

The diagnosis of thrombocytopenia in newborns and infants is relatively difficult and it should be diagnosis by exclusion. The most important causes of thrombocytopenia that need to be considered in this group are infections, including sepsis as well as CMV infection, fetal hypoxia, chromosomal abnormalities, bone marrow proliferative diseases and neonatal immune thrombocytopenia.

A rare cause of infant thrombocytopenia is genetically determined, most often X-linked, primary immunodeficiency – Wiskott-Aldrich syndrome (WAS).

Depending on the type of mutation in the WAS gene, encoding the WASP protein, there is a wide spectrum of clinical phenotypes: X-linked thrombocytopenia, X-linked neutropenia and classic WAS. The last one is characterized by a triad of symptoms: thrombocytopenia, usually with small platelets, recurrent infections, and eczema.

This case – report presents the case of a 4-month-old boy with thrombocytopenia resistant to treatment found from the second day of his life, who was diagnosed with full-blown Wiskott – Aldrich syndrome in the following weeks. An additional difficulty in the differential diagnosis in this case was the boy's negative family history and the normal size of the platelets in the tests, which is atypical for WAS. The diagnosis was confirmed by a molecular test which revealed a new mutation, not registered in the ClinVar and HGMD database. The boy's severe course of disease has been brought under control thanks to a bone marrow transplant from his mother in the age of 12 months.

303 CENTRAL VENOUS CATHETER FRAGMENTATION IN BOY WITH HEMOPHILIA A AND INHIBITORS

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Hemophilia A is characterized by deficiency in FVIII and approximately 30% of people with severe hemophilia A are affected by inhibitors.

A 11-year-old boy was diagnosed with severe hemophilia A immediately after birth due to hematoma around right kidney and positive family history. He developed inhibitors on FVIII when he was 12 months of age and therapy was changed in activated prothrombin complex on demand. During next 9 years, recurrent bleeding in the both knees started to occur which was manifested with haemophilic arthropathy.

After several attempt, immune tolerance induction (ITI) was approved by insurance company when he was 10 years old. We started with plasma-derived F VIII in dosage of 100 i.u. per kg BW daily. Titer of inhibitors was negative after 3 months of ITI, and half life of FVIII was normalised after 6 months.

For ease of administering therapy, central venous catheter (CVC) was inserted in right subclavian vein. On the other hand, usage of CVC can be complicated by infections and thrombosis. One year after insertion of CVC, he became febrile and microbiology findings revealed that blood culture was contaminated with *Staphylococcus aureus*, *Acinetobacter ursingii*, *Achromobacter xyloxidans* and *Fusarium proliferatum* which was indication for emergency removal of CVC. Unfortunately, during that surgical intervention, breakage of a

CVC occurred and the tip of the catheter was notably missing.

Emergency MSCT of thorax showed tubular structure located in right ventricle with loop at the entrance of right atrium and descending into the inferior vena cava as well as confluence with hepatic veins. To avoid major surgery, the retained portion was successfully removed by the interventional cardiologist through a femoral vein. During procedure, patient received plasma-derived FVIII to maintain the value of FVIII above 80% and there was no bleeding. Prophylactic antibiotics (meropenem, teicoplanin, liposomal amphotericin B) were continued for 10 days. After three negative blood cultures, negative galactomannan (GM) and 1,3-β-d-glucan (BDG) tests, he was released home and regularly controlled in day hospital. He is now using plasma-derived F VIII 1500 IU every other day as a prophylaxis of hemophilia A and is doing well without bleeding and development of inhibitors.

304 THE CASE PRESENTATION THE DIAMOND BLACKFAN ANAEMIA CAN BE PRESENTED AS THE PARVOVIRUS INFECTION

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Background Diamond-Blackfan Anaemia (DBA) is a congenital type of anaemia characterised by pure red cell aplasia and associated with congenital bone abnormalities. It is chronic macrocytic-normocytic anaemia.

DBA is a heterogeneous genetic disease, inherited as an autosomal dominant inheritance in 40 to 45% of cases. The remainder 55 to 60% of cases typically present sporadically.

Case We are introducing the girl who initially was presented with pallor and tachycardia 2 months old. She had Hb 26g/L. Platelets 973 109/L, neutrophils 0.8 109/L, Reticulocyte 9.5 109/L. Blood film showed modest aniso/poikilocytosis, unremarkable WBC, thrombocytosis, no polychromasia.

The flow cytometry performed, was showing:- 65% lymphocytes,- no blast cells. She was transfused, her Hb increased to 66g/L. However she required several blood transfusions due to low Hb in 2 months. She had positive IgG for B19 parvovirus infection. She initially was diagnosed with transitional aplastic anaemia due to B19 infection. However as part of the investigations the elevated level of adenosine deaminase was found. She is currently awaiting the genetic test result, confirming the DBA.

Conclusion It is significantly important to complete the investigation for the DBA if the child presented with aplastic anaemia. Diamond-Blackfan anaemia is a rare disease that carries significant morbidity and mortality if not diagnosed early and managed appropriately.

305 LOW GRADE GLIOMA BRAF V600E INHIBITOR MONOTHERAPY IN A 12-YEAR OLD CHILD

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The goal is to report our center experience treating a 12-year old child with unresectable optochiasmatic pilocytic astrocytoma using BRAF V600E inhibitor monotherapy.

