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IRON DEFICIENCY IN CHILDREN WITH ASTHMA, A PREDICTOR OF SEVERITY AND DISEASE CONTROL Veronika Dudnyk*, Kateryna Khromykh, Zhmurchuk Vasyl. *National Medical Pyrogov Memorial Medical University, Vinnitsa*

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Aim of the study was to investigate influence of iron deficiency on severity and control of asthma in children.

We have examined 227 children aged 6 to 17 years, patients with asthma. The average age of the surveyed patients amounted to (9.87 ± 0.22) years. The diagnosis of asthma was established in accordance with ICD 10 and order of the Ministry of Health of Ukraine on asthma in children no 868 from

08.10.2013 with the recommendations of the 'Global Initiative on Bronchial Asthma' (GINA, 2018). The work started after receiving the consent of the patient and his parents to participate in the study in compliance with the provisions of the UN Convention on the Rights of the Child. Materials of the study do not deny the international Code of Medical Ethics (1983) and the laws of Ukraine correspond to the basic bioethical norms of the Helsinki Declaration, adopted by the General Assembly of the World Medical Association, the Council of Europe Convention on human Rights and Biomedicine (1977).

CBC with morphometric parameters (MCV, MCH, MCHC, RBC, RDW, HCT) was performed with the help of Hematology Analyzer Gobas Micros 18. Iron complex (serum iron, ferritin, transferrin receptors and sTfR/log ferritin) ELISA kits. Statistical methods (SPSS Statistic 20th edition).

In assessing the risk of asthma in various severity depending on the serum iron content, there is definitely a significant increase in chances that the persistence of moderate to moderate and severe degrees in children with iron content in blood less than $10 \mu\text{mol/L}$ in 1.537 (OR = 1.537; 95% CI 1.061 – 3.106) and 2.375 (OR = 2.375; 95% CI 1.870 – 6.482) times respectively.

While children with no iron deficiency grew the chances of persistent mild asthma in 1.916 times (OR = 1.916; 95% CI 1.696 – 5.271).

The level of control of progress of the asthma also depended on the iron content of serum. Thus, the risks of uncontrolled asthma have increased 7.852 times in children with existing iron deficiency (less than $10 \mu\text{mol/L}$) (OR = 7.852; 95% CI 3.050 – 20.213). Children with iron deficiency reliably decreased the chances of controlled asthma in 1.472 times (OR = 0.528; 95% CI 0.414 – 0.673), and in children with normal serum iron, the chances of a high level control of a course of asthma increased by 4.146 times (OR = 4.146; 95% CI 1.923 – 8.938).

In children with an asthma, iron deficiency reliably decreased the chances of controlled disease compared with patients with normal serum iron in 1.472 times.

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VITAMIN K DEFICIENT BLEEDING: A CASE REPORT OF A LATE ONSET DISEASE PRESENTING AS SEPSIS AND AN INTRATHORACIC MASS Dragos Valceanu*, Gerry Mackin, Isabela Govor. *South West Acute Hospital*

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Introduction VKDB is a rare life threatening bleeding disorder that can occur after birth caused by vitamin K deficiency. VKDB is categorised according to the timing of first symptoms: early onset occurs within 24 hours of birth, classic onset occurs within two to seven days, late onset occurs within two weeks to six months. It's now common practice babies to be given vitamin K-1(phytomenadione), shortly after birth. Early and classical VKDB are relatively common, occurring in 1 in 60 to 1 in 250 newborns. Late VKDB is much rarer, occurring in 1 in 25,000 infants.

Case We herein report a case of a twin boy, born at term who presented at 34 days of age with VKDB.

Clinical The child presented with a 1 day history of fever, coryzal and decreased feeding. No respiratory distress. The child was screened for sepsis and started on IV Antibiotics. Lumbar puncture and Urine Culture negative. The following day the child developed 2 purpuric lesions on his chest wall. Noted to be oozing blood from IV cannula and LP sites. Blood noted on nappy. Investigations showed a drop in Hb from 86 to 58g/L. INR 5.1 Treatment with FFP, Packed red cells, Vitamin K and Tranexamic acid was given. Further discussion with parents revealed that they had declined Vitamin K at birth for their child. The child was transferred to our local PICU where he required intubation and ventilation for increasing respiratory distress. CXR showed opacity over the right lung with mediastinal shift. MRI thorax multi-cystic mass in the right hemithorax with evidence of haemorrhage. Malignant changes could not be ruled out. The child proceeded to an open thoracotomy. Large gelatinous mass removed. Extubated the following day. Histopathology showed blood clot with no evidence of malignancy.

Conclusion Although routine use of neonatal vitamin K has reduced the incidence of VKDB clinicians should remain vigilant and remember that not all children will have received this treatment. This case shows a rare complication of extensive intrathoracic haemorrhage although this case had a positive outcome it should be remembered that VKDB has a significant mortality even with aggressive treatment.

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COMPARISON OF MATHEMATICAL INDICES USED TO DIFFERENTIATE BETWEEN β -THALASSEMIA AND IRON DEFICIENCY ANEMIA IN CROATIAN CHILDREN Daniel Turudic*, Iva Busic, Marko Bilic, Ernest Bilic. *University Hospital Centre Zagreb*

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The aim of the study is to discriminate β -thalassemia from iron deficiency anemia (IDA) using common mathematical indices.

A complete blood count (CBC) sample of 100 children (aged 6 months – 18 years) treated for β -thalassemia and IDA in Department for Pediatric Hematology and Oncology University Hospital Centre Zagreb was randomly selected. Only children diagnosed with microcytic hypochromic anemia (MCV $< 80 \text{ fL}$; MCH $< 26 \text{ pg}$; hemoglobin $< 109 \text{ g/L}$) were enrolled in the study.

Diagnosis of β -thalassemia was confirmed with a hemoglobin A2 level $> 3.5\%$ by liquid chromatography while serum iron levels $< 4 \mu\text{mol/L}$ and serum ferritin levels $< 15 \text{ ng/dL}$ indicated iron deficiency anemia (IDA). Children below < 6 months of age or with other diseases that could cause microcytic hypochromic anemia were excluded. Sensitivity, specificity