

## SSIEM 2015 Annual Symposium

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- P-042** Second-tier LC-MS/MS analysis using dried blood spots of C5-OH-acylcarnitine-positive cases in newborn screening and high-risk screening  
*Y Shigematsu, I Hata, H Nakajima, G Tajima, S Bijarnia-Mahay, R D Puri, R Saxena, J Verma, I C Verma*
- P-043** A novel *ETHE1* mutation identified in a First Nations Canadian patient, ascertained following a positive newborn screen for isovaleric acidemia  
*I Sosova, S Jackson, M Reeves, F Bamforth, P Rinaldo, D Sinasac, R Casey, W Al-Hertani*
- P-044** Early developmental outcome in glutaric aciduria type 1 following diagnosis on UK newborn screening  
*A R Hart, J Bonham, S Yap*
- P-045** Follow up of B<sub>12</sub> deficient infants detected through the newborn screening program of Catalonia.  
*A Navarro-Sastre, R M López, J A Arranz, R Artuch, M Del Toro, J García-Villoria, A Ormazabal, S Pajares, A García-Cazorla, S Meavilla, E Castejón, J L Marin, A Ribes*
- P-046** Role of expanded newborn screening in post-mortem diagnosis of three cases of glutaric aciduria type 2  
*E Maines, M Vincenzi, M Camilot, F Teofoli, F Ionpopa, R J A Wanders, H R Waterham, S Funghini, A B Burlina, C Ghizzi, F Zaglia, D Degani, S Lauriola, M Zaffanello, S Ganzarolli, A Dianin, E Lamantea, D Ghezzi, A Bordugo*
- P-047** Differential diagnoses of hypergalactosemia by newborn screening: Value of the Gal-1-P/Gal ratio and the serum total bile acid concentration in detecting congenital portosystemic shunts  
*R Matsuoka, M Kubota, H Mochizuki, S Kagimoto, H Ida*
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*J J Jans, M Van Aalderen, P C Schielen, H C M Prinsen, N M Verhoeven-Duif, M Sain-van der velden, J Van Doorn*
- P-049** Newborn screening for fatty acid oxidation disorders: effects on population frequency and clinical outcome in the Czech Republic (CZ)  
*P Jesina, P Chrastina, M Pavlikova, E Hrubá, H Vlaskova, T Honzik, J Sokolova, A Hnizda, V Smolka, D Friedecky, T Adam, V Kozich*
- P-050** Myopathic form of carnitine palmitoyl transferase type II deficiency detected by newborn screening  
*T Tangeraas, P Hoff Backe, B Woldseth, H J Gaup, D Navarrete, A Stray-Pedersen, J V Jorgensen, R Lilje, R Pettersen*

- P-051** Inborn errors of metabolism causing Reye syndrome and sudden infant death syndrome: a systematic review with implications for population neonatal screening programs  
*W J Van Rijt, G D Koolhaas, J Bekhof, M R Heiner-Fokkema, T J De Koning, G Visser, P C Schielen, F J Van Spronsen, T G J Derks*
- P-052** The use of tandem mass spectrometry (MSMS) based method for determining enzyme activities for six lysosomal storage diseases (LSD) from a single dried blood-spots for use in newborn screening.  
*E Ranieri, S Stark, J M Fletcher, M H Gelb*
- P-053** High incidence of heterozygotes of Pompe disease: 2-year experience of newborn screening in Japan  
*K Momosaki, S Yoshida, S Matsumoto, K Nakamura, R Tasaki, T Okumiya, F Endo*
- P-054** Identification of *G6PD* common mutations using a multiplex primer extension-based method  
*Y H Chiu, Y N Liu, Y C Chang, T T Liu, K J Hsiao*
- P-055** Pilot newborn screening for lysosomal disorder by tandem mass spectrometry based method  
*G Polo, F Furlan, T B Kolamunnage, M Del Rizzo, A Celato, L Giordano, A P Burlina, A B Burlina*
- P-056** Free carnitine (FC) levels pattern in a group of very low birth weight newborns identified by a regional screening program  
*B Righi, I Bettocchi, F Righetti, F Baronio, L Incorvaia, A Vitali, A Pession, A Cassio*
- P-057** The expanded newborn screening in Estonia using tandem mass-spectrometry.  
*K Reinson, K Künnapas, A Kriisa, M - A Vals, K Muru, K Ounap*
- P-058** Newborn screening in southeastern Europe  
*U Groseelj, M Zerjav Tansek, A Smon, N Angelkova, D Anton, I Baric, M Djordjevic, L Grimci, M Ivanova, A Kadam, V Kotori, H Maksic, O Marginean, O Margineanu, O Milijanovic, F Moldovanu, M Muresan, M Nanu, M Samardzic, V Sarnavka, A Savov, M Stojiljkovic, B Suzic, R Tincheva, H Tahirovic, A Toromanovic, N Usurelu, B Repic Lampret, T Battelino*
- P-059** A newborn screening method for cerebrotendinous xanthomatosis: quantification of bile alcohols in dried blood spots  
*F M Vaz, W Kulik, A Verrips, H H Huidekoper*
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- P-061** Inborn errors of metabolic screening in Qatar: a successful journey  
*R Mitri, N Younes, L Abdien, V Skrinska*
- P-062** A case of cobalamin C deficiency detected by newborn screening  
*A Lemes, C Zabala, M Machado, M F Gonzalez, A Cabrera, C Queijo*
- P-063** Five years of newborn screening of inherited metabolic disorders in the Czech Republic  
*J Bártil, P Christina, D Friedecký, E Hlídková, R Píňková, H Vlášková, K Pešková, R Pazdírková, D Procházková, P Ješina, Z Hrubá, T Adam, V Kožich*
- P-064** Clinical course of six patients with congenital portosystemic shunt detected in newborn screening for galactosemia.  
*K Yokoi, K Yokoi*
- P-065** The first 21 months experience of a pilot expanded newborn metabolic screening programme in Hong Kong  
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- P-067** Rapid screening of classical galactosemia patients: a proof-of-concept study using high-throughput FTIR analysis of plasma  
*R Garnotel, V Untereiner, C Lacombe, C Gobinet, M Zater, G D Sockalingum*
- P-068** Pilot study of IEM by MS/MS in Lebanon: An additional step towards a national registry  
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- P-069** Continuous, covariate-corrected two-dimensional reference surfaces. Theoretical considerations and practical solutions.  
*L Mørkrid, A D Rowe, D McHugh, S D Stoway, P Rinaldo*
- P-070** Newborn screening for severe primary immunodeficiencies in Spain  
*C Delgado-Pecellin, P Olbrich, B De Felipe, J M Lucenas, B Sanchez, S Borte, O Neth*
- P-071** Outcome of 3-methylcrotonyl-CoA carboxylase deficiency (3-MCCD) in Austria – a retrospective data analysis  
*B Goeschl, D Moeslinger, S Greber-Platzer, D Karall, S Scholl-Buergi, E Maier, M Brunner-Krainz, V Konstantopoulou*
- P-072** Outcome of medium-chain-acyl-CoA Dehydrogenase deficiency (MCADD) in Austria – a retrospective data analysis  
*B Goeschl, D Moeslinger, S Greber-Platzer, D Karall, S Scholl-Buergi, E Maier, M Brunner-Krainz, V Konstantopoulou*
- P-736** Performance of an FIA MS/MS method to simultaneously measure ABG, ASM, GAA, GALC, GLA and IDUA activities from a single dried blood spot  
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- P-074** Disordered eating in inborn errors of metabolism, a single centre's experience  
*R B Carruthers, C E Ellerton, K K Hansen, M E Cloherty, F Freedman, E M Murphy, R H Lachmann*
- P-075** Dietary analysis of PKU diets in adults  
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- P-076** Dietary compliance in PKU adults on dietary treatment  
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- P-077** Glycemic index (GI) of frequently consumed bread types used for patients with glycogen storage disorders (GSD)  
*H Gokmen Ozel, R Ergun, Z Buyuktuncer, H Koxsel*

- P-078** Use of a very high protein diet for muscular symptoms in GSD IIIa: a case report  
*C E Ellerton, K Kaalund Hansen, R B Carruthers, E Murphy, R Lachmann*
- P-079** Breast feeding (BF) management of infants with glutaric aciduria type 1 (GA1)  
*C Fitzachary, S Grunewald, M Cleary, M Dixon*
- P-080** Experience of breastfeeding an infant with glucose transporter type 1 deficiency syndrome (GLUT1 DS) on the ketogenic diet – a case study  
*R Skeath, S Grunewald*
- P-081** The challenges of managing co-existent disorders with phenylketonuria: 32 cases  
*A MacDonald, K Ahring, M F Almeida, A Belanger-Quintana, N Blau, A B Burlina, M A Cleary, T Coskun, K Dokoupil, S Evans, F Feillet, M Gizewska, H Gokmen Ozel, A M Lammardo, A S Lotz-Havla, E Kamińska, F Maillot, A C Muntau, A Puchwein-Schwepcke, J C Rocha, M Robert, S Santra, R Skeath, K Strączek, F K Trefz, E Van Dam, M Van Rijn, F J Van Spronsen, S Vijay*
- P-082** The challenge of vitamin and mineral supplementation in children with inherited metabolic disorders: a prospective study  
*A Daly, S Evans, S Chahal, I Surplice, C Ashmore, A MacDonald*
- P-083** Serum vitamin D levels in patients with phenylketonuria  
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- P-084** Nutritional management in patients with phenylketonuria undergoing sports  
*J C Rocha, E Van Dam, K Ahring, M F Almeida, A Belanger-Quintana, K Dokoupil, H Gokmen Ozel, A M Lammardo, M Robert, C Heidenborg, A MacDonald*
- P-085** Overweight in patients with inborn errors of protein metabolism  
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- P-086** Evidence of underestimated natural protein tolerance in patients with phenylketonuria  
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- P-087** Is BMI enough to assess body composition in phenylketonuric patients?  
*S Mexia, M Ferreira, I Jardim, I Asseiceira, T Rodrigues, P A Nunes, C Costa, P Janeiro, A Gaspar*
- P-088** Importance of early diagnosis of homocystinuria and free breastfeeding initiation  
*A C Aktuglu Zeybek, N Cakir Bicer, E Kiykim, T Zubarioglu, M S Cansever, A Aydin*
- P-089** Arginine levels determine height in patients with an urea cycle defect (UCD) or organic acidemia (OA).  
*M Williams, D Wensink, M Verhagen, G Ruijter, J G M Huijmans*
- P-090** Nutritional issues and growth in a single centre cohort of children with mitochondrial disease  
*J Stafford, L Chentouf, M Dixon, S Rahman*
- P-091** Vitamin B12 deficiency and homocysteine increase in juvenile idiopathic arthritis  
*N Cakir Bicer, E Aksoydan, A C Aktuglu Zeybek, H Eroglu, K Barut, O Kasapcopur*
- P-092** Relationship between fructose consumption and obesity in adolescent phenylketonuria patients and their healthy siblings  
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*S M Kitchen, A Daly, A MacDonald*
- P-096** Development of educational teaching packages on inherited metabolic diseases for parents and health professionals in the United Kingdom  
*D Webster, A MacDonald, P O'Hara, R Skeath, K Van Wyk, E Forbes*
- P-097** A new dietary treatment approach to Fanconi-Bickel Syndrome  
*E Kiykim, D Gunaydin, T Zubarioglu, S Altay, A C Aktuglu Zeybek*
- P-098** The value of dietetic school/nursery visits in children with IMD on diet therapy  
*S M Kitchen, A Daly, S Chahal, C Ashmore, A MacDonald*
- P-099** Metabolic group study for consensus development on nutritional treatment for phenylketonuria  
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- P-101** Accuracy of reported ingestion of special low protein foods in patients with phenylketonuria  
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- P-102** Abnormal feeding behavior in children with inborn errors of metabolism treated with strict dietary regimens  
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- P-103** Ketogenic diet in nonketotic hyperglycinemia: case report  
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*W Eyaid, W Shehhi, K Dress, M Balwi, W Twaijri, A Alassiri, V Mootha*
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*R K Ozgul, E Serdaroglu, D Yalnizoglu, D Yucel-Yilmaz, M Topcu, Z Gormez, M Sagiroglu, A Dursun*

