She received intravenous Phenobarbital 10 mg/kg followed by 5 mg/kg/day.

Initial laboratory findings including lumbar puncture and initial metabolic evaluation were all unremarkable. A tumor or congenital malformation of the left hemisphere of the brain was suspected after the first two dimensional brain ultrasonography. Multi Slice Computed Tomography (MSCT) revealed left HME, confirmed with the magnetic resonance imaging (MRI) together with polymicrogyria of frontal lobe, atypical form of the left Sylvian fissure and the left frontal ventriculomegaly. She developed refractory seizures (tonic; focal with automatisms – squelching, eye blinking; generalised, often waking her up from sleep). EEG showed suppression burst pattern and after extensive diagnostic evaluation the Ohtahara syndrome was diagnosed.

Despite several different antiepileptic drugs, and their different combination, frequency and severity of the seizures did not improve and she developed severe developmental delay. At the age of 10 months she underwent functional hemispherotomy, and so far, eight months after the surgery she experienced no seizures together with major improvement in neuromotor development (despite strabismus and right hemiparesis which occurred after surgery). Her twin sister is healthy, normally developing, without seizures. Our findings are in comply with the data from the literature, claiming that after surgery the improvement of the patients is remarkable.

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OPENING OF THE FIRST HUMAN MILK BANK IN CROATIA

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Objective Foundation project for the first human milk banks (HMB) in Croatia was launched in 2017 as the result of a collaboration between the Ministry of Health, University Hospital Centre (UHC) Zagreb, UNICEF and the Croatian Association of Breastfeeding Support Groups. The HMB was opened in UHC Zagreb on November 15, 2019 as a part of the Croatian Tissue and Cell Bank, a division of the Department of Transfusion Medicine and Transplantation Biology. The specific technical side is based on the PATH standards and Guide to the quality and safety of tissues and cells for human application, Council of Europe.

On January 10, 2020, HMB passed a Competent Authority (CA) inspection, conducted in accordance with the requirements of national tissue legislation that has been adapted to EU Directive 2004/23/EC on setting standards of quality and safety for the donation, procurement, testing, processing, preservation, storage and distribution of human tissues and cells. The specific technical part is based on the PATH standards and Guide to the quality and safety of tissues and cells for human application, Council of Europe.

The aim of this study was to review the very first experience in human milk banking in Croatia.

Methods We retrospectively analysed the data of the first 28 human milk donors.

Results From the opening to mid-February, 135 women showed interest in donating human milk, of which 28 became donors.

In February 2020, we had 24 still active donors. Four women stopped donating, with a median donation period of 2 months. All donors were tested for blood borne viruses by serology and NAT and were negative. In total, we received 79 L of donated human milk. We started pasteurizing the milk after obtaining a license. Of the 30 controlled pre-pasteurization milk pools, 10% was over the allowed microbial contamination. Microbiological controls were performed for each pasteurization cycle. They were all sterile. The nutritional values of milk were all within the expected range.

Conclusions Human milk is recognised as the optimal feeding for all newborn infants.

When mothers' own milk is not available, donor human milk provided by HMB is the second-best choice, especially for premature or sick infants. The opening of the HMB in Croatia is highly important in helping to provide the best possible medical care for prematurely born babies and infants with a serious medical condition when they cannot receive their mother's milk.

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MARKERS OF INFLAMMATORY RESPONSE OF THE INTESTINE IN NEWBORNS WHOSE MOTHERS RECEIVED A PROBIOTIC DURING THE 6 WEEKS BEFORE DELIVERY

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To determine the concentration of the fecal eosinophil-derived neurotoxin

(EDN) and fecal calprotectin as intestinal markers of inflammatory response in newborns whose mothers received a probiotic during the 6 weeks before delivery Pregnant women (n=115), depending on the number of detected chronic diseases, were divided into two groups. The main group included women with a history of two or more chronic diseases, including the genitourinary sphere

- 63/54.8%. The comparison group included pregnant women without a history of chronic diseases or having one chronic disease, with the exception of the pathology of the urogenital sphere - 52/46.2%. Pregnant women of the main group with a preventive purpose for 6 weeks before delivery used a probiotic containing *Bifidobacterium longum* and *Streptococcus thermophilus*. The concentration of fecal EDN and fecal calprotectin was assayed using an ELISA method (Immundiagnostik, Bensheim, Germany and Calprest, manufactured by Nycomed).

We found the following changes from the intestinal markers of inflammation in newborns depending on the use of probiotic by women before delivery: in children of the main group (mothers used probiotics) both markers were significantly lower than in comparison group (mothers not used probiotics).

Concentration of fecal EDN was 163.4 ± 58.2 vs 224.1 ± 83.4 ng/g ($P < 0.001$) and fecal calprotectin was 240.3 ± 78.6 vs 315.6 ± 101.2 mcg/g ($P < 0.001$).

