discharge newborn thrived well but had a severe motor delay. He was referred to our institution at the age of 3 months with severe hypotonia, hypermobile joints, extremities in a frog-like position, redundant skin, no head control, bell-shaped thorax with pectus excavatum, mild thoracolumbar kyphosis, spina bifida occulta, umbilical hernia, undescended testicles, and talipes calcaneovalgus. Social contact was normal. Metabolic workup and gene analyses for spinal muscular atrophy, myotonic dystrophy type 1 and Prader-Willi syndrome gave normal results. Brain MRI was normal.

Electromyoneurography showed myopathy. Muscle biopsy revealed abnormal mitochondria and decreased activities of all respiratory chain complexes.

Mitochondriopathy was suspected and „mitochondrial-cocktail’ therapy was started. At two years of age, the patient was severely hypotonic, with myopathic face, hyperelastic joints and skin, easy bruising, thoracolumbar kyphoscoliosis, and normal mental development. He started to walk at the age of 3.5 years. At the age of 5 years, he developed severe osteoporosis and kyphoscoliosis progressed. Whole exome sequencing (WES) revealed homozygous mutation c.362dupC (p.Glu122fs) in the FKBP14 gene.

Conclusion Collagen myopathies should be in the differential diagnosis of floppy infant syndrome. Skin hyperextensibility and improvement of motor function with age may help to distinguish KEDS from collagen VI-related myopathies. Diagnosis can be confirmed by single gene or multigene panel testing. In a diagnostic dilemma, as in this case, in which some findings pointed to the diagnosis of mitochondrial disease, WES could be the best diagnostic approach. Accurate diagnosis ensures optimal patient management, complications insight, and appropriate genetic counselling.

87 KABUKI SYNDROME: REVIEW OF THE CLINICAL FEATURES AND DIAGNOSTIC FINDINGS IN FOUR CROATIAN PATIENTS

Sanda Huljev Frković*, Tin Kranjec, Mia Šalamon Janečić, Mario Čuk, Marijan Frković, Kristina Crkvenac Gornik, Marija Jelušić. *Department of Pediatrics, University Hospital Centre Zagreb, University of Zagreb School of Medicine*

10.1136/archdischild-2021-europaediatrics.87

Goal Kabuki syndrome (KS) is a rare malformation syndrome caused by mutations in KMT2D and KDM6A genes. Besides the cardinal manifestations, including distinctive facial appearance, mild-to-moderate intellectual disability, dermatoglyphic abnormalities such as persistence of fetal fingertip pads, skeletal anomalies and postnatal growth retardation, a wide spectrum of other anomalies is documented so far. We present clinical features and diagnostic findings in our four patients.

Methods During the 2016-2019 period, four of our patients were diagnosed with KS based on clinical observation and gene-targeted testing or comprehensive genomic testing (exome sequencing).

Results Three of our patients were males, one aged 17 and two aged 3 years, and one female aged 16 years at the time of diagnosis. Mutation of the KMT2D gene was identified in two patients, mutation KDM6A in one patient, while molecular analysis of one male patient is still in progress.

In addition to the five cardinal findings, one male patient had cleft palate, one had aortic coarctation with bicuspid aortic valve and one had multiple severe respiratory infections. Although susceptibility to autoimmune disorders is a known

feature in these patients, our female patient with KMT2D gene mutation was recognized as the first KS patient with systemic lupus erythematosus.

Conclusion KS is a rare disorder with highly variable clinical features making the diagnosis difficult. Consequently, a close collaboration between pediatric subspecialists, clinical geneticists and molecular biologists is essential in the terms of clinical recognition and genetic confirmation of this syndrome.

88 LOWE SYNDROME – OLD AND NEW EVIDENCE OF SECONDARY MITOCHONDRIAL DYSFUNCTION

Katja Dumic Kubat*, Darko Anticevic, Jelena Petrinovic-Doresic, Tamara Zigman, Kamelija Zarković, Matea Melša, Oliver Vugrek. *Department of Pediatric Endocrinology and Diabetes, University Hospital Centre Zagreb, University of Zagreb, Medical School*

10.1136/archdischild-2021-europaediatrics.88

The oculocerebrorenal syndrome of Lowe (LS) is a rare, progressive, multisystemic X-linked disorder caused by mutations in OCRL gene. Patients classically present with ocular abnormalities including bilateral congenital cataracts and glaucoma, intellectual delay, severe generalized hypotonia with absent tendon reflexes, and proximal renal tubular dysfunction. Congenital bilateral cataracts and hypotonia are present at birth in almost all patients, while other classical symptoms develop gradually with variable severity. Consequently, differential diagnosis in infant period in these patients can be broad including other rare metabolic and neurologic disorders.

Herein we present a 4.5 year old boy with Lowe syndrome caused by novel mutation of OCRL gene (c.643C>T/p.Gln215*) initially diagnosed as having mitochondriopathy due to alteration of mitochondria on electron microscopic examination in different tissues and decreased values of mitochondrial energy metabolism measurements in muscle. No pathogenic mutations in mitochondrial DNA were found on whole exome sequencing.

This patient recall historical hypothesis of secondary mitochondrial dysfunction in Lowe syndrome, that may be caused/intensified some of disease symptoms.

89 FIVE-YEAR UPDATE FOR THE PHASE III VORETIGENE NEPARVOVEC STUDY IN BIALLELIC RPE65 MUTATION-ASSOCIATED INHERITED RETINAL DISEASE

Bart P Leroy*, Stephen R Russell, Jean Bennett, Katherine A High, Arlene V Drack, Zi-Fan Yu, Amy Tillman, Daniel Chung, Kathleen Z Reape, Albert M Maguire. *Department of Ophthalmology and Center for Medical Genetics Ghent, Ghent University and Ghent University Hospital, Ghent, Belgium; Children's Hospital of Philadelphia, Philadelphia, PA*

10.1136/archdischild-2021-europaediatrics.89

Goal To determine whether ambulatory navigation, light sensitivity, and visual field (VF) improvements 1 year after voretigene neparvec (VN) administration in patients with biallelic RPE65 mutation-associated inherited retinal dystrophy (IRD) are maintained at 5 years and review safety outcomes over the entire period.

Methods This is an open label, randomized, controlled Phase III trial performed at 2 sites in the United States. Patients were randomized to either original intervention (OI: bilateral subretinal VN at baseline; n=20) or delayed intervention (DI: VN after 1 year; n=9). The primary endpoint was bilateral