- P-106** *SNX14* (Sorting Nexin 14) gene mutation causes a new syndromic form of cerebellar atrophy in a Turkish family  
*R K Ozgul, D Yucel-Yilmaz, O F Gerdan, D Yalnizoglu, M Sagioglu, A Dursun*
- P-107** The p.R85W mutation in *HNF4A* gene causes Fanconi-Bickel syndrome type II  
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- P-109** The influence of serum phenylalanine and tyrosine levels on prolactin concentration in adult PKU patients  
*P Reismann, E Kiss, E Simon, I Szatmári, K Rác*
- P-110** Prevalence of PKU in Pediatrics in Algiers  
*B Sadaoui, Z Arrada*
- P-111** White matter abnormalities in early treated phenylketonuria: a retrospective longitudinal long term study  
*M Mastrangelo, L Berillo, C Caputi, C Di Biasi, C Carducci, F Chiarotti*
- P-112** Neuropsychiatric comorbidities in adults with phenylketonuria: A retrospective cohort study  
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- P-115** Emergence of neuropsychiatric symptoms in phenylketonuria  
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*I Wiig, P S Diesen*
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- P-119** How to secure care and treatment: e-learning for professionals caring for patients with a late treatment start for PKU  
*I Wiig, K Iversen, S Heivang*
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*A MacDonald, T A Smith, I Eijgelshoven, J Van Loon, S U De Silva*
- P-121** Untargeted metabolomics in human disorders affecting phenylalanine metabolism  
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- P-122** Social and social cognitive functioning in patients with early and continuously treated PKU: The PKU-COBESO study  
*R Jahja, F J Van Spronsen, L M J De Sonnevile, J J Van der Meere, A M Bosch, C E M Hollak, M E Rubio-Gazalbo, M C G Brouwers, F C Hofstede, M C De Vries, M C H Janssen, A T Van der Ploeg, J G Langendonk, S C J Huijbregts*
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- P-126** Neurotransmitter metabolites, melatonin and dopamine, as biomarkers to optimize treatment in phenylketonuria: effects of sapropterin.  
*S Yano, K Moseley, X Fu, C Azen*
- P-127** The effect of elevated blood phenylalanine level on the immune status of PKU patients  
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- P-128** Evaluation of lean body mass in patients with phenylketonuria diagnosed and treated early  
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- P-129** Cognitive performance of adult patients with PKU compared to a healthy control group using the Cambridge Neuropsychological Test Automated Battery (CANTAB)  
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- P-130** Bone mineral density and vitamin D levels in Chilean phenylketonuria and hyperphenylalaninemia patients  
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- P-132** Micronutrient and fatty acid status in phenylketonuria, and effects on bone health  
*A M Bosch, S Demirdas, C E M Hollak, J H Van der Lee, F J Van Spronsen, M E Rubio-Gozalbo, P H Bisschop, F M Vaz, N Ter Horst, F A Wijburg*
- P-133** Life satisfaction and prevalence of anxiety and depression in adult phenylketonuria (PKU) patients: experience from Leipzig  
*A G Thiele, U Mütze, W Kiess, C Baerwald, S Beblo*



- P-134** Novel p.Gln226Lys mutation in phenylalanine hydroxylase gene resulting in classical PKU  
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- P-135** The perception of the multiprofessional team about the care and the treatment of the Phenylketonuria  
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- P-136** Breastfeeding infants with phenylketonuria: a single centre experience in Turkey  
*B Aksoy, P Kuyum, N Tuncer, N Arslan, Y Ozturk*
- P-137** Neuro-psychiatric involvement in adult patients with phenylketonuria (PKU): the wide spectrum of brain vulnerability  
*A Pilotto, F K Trefz, C Zipser, E Charyasz, P Freisinger, T Ethofer, G Gramer, G F Hoffmann, D Berg*
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- P-140** Teaching parents to take a quality blood spot in the treatment of phenylketonuria  
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- P-141** Monitoring body composition of adult patients with classical phenylketonuria  
*F Boros, E Gyure, G Z Racz, F Papp*
- P-142** Plasma phenylalanine concentration in adult PKU patients is correlated with global decrease in antioxidant genes expression in blood leukocytes  
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- P-143** Maternal phenylketonuria: Impact of nutritional treatment on the offspring outcome  
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- P-144** Phenylketonuria as a protein misfolding disease: probing aggregation pathways as a tool to identify new therapeutic targets  
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- P-145** Multicenter study on long-term growth in patients with PKU  
*A Belanger, S Stanescu, K Dokoupil, K Ahring, J C Rocha, H Gokmen Ozel, M Robert, E Van Dam, A M Lammardo, A MacDonald*
- P-146** Increased acetylcholinesterase activity in the brain of rats submitted to an animal model of hyperphenylalaninemia  
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- P-147** Phenylalanine variability as a determinant factor during neurodevelopment. Outcomes in higher cognitive functions  
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- P-739** Coexistence of phenylketonuria and primary adrenal insufficiency  
*T Coskun, E Pektas, G Buyukyilmaz, A Alikasifoglu, A Dursun, H S Sivri, A Tokatli*
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- P-148** Tetrahydrobiopterin (BH4) was safe and effective in patients less than 4 years old with BH4-responsive PKU in Japan  
*H Shintaku, T Ohura*
- P-149** Evaluation of multiple dosing regimens in phase 2 studies of ‘rAvPAL-PEG’ for control of blood phenylalanine levels in adults with phenylketonuria  
*D Adams, J A Thomas, N Longo, R Zori, B K Burton, M Wasserstein, D K Grange, J Vockley, R Hillman, C Harding, N Shur, G M Rice, W B Rizzo, C Whitley, K M Goodin, K L McBride, C Decker, M Merilainen, M Li, B Schweighardt, D Dimmock*
- P-150** Evaluation of an induction, titration, and maintenance dosing regimen in a phase 2 study of ‘rAvPAL-PEG’ for control of blood phenylalanine levels in adults with phenylketonuria (PKU)  
*R Zori, J A Thomas, N Shur, W B Rizzo, C Decker, M Merilainen, M Li, B Schweighardt, N Longo*
- P-151** Phase 2 studies contribute to rAvPAL-PEG Phase 3 trial design  
*B K Burton, C Harding, N Longo, J A Thomas, R Zori, D A Bilder, J Posner, P Lieberman, M Merilainen, Z Gu, B Schweighardt, H Weng, H Levy*
- P-152** Molecular characterization of *QDPR* gene in Iranian families with BH4 deficiency; reporting novel and recurrent mutations  
*M Abiri, H Foroozania, S Salehpour, H Bagherianf, M R Alaei, S Khatami, S Azadmehr, A Setoodeh, L Rejali, F Rohani, S Zeinali*
- P-153** A randomized, placebo-controlled, double-blind study of sapropterin to treat symptoms of ADHD and executive dysfunction in children and adolescents with phenylketonuria  
*J L Cohen-Pfeffer, M Grant, S M McCandless, S M Stahl, D A Bilder, E R Jurecki, S Yu, A Sanchez-Valle, D Dimmock*
- P-154** Tetrahydrobiopterin (BH4) responsiveness in hyperphenylalaninemic (HPA) patients, a longitudinal study: experience of the paediatric department - San Paolo Hospital - University of Milan  
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- P-155** Genotype–phenotype associations in French patients with phenylketonuria and importance of genotype for full assessment of tetrahydrobiopterin responsiveness  
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- P-156** The effect of L-carnitine on phenylalanine-induced DNA damage  
*M Deon, S S Landgraf, C P Mescka, J F Lamberty, D J Moura, J Saffi, M Wajner, C R Vargas*
- P-157** Fifth interim analysis of the Kuvan® adult maternal paediatric european registry (KAMPER): pregnancies  
*F Feillet, F B Lagler, D Rogoff, F Stucker, J Alm, A C Muntau, A Burlina, F K Trefz*