Low grade gliomas (LGGs) are the most frequent pediatric tumors of the central nervous system. The outcome of the treated children is satisfactory, albeit at the expense of the poor quality of life due to neurologic impairment linked to the tumor localization and multimodal oncologic treatment, including chemotherapy application. Cytostatic agents are used with the aim of achieving better disease control and increasing survival.

In the modern era of pediatric oncology detecting BRAF V600E mutation in histopathological samples has become a standard procedure which enables BRAF inhibitor therapy commencement. LGGs are stable monogenetic tumors characterized by activated MAPK pathway during all the phases of the illness making these drugs an attractive therapeutic option in relapsed disease.

Taking into account tumor localization, in our patient, only partial surgical reduction of the tumor mass was feasible and followed by chemotherapy administration. Unfortunately disease relapse ensued requiring new neurosurgical procedure, again without the possibility of achieving a complete resection. After BRAF V600E mutation has been found in resected material, a compassionate use of dabrafenib has been initiated.

In our patient oral BRAF inhibitor monotherapy of incompletely resected low grade glioma was easy to implement, with good medication tolerance, resulting in satisfactory disease control and good quality of life.

306

ACUTE LYMPHOBLASTIC LEUKEMIA IN CHILDREN: 5-YEAR EXPERIENCE OF A SINGLE NATIONAL PEDIATRIC ONCOLOGY CENTRE

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Study aimed to analyze epidemiological and clinical characteristics, hematologic, immunophenotypic and cytogenetic parameters of paediatric acute lymphoblastic leukemia cases, aged 1 year and above. Acute toxicities and treatment responsiveness were also studied.

Medical records of all children treated for acute lymphoblastic leukemia at the Department of Oncology and Haematology in Children's Hospital Zagreb from beginning of January 2015 to the end of December 2019 were reviewed.

Infants aged less than a year were excluded.

: In five-year period 28 children were treated for acute lymphoblastic leukemia, of whom 2 infants. Most cases of ALL were diagnosed in 2018 (N=10), and the least in the previous year (N=2). Out of 26 patients 16 were female (61.54%), average age 5.25 years. Median number of leukocytes at the time of diagnosis was $35.36 \times 10^9/L$, hemoglobin level 83.96 g/L and platelet count $120.42 \times 10^9/L$. The most represented immunophenotype was „common’

(73.07%), T phenotype present in only one child. 26.92% of blood marrow samples were hyperdiploid by cytogenetic testing and in two samples hypodiploidy was verified. One child had bcr/abl positive (Ph+) disease.

All 26 children were treated according to ALL IC-BFM 2009 protocol, 12 (71.06%) belonging to intermediate risk group, while standard and high-risk groups were evenly

represented (N=7). 25 children achieved early complete remission (by the end of induction), 3 were eligible for allogeneic stem cell transplant (1 Ph+, 1 resistant, 1 relapse), that was performed accordingly. While all children were faced with febrile neutropenia at some point of the treatment, 7 (26.92%) were treated for microbiologically proven sepsis. Four patients were diagnosed with clinically-radiologically verified pulmonary fungal disease. Acute neurotoxicity was observed in 7 children (seizures, ischemia, PRES). Thromboembolic events were registered in 4 (15.38%) patients. Two children (7.69%) died during intensive chemotherapy; 2-year old boy in induction therapy due to septic shock, pancreatitis and multiorgan failure; 1.5-year old girl due to the same reasons at the beginning of re-induction. No further deaths were observed; all 24 children are alive and in remission.

Acute lymphoblastic leukemia is the most common childhood malignancy, occurring in early age, predominantly of „common’ immunophenotype and most frequently classified as intermediate risk. Serious adverse events during intensive chemotherapy are frequent but with adequate management usually successfully resolved. Survival rates are excellent and have reached more than 90% in developed countries. Our results are completely comparable with literature data.

307

HEPATIC SINUSOIDAL OBSTRUCTION SYNDROME IN CHILDREN TREATED FOR SOLID MALIGNANT TUMORS – DIAGNOSIS AND TREATMENT

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The aim of this report is to describe our center’s experience regarding diagnosis and treatment of hepatic sinusoidal obstruction syndrome (SOS) in children treated for malignant solid tumor.

retrospective analysis of hospital records in 2014-2021 period was conducted. Data on patients treated for malignant solid tumor who developed hepatic SOS were extracted and additionally analyzed, with the focus on the type and staging of the tumor, oncologic treatment undertaken, SOS diagnostic criteria and therapy.

a total of 5 patients (1 boy, 4 girls), aged between 19 months and 8 years, developed hepatic SOS. Two patients suffered from nephroblastoma and one from nephroblastomatosis. Two patients (Ewing sarcoma, high risk neuroblastoma) developed SOS as a complication of autologous hematopoietic stem cell transplantation, during which both received abundant supportive care.

All patients had hepatomegaly, ascites, weight gain (>5%) and thrombocytopenia. Hyperbilirubinemia was registered in only one patient.

Clinical criteria were supported by radiological investigations, mainly abdominal ultrasound with Doppler. In one patient liver biopsy was performed due to the suspicion of metastatic liver disease.

Risk factors identified among our patients were cytostatic agents (actinomycin-D, busulfan), previous radiation therapy and supportive care (total parenteral nutrition, antifungal