Subsequent follow-up (during the first year of life) showed that in children of the main group were less frequently detected functional disorders of the gastrointestinal tract (15.8% vs 36.5%, $P=0.034$) and allergic diseases (1.2% vs 5.8%, $P=0.056$).

In newborns whose mothers received a probiotic during the 6 weeks before delivery, after birth levels of both markers of intestinal inflammation (fecal eosinophil-derived protein and fecal calprotectin) were significantly lower than in comparison group (children whose mothers not used probiotics).

In addition, in children of the main group in the first year of life were less than half detected such conditions as functional disorders of the gastrointestinal tract and manifestations of food allergies.

112 EARLY NEONATAL OUTCOME OF NEWBORNS WITH MOTHERS HYPOTHYREOSIS IN PREGNANCY

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Newborns of mothers with hypothyroidism (latent or manifest) in pregnancy were investigated during two one-year periods. The aim was to point out particularities in mother's anamnesis, pregnancy and labour, as well as the clinical characteristics of neonates (Apgar score, gestational age, birth weight, mode of delivery) and to compare the differences in two periods.

Subjects The research was conducted on newborns of mothers with hypothyroidism in pregnancy in the Clinical Hospital Centre Osijek in 2015 and 2018. The control group consisted of newborns first born afterwards.

The data were presented in tables, in absolute and relative frequencies.

Chi-square test was used to demonstrate the statistical significance, resulting in significance level of $p < 0.05$. It was retrospective case control study.

Mothers with hypothyroidism in pregnancy had more acute complications in pregnancy (infections, hypertension, pre-eclampsia, gestational diabetes) and delivery, and more complications in reproductive anamneses. Urgent Caesarean section was much more common for their newborns. C-reactive protein among them was often higher than 5 mg/l. They gave birth prematurely more often, while infections, cyanosis, hypo- and hypertonus, and jaundice were also more common. Complications of prematurity and the need for oxygenation occurred much more often than in the control group. They were also hospitalized longer. Comparing the two one-year periods, we found less complications during pregnancy and delivery in the year 2018; the frequency of mothers with bad reproductive anamnesis was three times lower, as was the number of urgent Caesarean sections. The number of newborns born prematurely was two times smaller. In 2018, neonatal outcome included three times less common onset of infection, cyanosis, hypo- and hypertonus, and less common preterm labour. The need for oxygenation was five times, and for prolonged hospitalisation nine times less common.

Conclusion Better perinatal care and screening of mothers with hypothyroidism improves neonatal outcome as well as long-life consequences in newborns and lowers the complication rates for mothers during pregnancy and delivery.

113 UMBILICAL CORD BLOOD CYTOKINES TNF α AND IFN γ LEVELS INCREASED IN CHILDREN BORN TO MOTHERS WHO ARE OBESE

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Introduction Maternal obesity is considered one of the several key factors that affect development of the immune system of newborns. Experimental and clinical data indicate an increased risk of developing autoimmune, allergic diseases and obesity in the offspring of obese mothers. The main mechanisms of the relationship between mother's body weight and the immune system of a newborn person remain poorly understood.

Objectives Aim of this study was to analyze the cytokine status of umbilical cord blood of children born to mothers with obesity.

Methods Umbilical cord blood samples were taken from 65 children born to thin ($n = 24$), with overweight ($n = 9$) and obese mothers ($n = 32$). The levels of TNF α , TGF β 1, IL 18, IL 13, IL10 and IFN γ were quantified by IFA. Statistical processing of data was performed on a personal computer using licensed computer software 'Microsoft Excel 2016' and 'STATISTICA 12'. The Student t-test value was determined while analyzing the distribution of quantitative data. The criterion of statistical significance level was $p < 0.05$.

Results Compared to children born to thin mothers, children born to obese mothers had higher levels of umbilical cord blood plasma TNF α ($12,75 \pm 10,80$ pg/ml and $4,94 \pm 3,55$ pg/ml; $P_{1,3} = 0,005408$) and IFN γ ($798,90 \pm 565,96$ pg/ml and $311,05 \pm 249,08$ pg/ml; $P_{1,3} = 0,014947$).

Conclusion These results confirm the hypothesis that maternal obesity affects programming of the immune system of newborns providing a potential connection with an increase in the incidence of chronic inflammatory diseases and obesity in offspring.

114 HYPOTHERMIA IS PREVENTABLE

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Background Temperature regulation is an important part of new-born care.

This is especially true of pre-term infant and those with the low-birth weight, which represent a significant proportion of the population in the neonatal unit.

Aim The audit was performed to assess the quality of care in relation of hypothermia. The audit was aimed at observing babies admitted to neonatal unit Leicester Royal Infirmary and Leicester General during the months of June -July (period 1) and November – December (period 2), with a body temperature below the 36.5. The second objective was to look at the documentation of the admission temperature

Methods The data was collected retrospectively. Babies were identify using the online record system. Data was also collected on gestational age, birth weight, reason for admission