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- P-254** Genetic diagnosis of cobalamin defects by next generation sequencing  
*A Vega, F Leal, L R Desviat, M L Couce, X De la Cruz, R Yahyaoui, A Gaspar, I Tavares de Almeida, M Ugarte, B Merinero, B Perez*
- P-255** Biochemical and molecular analysis of Russian patients with methylmalonic aciduria  
*M V Kurkina, G V Baydakova, S V Mikhaylova, E Y Zakharova*
- P-256** Late-onset cardiac failure after liver transplantation in one patient with propionic acidemia  
*M C Nassogne, M F Vincent, R Reding, E M Sokal, C Barrea*
- P-257** Expression of disease causing isovaleryl-CoA dehydrogenase in *Escherichia coli* for characterization and stability studies  
*A W Mohsen, V Sharma, M V Amieva, A Karunanidhi, E Naylor, J Vockley*
- P-258** Molecular genetic characterization of 149 *mut* patients: the Basel/Zurich cohort  
*P Forny, A S Schnellmann, D S Froese, M R Baumgartner*
- P-259** Molecular genetics of maple syrup urine disease in Brazilian patients  
*J S Camelo Jr., A V B Margutti, I V D Schwartz, W A Silva Jr.*
- P-260** The first reported case of pregnancy in 3-methylglutaconic aciduria type I (3-MGA type 1)  
*E Davoren, L J Mienie, B C Vorster, M Dercksen*
- P-261** Low-leucine encephalopathy in maple syrup urine disease: could a shift in brain leucine be to blame?  
*P K Hamilton, K Ryan, C Loughrey, N McStravick, D Cardy, G M Connolly*
- P-262** Identification of a novel mutation in start codon of *MMAB* gene in an Indian family with methylmalonic acidemia using targeted next generation sequencing and prenatal diagnosis  
*D Gupta, S Bijarnia-Mahay, V L Ramprasad, S Kohli, R Saxena, S Yamaguchi, R Deb, I C Verma*
- P-263** Profound biotinidase deficiency: natural course of the disease and impact of treatment in adult patients  
*M Demirkol, E Çakar, D Güneş, M Karaca, M C Balci, Ü Türkoğlu, I Ozer, G Gokcay*
- P-264** Organic acid disorders: Burden of disease in North India  
*C Kumari, S Ramji, S Kapoor*
- P-265** Isovaleric acidemia and nephronophthisis: A case report.  
*K C Donis, F Poswar, C F Lorea, A A Silva, C F M Souza, F P Vairo, L F Refosco, I V D Schwartz*
- 12. Organic acidurias: others**
- P-266** A novel frameshift mutation of malonyl-CoA decarboxylase deficiency  
*M Ersoy, M B Akyol, S Ceylaner, N Bicer Cakir, B Bursal Duramaz*
- P-267** Functional characterization of novel variants found in *ASPA* gene associated with Canavan disease  
*M I Mendes, D E Smith, A Pop, U Holwerda, G S Salomons*
- P-268** Living with intoxication-type inborn errors of metabolism - a qualitative analysis of focus group interviews with paediatric patients and their caregivers
- N A Zeltner, M A Landolt, M R Baumgartner, S Lageder, J Quitmann, R Sommer, C Mühlhausen, A Schlune, S Scholl-Bürgi, D Karall, M Huemer*
- P-269** Expanding clinical phenotype in CMAMMA and new tools for fast metabolic diagnostics  
*M G M De Sain-van der Velden, M Van der Ham, J J Jans, G Visser, H C M Prinsen, N M Verhoeven-Duij, K L I Van Gassen, P M Van Hasselt*
- P-270** Withdrawn
- P-271** Ethylmalonic encephalopathy: diagnosis of a Turkish case after unknown death of two children in the family  
*N Onenli Mungan, D Kor, B Seker Yilmaz, D Bulut, G Mert, F Incecik, S Ceylaner*
- P-272** In vivo magnetic resonance spectroscopy in an adult case of L-2-hydroxyglutaric aciduria  
*M Ete, B Audoin, P Viout, M Guye, J Pelletier, E Kaphan*
- P-273** Inborn errors of cerebral L-lysine metabolism: different degradation pathways and the role of brain peroxisomes  
*R Posset, S Opp, E A Struys, A Völkl, H Mohr, G F Hoffmann, S Kölker, S W Sauer, J G Okun*
- P-274** Anaplerotic therapy in propionic acidemia  
*N Longo, L B Price, E Gappmaier, N L Cantor, S L Ernst, C Bailey, M Pasquali*
- P-275** A treatable cause for childhood bulbar palsy, Fazio-Londe disease.  
*W Eyaïd, M Rifai, H Alem, T Hazwani*
- P-276** Malonic aciduria: marked clinical variability in a consanguineous family  
*B Sudrié-Arnaud, S Torre, A Goldenberg, F Kundul, C Brasse-Lagnel, O Duhamel, G S Salomons, E Tourancheau, S Marret*
- P-277** Expanding the phenotype in aminoacylase 1 (ACY1) deficiency: characterization of the molecular defect in a 63-year-old woman with generalized dystonia  
*J O Sass, J Vaithilingam, C Britschgi, C C S Delnooz, B P Van den Warrenburg, R A Wevers*
- P-278** Oxidative stress in patients with 3-hydroxy-3-methylglutaric aciduria and the role of L-carnitine therapy  
*C E D Jacques, G S Ribas, M M Dos Santos, T Hammerschmidt, G B G Guerreiro, J L Faverzani, A Sitta, D M De Moura, H M De Souza, M Wajner, R Giugliani, C R Vargas*
- P-279** Withdrawn
- P-280** A long term follow-up study of 8 individuals with asymptomatic propionic acidemia  
*Y Watanabe, K Tashiro, K Aoki, M Inaba, C Yanagiuchi, Y Suzutani, H Ishii, Y Kinoshita, G Tajima, T Yorifuji, Y Shigematsu, Y Maeda, Y Nakajima, T Inokuchi, T Matsuishi*
- P-281** Ethylmalonic encephalopathy in an Indian boy: a report of mutations in *ETHE1* gene  
*S Bijarnia-Mahay, D Gupta, Y Shigematsu, S Yamaguchi, R Saxena, I C Verma*
- P-282** Mutation screening study in Turkish patients with L-2-hydroxyglutaric aciduria

- D Yucel-Yilmaz, R K Ozgul, O Unal, T Coskun, S Sivri, A Tokatl, A Dursun*
- P-283** Mutation identification and prenatal diagnosis of biotinidase deficiency in Indian patients  
*D Gupta, S Bijarnia-Mahay, S Kohli, J Verma, R Saxena, R D Puri, B Vyas, Y Shigematsu, S Yamaguchi, I C Verma*
- P-284** Organic Acidurias Diagnosis. A critical review of our experience  
*O Y Echeverri, J M Guevara, N F Pulido, Y A Ardila, E Espinosa, L Cabarcas, L N Correa, L A Barrera*
- P-285** Behavioural and emotional problems, intellectual impairment and health related quality of life in patients with organic acidurias and urea cycle disorders  
*D Jamiolkowsky, S Kölker, E M Glahn, I Barić, J Zeman, M R Baumgartner, C Mühlhausen, A Garcia Cazorla, F Gleich, G Haegel, P Burgard - on behalf of the E-IMD consortium*
- 13. Carbohydrate disorders**
- P-004** Correction of glycogen storage disease type IV by AAV-mediated gene therapy  
*B Sun, H Yi, Q Zhang, C Yang, P S Kishnani*
- P-286** Glycogen storage disease type III presents with a markedly reduced serum apolipoprotein C-III sialylation  
*N Ondruskova, T Honzik, H Kolarova, H Poupetova, J Zeman, H Hansikova*
- P-287** D-galactose alters behavioral and biochemical parameters in hippocampus and cerebellum of rats  
*A F Rodrigues, H Biasibetti, E F Sanches, P Pierozan, B S Zanotto, M Sebatiao, A T S Wyse*
- P-288** Alternative night-time nutrition regimens in glycogen storage disease type I: a controlled crossover study  
*M Hochuli, E Christ, F Meienberg, R Lehmann, J Krützfeldt, M R Baumgartner*
- P-289** Features of functioning of humoral immunity in children with hepatic forms of glycogen storage disease (GSD).  
*O V Karbatova, T V Bushueva, A N Surkov, R S Zakirov, S I Polyakova, L V Miroshkina, I V Samokhina, T D Izmailova, G F Semenova, A V Nikitin, E V Freidlin, O S Melnichuk, E L Semikina, S V Petrichuk*
- P-290** Grey matter density abnormalities in patients with classic galactosemia: a voxel based morphometry study  
*I Timmers, L Van der Korput, B M Jansma, M E Rubio-Gazalbo*
- P-291** Polish patient diagnosed with glycogen synthase deficiency homozygous for newly identified mutation in *GYS2* gene  
*E Szymanska, U Watrobinska, D Rokicki, E Ciara, P Halat, R Ploski, A Tylki-Szymanska*
- P-292** Resting energy expenditure in children with glycogen storage diseases.  
*E Szymanska, E Ehmke vel Emczynska, D Rokicki, A Tylki-Szymanska, J Ksiazzyk*
- P-293** Classic galactosemia: a *GALT* knockout zebrafish  
*B Van Erven, J M Vanoevelen, J Bierau, H J Smeets, A I Coelho, M E Rubio-Gozalbo*
- P-294** Hepatic glycogen synthase deficiency: an infrequently recognized cause of ketotic hypoglycemia  
*F T Eminoglu, V Korkmaz, O Dur, M Ekim*
- P-295** Two successful pregnancies in a woman with glycogen storage disease (GSD) type IIIa  
*S Paci, C Montanari, V M Tagi, A Re Dionigi, E Salvatici, M Giovannini*
- P-297** A novel mutation in the *ABCC8* gene causing a variable phenotype of impaired glucose metabolism in the same family  
*E Maines, K Hussain, S E Flanagan, S Ellard, C Piona, G Morandi, S Dal Ben, P Cavarzere, F Antoniazzi, A Dianin, A Bordugo, R Gaudino*
- P-298** Ketogenic diet in congenital hyperinsulinism: a novel approach to prevent brain damage  
*A Maiorana, L Manganozzi, F Barbetti, S Bernabei, G Gallo, R Cusmai, S Caviglia, C Dionisi-Vici*
- P-299** Glucose tetrasaccharide biomarker in 24 hour urine collections from patients with glycogen storage disease IIIa  
*S Austin, M Stefanescu, A Werneke, H Zhang, P S Kishnani, S Young*
- P-300** A patient with a novel mutation in the *GALT* gene, and initially misdiagnosed with a Congenital Glycolysation Defect  
*M Gunduz, E Ozaydin, N Koc, C T Kirsaclioglu, S Unal, O Unal*
- P-301** A patient with Fanconi Bickel syndrome and a novel mutation  
*M Gunduz, F Gurbuz, O Unal*
- P-302** The diagnosis and monitoring of Galactosemia using NMR spectroscopy  
*N Usurelu, A Nicolescu, D Blanita, C Boiciuc, D Rotaru, V Sacara, S Gatcan, S Garaeva, I Tarcomnicu, D Stambouli, L Szonyi, L Balogh, C Deleanu*
- P-303** Nutritional status and body composition of patients with hepatic Glycogen Storage Diseases treated at Hospital de Clínicas de Porto Alegre, Brazil  
*T Nalin, K C Grokoski, B B Dos Santos, I D S Perry, L F Refosco, F P VAIRO, C F M Souza, I V D Schwartz*
- P-304** Fructose-1,6-bisphosphatase deficiency: natural course of the disease with relevance to diagnosis and treatment in 23 patients  
*G Gokcay, Y S Shin, T Podskarbi, M C Balci, M Karaca, M Demirkol*
- P-305** Fructose 1,6-bisphosphatase (FBP) deficiency in early childhood: 5 Turkish cases  
*D Bulut, B Seker Yilmaz, D Kor, S Ceylaner, O Ozgur Horoz, N Onenli Mungan*
- P-306** Serbian patients with early manifestations of hyperinsulinism-hyperammonemia syndrome  
*A Sarajlija, T Milenkovic, M Djordjevic, B Kecman, S Grkovic*
- P-307** Heterogeneity in glycogen storage disease type Ia  
*T G J Derks, D J Reijngoud, G P A Smit, M H Oosterveer*
- P-308** High prevalence of fractures in glycogen storage disease type I (GSD-I)  
*R M Van der Ende, D H Martens, G P A Smit, T G J Derks, E Van der Veer*

