correlation was found between ADMA and body fat mass (p < 0.05).

**Conclusion** In NBF children increased circulating ADMA is observed, however further studies are needed to assess whether breastfeeding duration affects body fat and other measures of body composition at older ages.
Case 4: A term newborn was appealed to our emergency service, with dyspnea and supraventricular tachycardia was diagnosed on 13th postnatal day. After intervention, multiorgan failure developed in our patient. At his postnatal day 27, vvHDF was performed. The patient died because of ventilator associated pneumonia.

Conclusion Continuous vvHDF application should be considered in the neonatal period, in cases where it is impossible to apply PD. Due to the technical difficulties in the neonatal period, such application is not common but it is also life saving.