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 \( (9.87 \pm 0.22) \) 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 Hematalogic Analyzer Gobas Micros 18. Iron complex (serum iron, ferritin, transferrin receptors and sTfR/log ferritin) ELISA kits. Statistical methods (SPSS Statistical 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 \( \mu \)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 \( \mu \)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.

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 be 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 Transexamic 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. Exuted 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.