- P-309** Molecular characterization of mutations in Serbian patients with glycogen storage diseases  
*A Skakic, K Klaassen, J Kostic, M Djordjevic, A Sarajlija, B Kecman, N Kotur, B Stankovic, S Srzentic, S Pavlovic, M Stojiljkovic*
- P-310** Identification of key genetic modifiers of neuromuscular synaptogenesis in a *Drosophila* classic galactosemia disease model  
*P P Jumbo-Lucioni, W Parkinson, K B Broadie*
- P-311** Glycogen storage disease (GSD): Epidemiological data for 106 patients from a single metabolic clinic in Athens with up to 23 years follow up  
*E Drogari, N Manolaki, E Tsambounis, O Laskos, E Manessis, S Hatjiyannis*
- P-312** Congenital and perinatal Glycogen Storage Disease type IV: clinical, pathological and biological data in 5 cases.  
*M Pettazzoni, N Streichenberger, P Mezin, C Clamadiou, J Roume, A Gelot, S Duband, F Prieur, C Vianey-Saban, M Piraud, R Froissart*
- P-313** Delay before spontaneous remission in 162 patients with congenital hyperinsulinism medically treated  
*J B Arnoux, C Roda, C Saint-Martin, A S Guemann, C Grisel, C Bellanne-Chantelot, P De Lonlay*
- P-314** Genotypic profile of Brazilian patients with classic galactosemia and study of the genotype-phenotype correlation.  
*J S Camelo Jr., D F Garcia, M Turcato, G A Molfetta, A A Marques, C F M Souza, G Porta, C E Steiner, W A Silva Jr.*
- P-315** A novel mutation of the *GBE1* gene in a patient with the non-progressive hepatic form of type IV glycogen storage disease  
*M Ersoy, Z Onal*
- P-316** Detection of common *GALT* mutations through ARMS  
*U Mahmood, H A Cheema, S Mahmood*
- P-317** Hyperinsulinism: a quality of life study  
*S Caviglia, A Maiorana, F Tonto, P Bazzu, L Manganozzi, C Dionisi-Vici*
- P-318** A new phenotype of glycogen storage disorder associated with brain atrophy, epilepsy, arthrogryposis and polyglucosan body myopathy  
*D Martinelli, A Taddei, E Bevivino, L Manganozzi, A Oldfors, A Insera, C Dionisi-Vici*
- P-319** Exercise-induced lactic acidosis and abnormal phagocytosis in a patient with transaldolase deficiency  
*K Tsiakas, M Hempel, M M C Wamelink, L Kremer, H Prokisch, T B Haack, R Santer*
- 14. Disorders of fatty acid oxidation and ketone body metabolism**
- P-018** Attention deficit-hyperactivity disorder as a dominant clinical presentation in OCTN2 deficiency  
*A M Lamhonwah, I Baric, J Lamhonwah, M Grubic, I Tein*
- P-320** Identification of novel and recurrent *ACADS* mutations and phenotypic characterization of Korean patients with short-chain acyl-CoA dehydrogenase deficiency  
*C K Cheon, J M Ko*
- P-321** Synergistic effects of low doses of resveratrol and bezafibrate for correction of CPT2 and VLCAD deficiencies in patient fibroblasts  
*F Djouadi, C Le Bachelier, F Habarou, J Bastin*
- P-322** Mitochondrial trifunctional protein deficiency in human cultured fibroblasts: effects of bezafibrate  
*F Djouadi, F Habarou, C Le Bachelier, S Ferdinandusse, D Schlemmer, J F Benoist, A Boutron, B S Andresen, G Visser, P De Lonlay, S Olpin, T Fukao, S Yamaguchi, A W Strauss, R J A Wanders, J Bastin*
- P-323** Short-chain acyl-CoA dehydrogenase deficiency is not a disease: common *ACADS* variants and mutations have no clinical significance  
*W J Rhead*
- P-324** Basal ganglia involvement in mitochondrial acetoacetyl-CoA thiolase deficiency  
*S Paquay, P De Lonlay, D Dobbelaere, A Foulhoux, N Guffon, F Labarthe, K Mention, G Touati, V Valayannopoulos, C Vianey-Saban, M Schiff*
- P-325** Fatty acid oxidation flux data from 304 symptomatic patients diagnosed with a range of fatty acid oxidation disorders facilitates the prediction of phenotype in screen positive babies from Newborn Screening programs  
*S E Olpin, J M Webb, S Clark, J Dalley, H Hind, J Croft, S Colyer, N Manning, C Scott, R Kirk, J Bonham, M Dowling, S Yap, E Glamuzina, M Sharrard*
- P-326** Accumulation of long-chain acylcarnitines impairs lung function by inhibiting pulmonary surfactant  
*C Otsubo, S Bharathi, R Uppala, K McHugh, O Ilkayeva, D Wang, Y Zou, J Wang, J Alcorn, Y Zuo, M Hirschey, J Vockley, E Goetzman*
- P-327** Correlation between genotype and residual enzyme activity: does this concept work in VLCAD-deficiency?  
*S Tucci, C Braun, U Stein, S Behringer, U Spiekerkoetter*
- P-328** Hyperprolinemia in primary and secondary MAD deficiencies  
*C Pontoizeau, F Habarou, A Brassier, C Grisel, J B Arnoux, R Barouki, B Chadefaux-Vekemans, C Acquaviva, P De Lonlay, C Ottolenghi*
- P-329** Phospholipids remodelling in liver of a long chain acylCoA dehydrogenase mouse model  
*A Imbard, E Goetzman, A Thiemele, C Otsubo, D Schlemmer, M Schiff, J Vockley, J F Benoist*
- P-330** Biochemical and molecular study of carnitine-acylcarnitine translocase deficiency in a neonate with hyperammonemic encephalopathy  
*H Y Leong, L H Ngu, N A Abd Azize, Y Yakob, A Habib, Z Md Yunus, A Catchpole, S Yap, S Olpin*
- P-331** Characterizing the molecular architecture of mitochondrial energy metabolism  
*J Vockley, Y Wang, J Palmfeldt, X Zeng, N Yates, N Gregersen*
- P-332** Thermolability of fat oxidation flux in a medium chain acyl-CoA dehydrogenase deficient (MCADD) patient homozygous for the c.199T>C mutation  
*S L Hulley, S E Olpin, S Clarke, R Kirk, M Downing, M J Sharrard*
- P-333** Report of five Turkish patients with ketolysis defects and four novel mutations  
*N Onenli Mungan, B Şeker Yılmaz, D Kör, D Bulut, M Ökten, D Yıldızdaş, S Ceylaner, T Fukao*
- P-334** Serum C14:1/C12:1 ratio is a sensitive diagnostic marker for VLCAD deficiency  
*K Yamada, R Bo, H Kobayashi, Y Hasegawa, S Yamaguchi*



- P-335** Autosomal dominant monocarboxylate transporter-1 (MCT1, *SLC16A1*) deficiency as a cause of recurrent ketoacidoses  
*J O Sass, B Lewis, L Greed, D Meili, A Flier, R Yamamoto, K Bilić, C Till, S Balasubramaniam*
- P-336** Clinical and genetic investigation of Japanese 16 patients with trifunctional protein deficiency  
*R Bo, J Purevsuren, T Fukao, K Yamada, H Kobayashi, Y Hasegawa, S Yamaguchi*
- P-337** Does lipoic acid alleviate pathophysiology in medium-chain acyl-CoA dehydrogenase deficiency?  
*Z Nochi, R I D Birkler, R K J Olsen, T J Corydon, N Gregersen*
- P-338** Molecular characterization of new *ACADS* gene alterations in SCADD patients  
*R Tonin, A Caciotti, S Funghini, E Pasquini, E Procopio, M A Donati, S D Mooney, F Baronio, I Bettocchi, A Cassio, G Biasucci, A Bordugo, R Guerrini, A Morrone*
- P-339** An attempt to rescue medium-chain acyl-CoA dehydrogenase (MCAD) disease-causing variants by small molecules  
*J Nunes, N Palir, C A Bonito, F Louro, J Camilo, P Leandro, F V Ventura*
- P-340** The value of combined biochemical and genetic testing in suspected SCAD deficiency; case reports of three families  
*R J Kirk, H Y Leong, J M Croft, N Gregersen, J Watkinson, I M Nesbitt, S E Olpin, S Yap*
- P-341** Carnitine palmitoyltransferase 1A deficiency associated with acute tubular necrosis, hepatic failure and loss of acquired functions after the H1N1 infection  
*M Ersoy, B Bursal Duramaz, O Yesilbas, H S Kihur, H S Kihur, E Sevketoglu*
- P-342** Acylcarnitine isomers differentiation to help in beta-oxidation disorders diagnosis  
*A Jeoual, C Moreau, D Dobbelaere, A F Dessein, K Mention, B Deprez, M Balduyck, G Briand, T Beghyn*
- P-343** *OXCT1* heterozygous carriers could develop severe ketoacidotic episodes in conjunction with ketogenic stresses  
*H Sasai, Y Aoyama, H Ohtsuka, O Ohara, T Fukao*
- P-344** Metabolic investigation of very long chain acyl-CoA dehydrogenase deficiency  
*M Lund, C B Nielsen, M Johannsen, N Gregersen*
- P-345** Triheptanoin lowers cardiac workload compared to medium-chain triglyceride (MCT) in patients with long-chain fatty acid oxidation (FAO) disorder  
*M B Gillingham, C O Harding, A Goldstein, A El-Gharbaway, E McCracken, J Martin, J Vockley*
- P-346** A survey of UK usage of L-carnitine in children with medium chain acyl CoA dehydrogenase deficiency (MCADD)  
*S Sreekantam, S Santra, S Vijay*
- P-347** A case of late onset riboflavin-responsive multiple acyl-CoA dehydrogenase deficiency manifesting as recurrent vomiting  
*Ç S Kasapkara, S Şenel, M Kılıç, M Acar, F Özbay-Hosnut, H I Aydın, S Ceylaner*
- P-348** LCHAD deficiency diagnosed in 42-year-old woman: case report  
*J Taybert, J Sykut-Cegielska, A Kowalik, K Boczoń, M Oltarzewski, E Jabłońska, A Sobczyńska-Tomaszewska*
- P-349** Response to compassionate use of triheptanoin in infants with cardiomyopathy due to long chain fatty acid oxidation defects (LC-FAODs)  
*J Vockley, J Charrow, J Ganesh, M Eswara, G A Diaz, G Enns, D L Marsden*
- P-350** First two patients with mitochondrial HMG-CoA synthase deficiency in Asia  
*Y Nakajima, T Fukao, Y Nakano, H Sasai, Y Aoyama, S Kato, Y Hasegawa, Y Sakai, T Yoshikawa, T Ito*
- P-351** SCOT deficiency: the role of peritoneal dialysis in treatment of attack  
*E Canda, M Köse, M Kağnıcı, H Yazıcı, C Kabasakal, S Habif, S Kalkan Ucar, M Çoker*
- P-352** HMG CoA Lyase deficiency and Kaposiform lymphangiomatosis: Bad luck or increased risk?  
*K A Chapman, S Yang, K Cusmano-Ozog*
- P-353** Neuropsychological outcome in patients with long-chain 3-hydroxyacyl-CoA dehydrogenase (LCHAD) deficiency  
*A Strandqvist, C Bieneck Haglind, R H Zetterström, A Nemeth, U Von Döbeln, M Halldin Stenlid, A Nordenström*
- P-354** Multidisciplinary retrospective study of homocystinuria patients followed at Reference Center for Inborn Errors of Metabolism (CREIM) of Universidade Federal de São Paulo (UNIFESP)  
*B J Frangipani, C S C Mendes, M A Curiati, J A O Silva, R B Oliveira, S O Kyosen, V D Almeida, A M Martins*
- P-355** Prenatal diagnosis of brain malformations in patients with Multiple AcylCoA Dehydrogenase Deficiency  
*M Gomez, A Macaya, F Camba, I Delgado, E Vazquez, J A Arranz, C Carnicer, A Ribes, A Navarro-Sastre, M Del Toro*
- P-356** Functional and molecular evaluation of patients with primary carnitine deficiency.  
*M Frigeni, X Yin, M Pasquali, N Longo*
- P-357** Late-onset of Multiple Acyl-CoA Dehydrogenase Deficiency (MADD) and rhabdomyolysis: A case report  
*K C Donis, C F Lorea, A A Silva, L F Refosco, F P Vairo, C F M Souza, L Vilarinho, A Sitta, C R Vargas, I V D Schwartz*
- P-358** VLCAD deficiency leads to chronic inflammation with an atypical cytokine and activated monocyte signature  
*H J Mroczkowski, S J Mihalik, Z Swigonova, J J Michel, J C Ralphe, A N Vallejo, J Vockley*
- P-359** Management of HMG-CoA lyase deficiency: a review of five cases from a single centre  
*D Petkovic Ramadza, L Abulhoul, S Grünewald, M Cleary, M Dixon*
- P-360** Brain and muscle redox imbalance elicited by acute ethylmalonic acid administration  
*P F Schuck, L S Galant, B K Ferreira, F Malgarin, F Petronilho, F Dal-Pizzol, E L Streck, G C Ferreira*
- P-361** Obesity and overweight in a cohort of patients with fatty acid oxidation disorders  
*I R Luz, P Garcia, L Diogo, A Faria*

