remissions and exacerbations are frequent. A topical corticosteroid is most commonly used to treat this condition. If in doubt, it is necessary to consider, and rule out conditions such as allergic reaction to drugs, Henoch-Schonlein purpura and thrombocytopenia caused by a viral infection.

79 AVOIDING DIFFERENT VACCINE, THROUGH PRISM OF FEAR FROM COVID, TO CHILDREN FROM THE CENTRAL REGION OF SERBIA

¹M Gostiljac*, ²N Radonjić, ²V Nikolić, ²V Đukić, ¹M Marinković. ¹Health center Kraljevo; ²Institut of Public Health Kraljevo

10.1136/archdischild-2021-europaediatrics.79

Introduction Initiated by disagreement in attitudes, even of the most influential professors from different faculties, reading of immunology interpretation, disagreement in professional public, provoked avoiding getting vaccines; in spite of the fact that the highest level of science and civilization have been conditioned by vaccines.

The Aim of Paper

Comparison with unknown reasons for avoiding MMR vaccine, (2003-2017) and parents' behavior during Covid infection. Recognition the real families fear through prism of accepting, refusing 'non Covid' vaccine defined by the law inclusion of vaccine.

Materials and Methods Insight into documentation, cumulative indexes of vaccine avoiding; emphasis on, above all, avoiding MMR vaccine between first and second year of age. Analyses of dynamism and social card of Morbillae epidemic in 2017, comparison of appearance in Romania and Kosovo. Facts about complications. Insight into percentage scope of vaccination during Covid pandemic by law defined vaccines. Comparison of VI and XII months of 2020 for the region Kraljevo, Vrnjacka Banja and Raska.

Results of the Research

Avoiding vaccination by MMR in the period 2003-2016 resulted in 1008 cases, especially in 2015 and 2016 – 137,396. Appearance of Morbillae catches population of Gypsies and it spreads to domiciles. Clinical conditions without fatal results. Facts in VI and XII months deny fear from avoiding legally obliged vaccines. MMR vaccine in VI month (52,29 and 85,93% for II and VII year) in XII month 90,75% cumulative, which is still insufficient. For other diseases the level is higher: in XII month of 2020 (OPV 99,06%, DiTe per 98,98%, Haep B 100%, Hib 94, 69%, TBC 94, 69%). In 2017/2018 Morbillae epidemic – 2165 infected, 13 egstus, 76% clinical condition without complications. In Romania there was a dramatic decrease of vaccinated from 2013-2015 – 83%, fatal outcome in most cases – children 1 year of age.

Conclusion families fear caused by Covid did not result in avoiding common vaccine. The level of getting vaccine MMR does not guarantee eradication of Morbillae. Agreement with calendar of EU is necessary. Vaccination against HPV virus, Rota virus or Varicellae within EU is not uniformed. Prejudices present in public are still here, avoiding vaccination, mostly by MMR exists. Vaccination against Covid SARS virus is aggravated; resistance and anti vaccination campaigns are present. Fear is slowly getting away; arguments about advantages of vaccination can hardly be ignored.

80 GENETICS HEART AND CARDIOVASCULAR INVOLVEMENT IN RUSSIAN PATIENTS WITH MUCOPOLYSACCHARIDOSIS: EFFECTS OF ENZYME REPLACEMENT THERAPY

Nato Vashakmadze*, LS Namazova-Baranova, NV Zhurkova, GV Revunenkov. Pirogov Russian National Research Medical University

10.1136/archdischild-2021-europaediatrics.80

Mucopolysaccharidosis is a rare lysosomal storage disorder. Clinical phenotype is very variable. Patients usually have short stature, multiplex dysostosis, facial dysmorphism, cardiovascular abnormalities and other changes We study cardiovascular and heart findings in patients with mucopolysaccharidosis II (MPS II) and effect after enzyme replacement therapy (ERT). 55 boys were included in our study. Cardiac problem has 49 patients (median age 85,00±7,26 (3-207) month). ERT was given to 46 patients since 2008 (median age 81,54±50,24 month).

Before ERT, mitral regurgitation had 27 patients, thickening of the mitral valve – 17, stenosis mitral valve 1, aortic regurgitation – 20 patients, thickening of the aortic valve – 6, stenosis aortic valve -1, tricuspid regurgitation 13 patients, pulmonary valve regurgitation – 4.