## 15. Disorders of pyruvate metabolism and the Krebs cycle

- P-362** Lactic acidosis and neonatal death in a patient with deficiency of the E2 subunit of the pyruvate dehydrogenase complex

*J A Mayr, B Burnyte, R Snariene, R G Feichtinger, FA Zimmermann, V Lunzer, S B Wortmann, I Baskirova, N Drazdiene, U Algirdas, W Sperl*

- P-363** Phenotype and genotype analysis of Indian patients with Pyruvate Carboxylase deficiency  
*N Gupta, G Verma, S Sharma, S Shastri, V Valayannopoulos, S Monnot, M Kabra, P Kaur*
- P-364** Fumaric aciduria: is arginine aspartate a treatment option?  
*P Janeiro, T Moreno, I Jardim, R Neiva, L Vilarinho, I Tavares de Almeida, A Gaspar*
- P-365** Variable phenotypes in nine Arab patients with dihydrolipomide dehydrogenase deficiency due to homozygous c.685G>T mutation in the *DLD* gene  
*N Makhseed, M Almureikhi, N Shahbeck, R A.Rahman, L Mahmoud, R J Rodenburg, T Ben-Omran*
- P-366** Deficiency of the mitochondrial pyruvate carrier subunit MPC1 in a patient with splenomegaly, epilepsy and diabetes mellitus  
*N Makhseed, B E Assmann, U Kotzaeridou, R G Feichtinger, L Matakovic, S B Wortmann, T B Haack, H Prokisch, G F Hoffmann, W Sperl, J A Mayr*

## 16. Mitochondrial disorders: nuclear encoded

- P-367** Resveratrol attenuates oxidative stress in complex I-deficient fibroblasts: involvement of SIRT3, ER and ERRalpha  
*L Mathieu, A Lopes Costa, C Le Bachelier, A Slama, A S Lebre, R W Taylor, J Bastin, F Djouadi*
- P-368** A preterm infant who had hemophagocytic lymphohistocytosis (HLH) caused by mitochondrial respiratory chain disorders (MRCO)  
*K Fuwa, M Kanno, H Miyabayashi, K Kawabata, K Kanno, M Kubota, M Shimizu*
- P-369** AIFM1 deficiency with cardiac involvement: description of three new cases  
*J Kulhanek, M Tesarova, A Vondrackova, V Dvorakova, H Hansikova, J Zeman, T Honzik, M Magner*
- P-370** Three families sharing acyl-coA dehydrogenase 9 deficiency: from severe neonatal cardiomyopathy to ventricular hypertrophy diagnosed at 12 years  
*J Dewulf, C Barrea, M F Vincent, C De Laet, R Van Coster, S Seneca, S Marie, M C Nassogne*
- P-371** Leigh syndrome due to mutations in *ECHS1* gene  
*L Gort, X Ferrer-Cortés, O Ugarteburu, J Narbona, L Aldamiz-Echevarria, P Briones, J Montoya, B Morales-Romero, S Pajares, A Arias, J Garcia-Villoria, F Tort, A Ribes*
- P-372** Massive exome sequencing identifies a novel heterozygous-compound in *ACAD9* gene in affected siblings with severe lactic acidosis  
*B Merinero, I Bravo-Alonso, R Navarrete, L Rausell, I Vitoria, A Blázquez, I Garcia-Consuegra, M A Martín, M Ugarte, P Rodríguez-Pombo*
- P-373** Gracile syndrome: A severe neonatal mitochondrial disorder  
*F T Eminoglu, H Akduman, B Atasay, O Erdeve, S Arsan, S Ceylaner*
- P-374** A novel *AIFM1* mutation expands the phenotype to an infantile motor neuron disease  
*D Diodato, G Tasca, D Verrigni, A D'Amico, T Rizza, G Tozzi, D Martinelli, M Verardo, F Invernizzi,*

*A Nasca, E Bellacchio, D Ghezzi, F Piemonte, C Dionisi-Vici, R Carrozzo, E Bertini*

- P-375** Molecular genetic basis of an unusual biochemical phenotype associated with *NFU1* mutations  
*X Ferrer-Cortés, J Narbona, N Bujan, L Matalonga, M Del Toro, J A Arranz, E Riudor, Á Garcia-Cazorla, M O'Callaghan, M Pineda, C Jou, R Montero, C L Alston, R W Taylor, P Briones, A Ribes, F Tort*
- P-376** Provision of a national diagnostic service for Barth syndrome: a five year review  
*A Bowron, J Honeychurch, M Williams, V Powers, T Thorpe, P H Thomas, C G Steward*
- P-377** New insights into mitochondrial structure in Barth syndrome  
*A Bowron, S J Groves, P Verkade, J Mantell, G Tilly, P H Thomas, S J R Heales, C G Steward*
- P-378** Target sequencing for mitochondrial disorders  
*Y S Itkis, T D Krylova, P G Tsygankova, E Y Zakharova, E S Ilyina, I D Fedonyuk, S V Mikhailova*
- P-379** High prevalence of complementary and alternative medicine use in patients with genetically proven mitochondrial disorders  
*S Franik, H H Huidekoper, G Visser, M De Vries, L De Boer, M Hermans-Peters, R J Rodenburg, C Verhaak, A M Vlieger, J A M Smeitink, M C H Janssen, S B Wortmann*
- P-380** New features for Twinkle mutations: high alpha-fetoprotein and abnormal CDG profile  
*J Bouchereau, S Vuillaumier Barrot, T Dupré, R Cardas, Y Capri, A Slama, N Seta, M Schifff, L Servais*
- P-381** Insulin-responsive hyperglycemia and ketoacidosis: neonatal diabetes as a red herring for mitochondrial complex III deficiency  
*N Anastasio, B Drogemoller, M Tarailo-Graovac, R Al Khalifah, L Legault, C Van Karnebeek, D Buhas*
- P-382** A case with *SURF-1* mutation and hypertrophic olivary nuclear degeneration  
*S Kalkan Ucar, M Köse, E Canda, C Eraslan, M Kagnici, S Ceylaner, M Çoker*
- P-383** Diagnosis and management of drooling in children with progressive dystonia - A case series of patients with MEGDEL syndrome  
*D Blommaert, C C M Van Hulst, F J A Van den Hoogen, C E Erasmus, S B Wortmann*
- P-384** Case report: atypical juvenile parkinsonism and basal ganglia calcifications due to HSD10 disease  
*C F Lorea, A Sitta, R Yamamoto, P A F Paulo, F P Vairo, C R M Rieder, M Wajner, I V D Schwartz, R Giugliani, L B Jardim, J O Sass, J A Saute*
- P-385** Diagnosis and molecular basis of mitochondrial respiratory chain disorders in Japan: comprehensive genomic analysis for searching disease causes  
*M Tajika, K Murayama, T Fushimi, M Taniguchi, M Ishii, M Ajima, M Shimura, K Ichimoto, T Tsuruoka, A Matsunaga, T Yamazaki, M Mori, Y Kishita, Y Tokuzawa, M Kohda, M Takayanagi, Y Okazaki, A Ohtake*
- P-386** Isolated complex III deficiency due to LYRM7 deficiency in two siblings  
*K Tsiakas, M Hempel, T Haack, L Kremer, R Feichtinger, W Sperl, J Mayr, H Prokisch, R Santer*

- P-387** *NDUF4F* mutations in two siblings with dysmorphic features, cardiomyopathy and 3-methylglutaconic aciduria  
*O Ugarteburu, F Tort, M T García-Silva, P Sanjurjo, J García-Villoria, X Ferrer-Cortès, A Arias, P Briones, A Ribes*
- P-388** The first male case with cardiomyopathy and isolated complex I deficiency caused by hemizygous mutation in *NDUFB11* gene  
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- P-389** A new patient with mutations in *NADK2* and prolonged survival  
*M A Ruiz, J García-Villoria, F Tort, O Ugarteburu, X Ferrer-Cortès, L Matalonga, A Arias, M Girós, S Pajares, P Briones, A Ribes*
- P-390** Two cases of *ECHS1* deficiency with mitochondrial encephalopathy and cardiomyopathy  
*A Matsunaga, K Murayama, T Matsubayashi, T Nagatomo, M Mori, Y Kishita, Y Tokuzawa, M Kohda, Y Okazaki, A Ohtake*
- P-391** A case of coenzyme Q10 deficiency diagnosed by next-generation sequencing  
*G Z Racz, T Kalmar, B Ivanyi, C Bereczki, Z Maroti*
- P-392** *SUCLA2* deficiency, a deafness dystonia syndrome with distinctive metabolic findings - report of a new patient and review of the literature  
*R R Maas, A Della Marina, A P M De Brouwer, R A Wevers, R J Rodenburg, S B Wortmann*
- P-393** Mutations in mitochondrial fission factor *MFF*, a new cause of pediatric mitochondrial disorders  
*P J K Freisinger, J Koch, T Haack, R Feichtinger, J A Mayr, U Ahting, M Pies, T Scheffner, H Prokisch, W Sperl*
- P-394** *PUS1* and *COX10* mutations in three Czech patients with cytochrome c oxidase deficiency and haematological symptoms  
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- P-395** Chromosomal aberrations mimicking mitochondrial disorders  
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- P-396** Two new Turkish siblings with MEGDEL syndrome and novel mutation  
*O Unal, M Gunduz, S Unal, D Yucel, R K Ozgul*
- P-397** Mutations in *C10orf2* gene mimic clinical picture of Niemann–Pick disease type C  
*S V Mikhailova, T Y Proshlyakova, E Y Zakharova*
- P-398** *GDF-15* and *FGF-21* are comparably sensitive and specific biomarkers of mitochondrial diseases  
*F J Ramos, R Montero, D Yubero, D Henares, C I Ortez, M O'Callaghan, M A Rodriguez, A E Nascimento, A Garcia Cazorla, J Montoya, M Meznaric, L De Meirleir, S Kalko, R Artuch, C Jimenez-Mallebrera*
- P-399** A new pathogenic mutation in the iron-sulfur cluster assembly gene *IBA57* causes impaired protein function leading to massive early leukoencephalopathy  
*F G Debray, C Stumpf, A V Vanlander, J Smet, V Dideberg, C Josse, J H Caberg, F Boemer, V Bours, R Stevens, R Lill, R Van Coster*
- P-400** Utilizing next-generation sequencing for diagnosis of nuclear-gene encoded mitochondrial disorders  
*S Bijarnia-Mahay, R D Puri, P Dash, U H Kotecha, S Kohli, R Saxena, P Balakrishnan, I C Verma*
- P-401** Mitofibrate CT1: a double-blind placebo controlled trial to evaluate efficacy and safety of bezafibrate for patients with mitochondrial myopathies  
*F B Lagler, J Koch, P Freisinger, J Mayr, A Moder, W Sperl*
- P-402** 5-Aminolevulinic acid and iron can bring a cure for mitochondrial respiratory chain disorders  
*A Ohtake, K Murayama, H Harashima, T Yamazaki, Y Tokuzawa, Y Kishita, Y Mizuno, M Kohda, M Shimura, T Fushimi, M Taniguchi, M Ajima, M Takayanagi, Y Okazaki*
- P-403** Gracile like syndrome caused by *BCS1L* gene mutations  
*E Rodrigues, P Eden Santos, A Teixeira, E Martins, C Nogueira, L Vilarinho, E Leão Teles*
- P-404** A homozygous p.Trp22Arg *NDUFB3* mutation identified in a cohort of patients with mitochondrial complex I deficiency presenting with persistent growth failure, subtle facial dysmorphism and a variable metabolic phenotype  
*C Howard, C L Alston, P McCarthy, J P H Shield, P G Murray, L He, R McFarland, I Knerr, A A Monavari, P E Clayton, R W Taylor, E Crushell, J Hughes*
- P-405** FeS cluster biogenesis defect in a patient with mutations in *ISCA2*  
*U Ahting, B Rolinski, T Haack, J A Mayr, B Alhaddad, H Prokisch, W Sperl, T Meitinger, P Freisinger*
- P-406** RNase P complex formation is disrupted in *HSD10* disease  
*A Amberger, A J Deutschmann, S Oerum, W J Yue, J Zschocke*
- P-407** Molecular characterization of a mitochondrial tRNA processing complex implicated in the *HSD10* disease  
*S Oerum, J Kopec, F Fitzpatrick, A Amberger, A J Deutschmann, J Zschocke, W W Yue*
- P-408** A novel presentation of *EARS2*-associated mitochondrial disease  
*R Oliveira, E W Sommerville, K Thompson, J Nunes, A Pyle, M Grazina, P F Chinnery, L Diogo, R W Taylor, P Garcia*
- P-409** Unravelling a new mitochondrial disorder: PNPT1 mutations causing Leigh syndrome with a complex movement disorder  
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- P-411** Are we missing MtDNA depletion syndromes in infants with fulminant hepatic failure?  
*M M Joshi, K V Kudalkar, A B Jalan, R A Jalan, D H Shinde, M A Borugale, J M Mahakal, N D Sonalkar, S Khubchandani, V L Ramprasad*
- P-412** Body composition of adults with mitochondrial disease  
*H Zweers, S Leij, G Wanten, M C Janssen*
- P-413** Age-related decline in muscle mitochondrial function is different between men and women  
*P Gaignard, E Lebigot, P Thérond, A Slama*

- P-414** Respirometry in blood and fibroblasts of LHON patients  
*T Krylova, P Tsygankova, Y S Itkis, N L Sheremet, T A Nevinityna, V A Malakhova, E Y Zakharova*
- P-415** Mitochondrial DNA mutations associated with autism spectrum disorders  
*D Avdjieva-Tzavella, S Mihailova, H Kathom, E Naumova, R Tincheva*
- P-416** Unique presentation of LHON/MELAS overlap syndrome caused by m.13046T>C in *MTND5*  
*H Kolarova, P Liskova, M Tesarova, V Kucerova Vidrova, O Ulmanova, M Forgas, H Hansikova, T Honzik*
- P-417** Leigh-like syndrome due to homoplasmic m.8993T>G mutation with unusual biochemical features suggestive of multiple carboxylase deficiency (MCD) and hypocitrullinemia  
*S Balasubramaniam, B Lewis, L Greed, A Mattman, J M Fletcher, C Van Karnebeek, J Christodoulou, R J Rodenburg*
- P-418** A very rare syndrome: Mitochondrial DNA depletion syndrome type 13  
*Z Onal, A Ersen, N Mutlu, M S Cansever, H Onal, E Adal*
- P-419** Primary coenzyme Q10 deficiency- type 4: A case report  
*O Kocak, G Kilic Yildirim, C Yarar, S Durmus Aydogdu, K B Carman*
- P-420** Renal manifestations in DGUOK deficiency: an atypical presentation  
*J Nascimento, E S Silva, L Rocha, C Garrido, C Nogueira, L Almeida, L Vilarinho, A Bandeira, E Martins*
- P-421** Blue and clear native electrophoresis in skin fibroblasts as a tool for detection of mitochondrial disease  
*I Sosova, D Sinasac, F Snyder, S Hume, M Friederich, J Van Hove, C White, L Resch, A Khan*
- P-422** Biochemical and mutational spectrum of mitochondrial disorders: 1 year prospective data from tertiary care centre of India  
*S Kumar, A Lomash, S Khalil, S K Polipalli, S Kapoor*
- P-423** Comparison of biochemical and molecular diagnosis in children with Leigh syndrome  
*Y M Lee*
- P-424** Lipomas: an unexpected phenotype of mitochondrial DNA mutations  
*J Smet, A V Vanlander, D Creytens, B Lengelé, N Revencu, S Seneca, R Van Coster*
- P-425** HSD10 is an independent prognostic marker for overall survival in colorectal cancer (CRC) and regulates mitochondrial DNA (mtDNA) copy number  
*A J Deutschmann, A Amberger, P Traunfellner, R G Feichtinger, B Kofler, J Zschocke*
- P-426** Common mitochondrial syndromes but non typical mutations  
*E Y Zakharova, Y S Itkis, P Tsygankova, G E Rudenskaya, T Krylova*
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- 18. Other disorders of energy metabolism, creatine disorders**
- P-428** Study of creatine uptake by cultured skin fibroblasts for functional diagnosis of SLC6A8 deficiency  
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- P-429** Guanidinoacetate specific effects of GAMT deficiency in developing brain cells  
*L Hanna-El-Daheer, M Loup, H Henry, L Tenenbaum, O Braissant*
- P-430** Long-term outcome after creatine supplementation in the two italian AGAT deficient families  
*R Battini, M G Alessandri, C Casalini, C Casarano, M Tosetti, G Cioni*
- P-431** Plasma creatine levels in patients with different forms of homocystinurias  
*S Boenzi, A Pastore, D Martinelli, B M Goffredo, C Dionisi-Vici*
- P-432** Disorders of the biosynthesis of lipoyl-proteins: a biochemical approach to improve diagnosis  
*E Lebigot, P Gaignard, A Slama, M Rio, S Roche, C Ottolenghi, P Therond, P De Lonlay, A Boutron*
- P-433** Simultaneous measurement of creatine, creatinine and guanidinoacetate in dried urine spots by LC-MSMS : a pilot study  
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- P-434** A novel mouse model of creatine transporter deficiency  
*L Baroncelli, M G Alessandri, J Tola, E Putignano, M Migliore, E Amendola, F Zonfrillo, C Gross, V Leuzzi, G Cioni, T Pizzorusso*
- P-435** Guanidinoacetate methyltransferase deficient mice express electric seizure activity through systemic availability of guanidinoacetate affecting GABA(A) receptor function and seizure threshold  
*A Schulze, C Tran, V Levandovskiy, V Patel, M A Cortez*
- P-436** Identification and re-purposing of drugs for the treatment of human guanidinoacetate methyltransferase deficiency (GAMT-D)  
*I Tkachyova, M Tropak, A Datti, A Schulze*
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- P-437** New biomarkers for early diagnosis of Lesch-Nyhan disease revealed by metabolic analysis on a large cohort of patients  
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- P-438** Intrastriatal hypoxanthine administration alters inflammatory profile in striatum of Wistar rats  
*H Biasibetti, P Pierozan, A F Rodrigues, M Seboatia, A T S Wyse*
- P-439** Adenine Phosphoribosyltransferase deficiency: an under-recognized cause of urolithiasis and renal failure  
*M Morgan, Ledroit, L Lionel, Mockel, V Véronique, Droin, C Céline, Petitgas, M Michel, Daudon, G Guillaume, Bollée, I Ceballos-Picot*
- P-440** Diagnosis of xanthinuria type II using untargeted mass spectrometry-based next generation metabolic screening (NGMS)  
*U F H Engelke, E Heeft van der, M Schreuder, S Boer de, J Engel, M Huigen, R A Wevers, L A J Kluijtmans*
- P-441** A new case of AICA-ribosiduria  
*S Marie, I Ceballos-Picot, E Delorière, A Imbard, J F Benoist, M F Vincent, J Dewulf, M Rio*
- P-442** Preparation and characterization of the model cells system to study to date unknown genetically determined defects of *de novo* purine synthesis  
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- P-443** New biochemical markers in adenosine kinase deficiency  
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- P-444** Characterization of plasma lipoprotein particles in Spanish patients with lysosomal acid lipase deficiency (LAL-D)  
*R Yahyaoui, E Rodriguez-García, M Heras, M C García-Jiménez, L L González-Diéguez, R Mallol, N Amigó*
- P-445** Familial hypercholesterolemia due to *LDLR* gene mutations: about six new Moroccan families  
*A Touzani, M Di-Filippo, A Sassolas, R Rousson, A Gaouzi, L Chabraoui*
- P-446** Treatment experience in a patient with serious mevalonic aciduria  
*S Erdöl, S Çekiç, S Dorum, S Caki, H Saglam, S S Kılıç*
- P-447** Plasma lipids and proprotein convertase subtilisin/kexin type 9 (PCSK9) in patients with Smith-Lemli-Opitz syndrome (SLOS)  
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- P-448** Cases of Acute Intermittent Porphyria and Congenital Erythropoietic Porphyria  
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- P-449** Splicing mutation in aminophospholipid transporter protein ATP8A2 in a Turkish family  
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*N Elkhateeb, L A Selim, A Sobhi*
- P-458** Avoid rapid weight loss in Refsum disease  
*C Douillard, T Le Poullennec, M Fontaine, A Vannallegem, A S Parent, D Dobbelaere, K Mention*
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*K Kato, H Sakaguchi, N Yoshida, M Onodera*
- P-460** A novel *ABCD1* gene mutation in a Turkish patient with X-linked adrenoleukodystrophy who had atypically normal plasma levels of very long chain fatty acids  
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- P-462** Is hyperoxaluria phenotypes a second contribution to determine the disease?  
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- P-463** Lorenzo's oil therapy. Follow up of three patients  
*E Espinosa, T Ortiz, N F Pulido, YA Ardila, J M Guevara, O Y Echeverri, L A Barrera*
- P-464** Incidental finding of X-linked adrenoleukodystrophy in a male patient and gonosomal mosaicism in his mother  
*D Beysen, E Castermans, N Sacré, F Roelens, P Verloo*
- P-465** Nutrient intake in children with Smith-Lemli-Opitz syndrome  
*S Myrie, K Haas, F D Porter, J Heubi, R D Steiner, P H Jones, J - B Roulet*