After ERT – mitral regurgitation had 35 patients, thickening of the mitral valve – 20, stenosis mitral valve – 0, aortic regurgitation – 23 patients, thickening of the aortic valve – 35, stenosis aortic valve -0, tricuspid regurgitation – 14 patients, pulmonary valve regurgitation -3.

There were no statistically significant deterioration or improvement of the valve heart apparatus in the examined group of patients. (P>0,05).

Cardiomyopathy (left ventricular hypertrophy) have 6 boys with MPS II before and after ERT, lung hypertension – 2 cases before ERT, 4 – after. The course of heart failure in MPS is progressive and we evaluated the heart condition by functional class. We have identified significantly high performance functional class at first patient visit (I class – 44,4% patients, II class – 44,4%). After ERT (median age 81,54 ±50,24 month) 89% patients have no negative dynamics. It should be noted that most patients began receiving ERT at age 6-8 years old, they had severe somatic and neurological symptoms.

ERT is not able to reverse the cardiac damage, but provides stabilization of heart failure. Early initiation of ERT is a factor preventing severe heart disease in MPSII patients.

81 PITT-HOPKINS SYNDROME

OB Kondakova, DI Grebenkin, NV Zhurkova, TT Batysheva, AA Lialina, EV Khurstaleva, IV Kanivets. National Medical Research Center of Children's Health of the Ministry of Health of the Russian Federation, Moscow, Russian Federation

10.1136/archdischild-2021-europaediatrics.81

Pitt-Hopkins syndrome is rare inherited disease, characterized by mental retardation, moderate to severe, autistic disorders, breathing problems, seizures, apnea, and distinctive facial features. Frequency of disease is between 1: 34 000 – 1: 41 000 in newborn. Pitt-Hopkins syndrome (PTHS) is caused by deletions, duplication (30%), larger deletion (30%), point

mutation (40%) in the TCF4 gene located at 18q21.2 and encoding Transcription Factor 4. Variants in TCF4 usually occur de novo in children with severe phenotype, milder phenotypes inherited autosomal dominant. We have examined 9 patients (4 boys and 5 girls) with Pitt-Hopkins aged 1 to 12 years.

Array-comparative genomic hybridization was performed in 5 children. Target areas of the exome were investigated by massive parallel sequencing (NGS) in 4 cases. Validation of the identified variants was carried out by the Sanger method.

De novo microdeletions 1 revealed in 5 cases: arr 18q21.2q21.32 (51266708_56293087) ×1, arr 18q21.2 (52691678_52999165) ×1, arr 18q21.2q21.1 (50029734_61654329) ×1, arr 18q21.2q21.31 (51620900_54883094) ×1, arr 18q21.2q21.31 (49493248_55403360) ×1. Detected deletions was from 307 Kb to 1162 Mb.

We identified 4 different mutations in the TCF4 gene in 4 patients with Pitt-Hopkins syndrome: c.961+2T>C, c.1452+1G>T, c.1634C>G, c.2033G>A.

Spectrum of mutations represented by splicing site mutations, nonsense and missense mutations.

All children had severe motor development delay and muscle hypotonia. Only one child was able to walk independently. All children had severe mental retardation. Expressive speech represented by vocalizations, individual words. Autistic and behavioral disorders were in 6 children. Severe episodes of hyperventilation followed by apnea observed in one child. Dysmorphic features included coarse face, protruding lower face, deep-set eyes, upslanting palpebral fissures, high, wide nose bridge, wide open mouth, cupid's bow upper lip – thick, fleshy lips, cup-shaped ears. Three children diagnosed with myopia, scoliosis in one case. Brain MRI (in 4 children) show hypoplasia/dysplasia of the corpus callosum, atrophy/hypoplasia of the cerebellum, Dandy – Walker anomaly, hydrocephalus, small hippocampus size.

Conclusion Pitt-Hopkins syndrome is important for the differential diagnosis in children with severe mental retardation and behavioral disorders.

82

RARE GENETIC SYNDROME PRESENTING AS COW MILK ALLERGY AND ECZEMA

Aida Koka*, Marsela Biqiku, Arla Harka. *vlora Pediatric Hospital*

10.1136/archdischild-2021-europaediatrics.82

We describe here a case of an infant who applied initially for bronchiolitis and eczema and was afterwards diagnosed with 1q44 microdeletion syndrome.