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- P-451** A novel mutation of the *PEX16* gene in a patient with slowly progressive atypical presentation of Zellweger syndrome  
*M Ersoy, B Tatli, S Ceylaner*
- P-452** Protective effect of antioxidants on DNA damage in leukocytes from X-linked adrenoleukodystrophy patients.  
*D P Marchetti, B Donida, H T Da Rosa, P R Manini, D J Moura, J Saffi, M Deon, C P Mescka, D M Coelho, L B Jardim, M Wajner, R Giugliani, C R Vargas*
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*F Eyskens, D Trouet*
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- P-455** Pigmentary retinopathy and neuropathy: clinical, radiological and pathological features of  $\alpha$ -methylacyl-CoA racemase (AMACR) deficiency  
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- P-456** Rhizomelic chondrodysplasia punctata type II: a case diagnosed by whole exome sequencing  
*A Dursun, E Pektas, D Yucel-Yilmaz, R K Ozgul*
- P-457** Adrenoleukodystrophy and metachromatic leukodystrophy cases who underwent bone marrow transplantation  
*S Kalkan Ucar, E Canda, M Köse, M Kağnıcı, S Aksoylar, Ö Kitiş, A Tosun, S Kansoy, M Çoker*

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- P-466** The first screening results of six lysosomal storage disorders using a HPLC-MS/MS multiplex assay in Turkey  
*H S Akbas, E Soyucen, G Yucel*
- P-467** Effect of high doses of enzyme replacement therapy by systemic infusion on the central nervous system defects in a mouse model of mucopolysaccharidosis type 2  
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- P-468** MPS II – patient's profile - objective evaluation of the body stature in patient who started idursulfase treatment presymptomatically at the age of 3 months  
*A Różdżyńska-Świątkowska, A Tylki-Szymanska*
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*A Tylki-Szymanska, A Różdżyńska-Świątkowska, J Marucha, A Kulpanowicz, A Tulebayeva, A Jurecka*
- P-470** Severe tracheal collapse in mucopolysaccharidosis type 2  
*M Langeveld, M Rutten, P Ciet, R Van den Biggelaar, E Oussoren, J G Langendonk, A T Van der Ploeg*
- P-471** Impact of mucopolysaccharidosis (MPS) on daily living, employment, general health and parenthood of adult patients  
*C Lavery, B Wedehase, P Harmatz, C Hendriks*
- P-472** Correlation between phenotype and genotype in 81 Japanese patients with mucopolysaccharidosis type II  
*M Kosuga, T Kumagai, N Fuji, A Hirakiyama, H Igarashi, R Mashima, M Nikaido, T Okuyama*

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*M Magner, J Kulhanek, H Ujcikova, H Poupetova, J Zeman, I Svandova*
- P-474** Oxidative DNA damage in mucopolysaccharidosis type IVA patients treated with enzyme replacement therapy  
*B Donida, D P Marchetti, P R Manini, H T Da Rosa, D J Moura, J Saffi, M Deon, R Giugliani, C R Vargas*
- P-475** Natural history of Mucopolysaccharidosis type III (Sanfilippo disease) in United Arab Emirates  
*F Al-Jasmi*
- P-476** AAV-GNPTAB gene delivery attenuates bone loss in the GNPTAB knock out mouse model of Mucopolysaccharidosis II  
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- P-477** Age-dependent mitochondrial dysfunction in brain of mucopolysaccharidosis type III C mouse model  
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- P-478** Efficacy of early enzyme replacement therapy in severe Morquio A disease: a case report  
*J Do Cao, T Quintaux, L Mainard, R Froissart, P Journeau, F Feillet*
- P-479** Two Cases with Mucopolysaccharidosis Type VII (Sly's Syndrome)  
*S Sivri, E Pektas, Y Yildiz, A Dursun, A Tokatli, T Coskun*
- P-480** Characteristics of patients with mucopolysaccharidosis type II identified at a very young age: data from the Hunter Outcome Survey (HOS)  
*B K Burton, C Ficicioglu, J Bosch, I Morin, A Jurecka, A Tytki-Szymanska*
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- P-482** Quantitative analysis by UPLC-MS/MS of dermatan and heparan sulfate in urine of mucopolysaccharidosis patients  
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- P-483** Ten years of the Hunter Outcome Survey (HOS): a decade of improving our understanding of Hunter syndrome  
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- P-484** Preserving hand function in mucopolysaccharidosis type I: a systematic review  
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- P-485** Beta-mannosidosis is a rare cause of hypomyelination  
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- P-486** Every other week enzyme replacement therapy in mucopolysaccharidosis type I: efficacy of alternative double-dose regimen in 17 patients  
*D D G Horovitz, A X Acosta, A M Martins, C F M Souza, A C Esposito, A L Barth, S O Kyosen, R Giugliani, E K E Araujo, L Cardoso Jr, M G Burin, V D Almeida, F Scalco, M L Oliveira*
- P-487** Histological and mechanical characterisation of growth plates in a MPS VI rat model  
*J M Guevara, M Frohbergh, D A Garzon-Alvarado, L A Barrera, E Schuchman, C Simonaro*
- P-488** Cardiac features and effects of enzyme replacement therapy for 28 patients with mucopolysaccharidosis I, II, IVA and VI  
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- P-489** Sulfated disaccharide from heparin are chaperone candidate for treatment of mucopolysaccharidosis type II  
*H Hoshina, Y Shimada, T Higuchi, H Kobayashi, Y Eto, H Ida, T Ohashi*
- P-490** Screening mucopolysaccharidosis type IX in patients with juvenile idiopathic arthritis  
*E Kiykim, M S Cansever, K Barut, A C Aktuglu Zeybek, T Zubarioglu, O Kasapcopur, A Aydin*
- P-491** Prevalence of Mucopolysaccharidosis (MPS) type I, II and VI in the paediatric and adult population with carpal tunnel syndrome (CTS). Retrospective and prospective analysis of patients who have been treated for CTS  
*M B Nørmark, A M Lund*
- P-492** The frequency and structure of mucopolysaccharidosis in Kazakhstan Republic.  
*M N Sharipova, R Z Boranbayeva, G S Adamova, A K Tulebayeva*
- P-493** The therapeutic efficacy of bone marrow transplantation from heterozygous donor in mucopolysaccharidosis type II mice  
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- P-494** A prospective study on early diagnosis of MPS diseases in young patients with particular bone and joints manifestation of disease  
*F Eyskens, S Devos*
- P-495** Development and reliability assessment of the MPS II Disease Severity Score (DSS)  
*H Amartino, B K Burton, R Giugliani, P Harmatz, S Jones, M Scarpa, M Solano, D Zafeiriou, M Vernon, M Rahuy-Callado, D Trundell, I Wiklund, T Pulles, D A H Whiteman, J Muenzer*
- P-496** Analyses of biomarkers of oxidative stress in Mucopolysaccharidosis I and Mucopolysaccharidosis VI  
*J Cê, A S Mello, C Antunes, G Bortolato, J Marinho, F Machado, C Funchal, C Dani, J C Coelho*
- P-497** N-acetylgalactosamine-6-sulfate in leukocytes: kinetic parameters in diagnosis of Mucopolysaccharidosis type IV A  
*V C Moraes, J Cê, J C Coelho*
- P-498** Impact of elosulfase alfa on exercise capacity in patients with Morquio A syndrome in a randomised, double-blind, pilot study  
*B Burton, K I Berger, G D Lewis, M Tarnopolsky, P Harmatz, J J Mitchell, N Muschol, S A Jones, V R Sutton, G M Pastores, H Lau, R Sparkes, F Genter, A Shaywitz*
- P-499** Long-term outcomes of treatment with elosulfase alfa for Morquio A Syndrome (mucopolysaccharidosis IVA)  
*C Hendriksz, S Jones, T Geberhiwot, A Van Tuyl, B Schweighardt, P Slasor, C Decker*
- P-500** Safety and pharmacodynamic activity of elosulfase alfa in pediatric patients less than 5 years of age with Morquio A Syndrome (Mucopolysaccharidosis IVA)  
*P Harmatz, S A Jones, M Bialer, R Parini, K Martin, H Wang, A Shaywitz*
- P-501** Impact of long-term elosulfase alfa treatment on six-minute walk test distance in patients with Morquio A syndrome  
*P Harmatz, B K Burton, R Giugliani, D Hughes, J J Mitchell, J Raiman, M L Solano Villarreal, F Stewart, P Slasor, A Shaywitz*

- P-502** Impact of long-term elosulfase alfa treatment on three-minute stair climb test, pulmonary function tests and normalized urine keratan sulfate in patients with Morquio A syndrome  
*R Giugliani, B K Burton, P Harmatz, D Hughes, J J Mitchell, J Raiman, M L Solano Villarreal, F Stewart, P Slasor, A Shaywitz*
- P-503** Management of fertility and pregnancy in individuals with mucopolysaccharidosis (MPS)  
*F Stewart, P Harmatz, E Braunlin, A Bentley, B Burton, N Guffon, S Hale, T Johnston, S Kircher, P Kochhar, J J Mitchell, U Plöckinger, J Semotok, Z Sísic*
- P-504** Medical issues and other challenges in adult patients with mucopolysaccharidosis (MPS)  
*J J Mitchell, K I Berger, A Quartel, E Braunlin, R Wang, G M Pastores, K White, E R Jurecki*
- P-505** Novel therapeutic options for mucopolysaccharidosis (MPS) type IIIA based on the crystal structure of human sulfamidase  
*R Steinfeld, N S Sidhu, R Kraetzner, I Usón, J Gärtner, G M Sheldrick*
- P-506** Mucopolysaccharidosis type I is the most common lysosomal storage disorder in Morocco and the P533R is the founder mutation  
*H Talbaoui, J P Puech, S Dahri, N Dini, Y Kriouile, C Caillaud, L Chabraoui*
- P-507** Mucopolysaccharidosis Type I in two Mexican siblings treated with enzyme replacement therapy at different ages.  
*L L Flores, E D Ruiz, M A Marquez, M E Vega, S J Franco*
- P-508** A new case of an adolescent with alpha-mannosidosis  
*M Spodenkiewicz, R Garnotel, P Venot, N Bednarek, D Gaillard*
- P-509** Developing substrate reduction therapy for six mucopolysaccharidoses by targeting NDS1  
*I Tkachyova, X Fan, A Schulze, D Mahuran*
- P-510** Fertility in patients with Mucopolysaccharidosis type VI  
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- P-511** Efficacy on brain of hematopoietic stem cell transplantation and enzyme replacement therapy for patients with mucopolysaccharidosis type II severe form  
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- P-512** A case of fucosidosis with a new mutation in *FUCA1* gene  
*E Pektaş, D Yucel-Yilmaz, R K Ozgul, A Dursun*
- P-513** Vitamin D deficiency – a preventable co-morbidity in mucopolysaccharidosis  
*A Faria, P Garcia, E Rodrigues, M C Macário, E Martins, P Janeiro, L Diogo*
- P-514** Expansion of mutation spectrum in *IDS* and *IDUA* genes: Report of eight and one novel mutations in Indian patients with Hunter syndrome and Hurler syndrome  
*G Verma, M Kabra, N Gupta, S Shastri, P Mishra, M Roy Chowdhury, S Sapra, S Gulati, P Kaur*
- P-515** Ventriculo-peritoneal shunt and hematopoietic stem cell transplantation in Hurler patients  
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- P-516** First assessment of elosulfase (Vimizin) early access program for a group of 7 Spanish pediatric patients with Morquio A disease  
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- P-517** Neuroimaging findings and cerebrospinal fluid flow study using MR imaging in patients with Mucopolysaccharidosis (MPS)  
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- P-519** Proteoglycan expression in patients with MPS II and III  
*S Batziros, E Papakonstantinou, I Klagas, E Kontopoulos, E Vargiami, D Zafeiriou*
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- P-521** Evaluation of the disease advancement in patients with mucopolysaccharidosis  
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- P-522** Hyaluronic acid metabolism in patients with MPS II and III  
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- P-523** Pregnancy in a patient with mucopolysaccharidosis type I (MPS I) treated with enzyme replacement therapy: A case report  
*C F M De Souza, A A Silva, M T V Sanseverino, J A Magalhaes, S Fagundes, D Manica, F P Vairo, P Barrios, R Giugliani*
- P-524** Evaluation of inflammatory markers in mucopolysaccharidosis I and mucopolysaccharidosis VI  
*A S Mello, G P Dorneles, A C Breier, J Cé, A Peres, J C Coelho*
- P-737** Three-plex MS/MS method to measure MPS II, MPS IVA and MPS VI enzyme activities in dried blood spots  
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- P-526** Patient with Niemann-Pick type C presenting with lymphatic involvement with Niemann-Pick cells in the left jaw  
*A Inci, I Okur, G Esendaghi, A Okur, F S Ezgu, L Tumer*
- P-527** Clinical characterization of Korean Gaucher patients.  
*J M Ko, H W Yoo*
- P-528** A multicenter, open-label phase III study to evaluate the efficacy of biosimilar product of imiglucerase in patients with type I Gaucher disease  
*A Beshlawy, A FathyAbdalla, H W Yoo*
- P-529** Long-term efficacy of enzyme replacement therapy (ERT) for Fabry disease: Experience of single institution  
*J H Kim, J H Cho, B H Lee, J H Choi, H W Yoo*