The child was followed up in his early months of life for cow's milk allergy and related bronchiolitis and eczema. During the follow up persisting hypotonia and microcephaly began to be more evident. The face atypia was more prominent with frontal bossing, telecanthus, strabismus, small almond like eyes, flat nasal bridge. When the child got nearly 1 year old he came to the emergency department with a generalized febrile seizure, which afterwards followed with other febrile and nonfebrile seizures. In the mean time the child's general neuromotor development was very delayed with marked central hypotonia and low control of the head. In the laboratory investigations there was a persistent microcytic

anemia, despite oral iron replacement. The hemoglobin electrophoresis was normal. There was also noted slight hypothyroidism, which improved after a short time with hormone replacement therapy. The child underwent a cranial MRI which showed agenesis of corpus callosum. The infant was suspected of having a genetic syndrome and Molecular Karyotyping with Whole Genome Deletion/Duplication Analysis was performed. The result was consistent with a loss of 5,3 MB in the region 1q44 and a gain of 4,1 MB in the region 21p11.2q11.2.

Here, we present the first case of chromosome 1q44 deletion in Albania confirmed by microarray analysis. In literature, all reported patients showed growth and psychomotor retardation. In addition, many patients showed CNS anomalies, such as agenesis/thin corpus callosum or hydrocephalus, hypotonia, seizure, autonomic dysfunction, and feeding difficulties. In our case, brain MRI revealed partial agenesis of corpus callosum, delayed myelination, and seizures. We recommend orchyepexy in order to prevent tumoral transformation of the testes.

83

SCREENING FOR THE ACTIVITY OF HISTONE DEACETYLATION INHIBITORS IN THE GASTRULATING EMBRYO-DERIVED TERATOMA BIOLOGICAL SYSTEM

^{1,2,3}Milvija Plazibat*, ^{2,4}Ana Katušić Bojanac, ^{2,4}Marta Himerle Perić, ^{5,6}Gordana Jurić-Lekić, ^{4,7}Katarina Raković, ^{5,8}Ozren Gamulin, ^{5,8}Škrabić Marko, ⁵Maria Krajačić, ^{2,4}Jure Krasčić, ^{2,4}Nino Sinčić, ^{4,6}Gordana Jurić-Lekić, ^{2,4}Floriana Bulic-Jakus. ¹Hospital Zabok, Department of Pediatrics, Zabok, Croatia; ²Centre of Excellence for Reproductive and Regenerative Medicine, Unit for Biomedical Investigation of Reproduction and Development, School of Medicine, University of Zagreb, Zagreb, Croatia; ³University of Osijek, Faculty of Medicine, Dental Medicine and Health, Osijek, Croatia; ⁴University of Zagreb, School of Medicine, Department of Medical Biology, Croatia; ⁵University of Zagreb, School of Medicine, Department of Physics, Zagreb, Croatia; ⁶University of Zagreb, School of Medicine, Department of Histology and Embryology; ⁷Karolinska Institute, Department of Microbiology, Tumor and Cell Biology, Stockholm, Sweden; ⁸Center of Excellence for Advanced Materials and Sensing Devices, Research Unit New Functional Materials, Zagreb, Croatia

10.1136/archdischild-2021-europaediatrics.83

In our in vitro natural 3D biological system, rodent embryos explanted at the time of formation of the three germ-layers (gastrulation), develop a teratoma-like structure. We present the results of screening for the activity of Histone Deacetylation Inhibitors (HDIs) in this biological system.

9.5-days-old Fisher rat embryos-proper were cultivated for 14 days in Eagle's MEM and 50% rat serum with 2mM or 1mM valproate or trichostatin A

(66 nM) at the air-liquid interface. Histone acetylation was assessed by western blotting and apoptosis and cell proliferation by immunohistochemistry and stereology. Spent media metabolomes were analyzed by IR-spectroscopy (FTIR).

Valproate and TSA both negatively influenced growth of explants and differentiation of the neural tissue. Valproate 2mM significantly increased histone acetylation and apoptosis in explants. In spent media metabolomes the amide I α -helices and the elevated ratio of A(CH₃)/A(CH₂), as biomarkers for histone acetylation, and a higher intensity of the 1625 cm⁻¹ absorption band for the parallel β -strand structure and CH₂ vibrations of lipids at