- P-530** The need for disease-specific patient-reported outcome measures for lysosomal storage disorders  
*D Elstein, N Weinreb, N Belmatoug, I Schwartz, P Deegan, L Renault, O Goker-Alpan*
- P-531** Insight into the pre-diagnosis period of patients with Gaucher disease: results of a physician survey  
*A Mehta, N Belmatoug, B Bembi, P Deegan, D Elstein, O Goker-Alpan, E Lukina, E Mengel, K Nakamura, G M Pastores, J Pérez López, I Schwartz, C Serratrice, J Szer, A Zimran, Z Panahloo, D Hughes*
- P-532** Insight into the pre-diagnosis period of patients with Gaucher disease: results of the OnePath® US patient survey  
*G M Pastores, Z Panahloo, A Mehta*
- P-533** Plasma and urinary levels of glycosphingolipids in cardiac variant (N215S) Fabry patients  
*F J H Alharbi, D G Ward, T GeberHiwot*
- P-534** Prenatal diagnosis of Gaucher disease using next generation sequencing technology  
*S Yoshida, K Nakamura, S Matsumoto, H Mitsubuchi, T Shimazu, K Sugawara, F Endo*
- P-535** Pharmacological chaperone-mediated reduction of glucosylsphingosine in a Gaucher mouse model  
*S W Clark, L Pellegrino, L Dungan, R Hamler, A Sanders, O Kaspieva, L Clarke*
- P-536** Miglustat treatment in an early infantile form of GM1 gangliosidosis  
*S Erdöl, S Dorum, H Saglam*
- P-537** A rapidly progressive neurodegeneration case: Gaucher type 2 disease  
*M Kilic, A Eski, H I Aydin*
- P-538** Awareness study of Gaucher disease from southeast part of Turkey  
*D Bulut, D Kor, B Seker Yilmaz, M N Ozbek, N Onenli Mungan*
- P-539** Cornea verticillata in the first reported Cypriot female with Anderson-Fabry disease  
*T Georgiou, G Mavrikiou, E Spanou-Aristidou, M Krasia, V Christophidou-Anastasiadou, G A Tanteles*
- P-540** A new HPLC/MS-MS assay for quantification of total plasma glucosylsphingosine in Gaucher disease  
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- P-541** Optimizing molecular detection of large *GLA* gene deletions in Fabry patients  
*L Ferri, C Cavicchi, A Fiumara, R Parini, M Pantaleo, S Giglio, R Guerrini, A Morrone*
- P-542** Clinical spectrum of Farber disease with 4 novel acid ceramidase mutations in the Iranian population  
*F Hadipour, Y Shafaghati, T Levade, A Rolfs, A Tavasoli, Z Hadipour*
- P-543** Clinical spectrum of 13 Iranian families with GM1-gangliosidosis with 4 novel mutations in *GLB1* gene  
*F Hadipour, Y Shafaghati, P Sarkhail, F W Vertinjen, Z Hadipour*
- P-544** Alterations of the *GBA* gene in 120 Russian patients with Gaucher disease  
*K V Savostyanov, A A Pushkov, A K Gevorkyan, O S Gundobina, E A Lukina, K A Lukina, G B Movsisyan, L S Namazova-Baranova, A A Baranov*
- P-545** Nine novel mutations in the alpha-galactosidase A gene in Russian patients with Fabry disease  
*K V Savostyanov, A A Pushkov, L M Kuzenkova, T V Podkletnova, A V Pakhomov, L S Namazova-Baranova, A A Baranov*
- P-546** Treatment with miglustat reverses the progression of the disease in juvenile/adult GM1-gangliosidosis  
*F Deodato, E Procopio, A Rampazzo, R Taurisano, M A Donati, C Dionisi-Vici, A Caciotti, A Morrone, M Scarpa*
- P-547** Biomarkers for Fabry disease: How to screen patients with late-onset cardiac variant mutations  
*M Abaoui*
- P-548** The Gaucher Disease Outcome Survey: first description of the population in an ongoing international observational disease registry  
*D Elstein, I Schwartz, P Deegan, H Lau, O Goker-Alpan, E A Lukina, B Bembi, N Belmatoug, D Fernandez-Sasso, P Giraldo, V Fabien, Q Dinh, A Zimran*
- P-549** First assessment of Fabry-specific Paediatric Health and Pain Questionnaire (FPHPQ) scoring in children in the Fabry Outcome Survey  
*U Ramaswami, G Pintos-Morell, N Karabul, R Parini, M Rohrbach, S Bizjajeva, G Kalkum*
- P-550** Evolutionary studies of Arylsulphatase-A and Beta-galactocerebrosidase  
*O Y Echeverri, L A Barrera, A M Montaña*
- P-551** Characteristics of 12 Turkish Adult Patients with Gaucher Disease Type 1  
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- P-552** Clinical and molecular characteristics of a large cohort of patients with Fabry disease  
*M Dasouki, C Kimber, A Tuffaha*
- P-553** Pilot selective screening for Niemann-Pick type C disease in Slovakia  
*K Hlavatá, P Jungová, L Dvoráková, A Hlavatá*
- P-554** Clinical profile of children with Fabry disease in a Brazilian reference centre  
*T P Caneloi, S O Kyosen, C S C Mendes, C S Aranda, M A Curiati, M H Rand, P Feliciano, V D Almeida, J B Pesquero, A M Martins*
- P-555** Niemann-Pick type C disease in adults: the multiple faces of a complex lysosomal disorder  
*C Lourenco, M Almeida, L Nobre, C Leprevost, F Timm, M Saraiva, R Giugliani, W Marques Jr*

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*C I Van Capelle, J C Van der Meijden, J M P Van den Hout, J Jaeken, M Baethmann, T Voit, M A Kroos, F J Van Spronsen, M E Rubio-Galbaldo, M Willemsen, R H Lachmann, E Mengel, H Michelakakis, A J J Reuser, A T Van der Ploeg*
- P-557** Novel mutations in Tay-Sachs Egyptian patients  
*E M Fateen, D M Ali Ibrahim, A K Abdel Aleem, O S Mohamed Ali, M S Zaki*
- P-558** Spectrum of lysosomal storage disorders in India and Pakistan  
*R A Jalan, A B Jalan, K V Kudalkar, M A Borugale, M M Joshi, N D Sonalkar, D H Shinde, S Eichler, S Zielke, S Zielke, A Giese, A Rolfs, H A Rao, M A Alam*
- P-559** Secondary hemophagocytosis in a patient with Wolman disease  
*A Küçükçongar Yavas, P Genç, N Kılıç, H Erdoğan, Ö Özdemir, A Ekici, B Orhaner*



- P-560** Glucocerebrosidase (GBA1) deficiency and Parkinson's disease. Potential modifying effects of glucocerebrosidase 2 (GBA2) and oxidative stress  
*D G Burke, S J R Heales*
- P-561** Evaluation of blood-brain barrier (BBB) integrity and structural abnormalities in mucopolysaccharidosis (MPS) IIIB patients using cerebrospinal fluid/serum albumin index (CSF-AI) and multimodal MRI  
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*A Schulz, J L Cohen-Pfeffer, R Crystal, E De los Reyes, Y Eto, N Guelbert, B Héron, S Mikhailova, N Miller, J W Mink, M S Perez-Poyato, A Simonati, K Sims, R E Williams*
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*A Quartel, T Mozaffar, M Roberts, P Young, E M Johnson, K I Berger*
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*C Brasse-Lagnel, S Bekri*
- P-565** Real-world experience in the diagnosis of neuronal ceroid lipofuscinosis type 2 (CLN2): report from an international collaboration of experts  
*N Miller, S E Mole, J L Cohen-Pfeffer, R Crystal, E De los Reyes, Y Eto, M Fietz, B Héron, E Izzo, A Kohlschütter, C M Lourenço, I Noher de Halac, D A Pearce, M S Perez-Poyato, A Simonati, A Schulz*
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*V Pashali, E Dimitriou, M Moraitou, M Kanariou, H Michelakakis*
- P-567** Farber disease: a case report with a novel mutation  
*N Onenli Mungan, B Seker Yilmaz, D Bulut, D Kor, S Ceylaner*
- P-568** Onset of cognitive decline in CLN3 disease: a systematic review and meta-analysis  
*W F E Kuper, P M Van Hasselt*
- P-569** Large epidemiological study on selected lysosomal storage diseases  
*G E Oprea, S Eichler, K Schmidt, G Kramp, G Wittmann, C Cozma, N Nahavandi, A Rolfs*
- P-570** Voice quality in patients with late-onset Pompe disease.  
*K Szklanny, R Gubrynowicz, K Marasek, K Iwanicka-Pronicka, J Ratyńska, A Tyłki-Szymanska*
- P-571** Molecular mechanism of autophagic degradation pathway in Gaucher's disease  
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- P-572** Cholesteryl ester storage disease (CESD): successful outcome of five pregnancies in Greece  
*E Drogari, G Pappas, E Iliadis, N Manolaki*
- P-573** Successful implementation of plasma oxysterol for screening of Niemann Pick disease type C in Manchester UK  
*H Y Wu, J A Cooper, H J Church, K L Tylee, L Heptinstall, C L Hartley, S Filippo, E Jameson, A Broomfield, C Hendriks, S A Jones*
- P-574** Chitotriosidase activity for the screening of Niemann-Pick disease type C  
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- P-575** An unusual neurodegeneration in late infantile neuronal ceroid lipofuscinosis  
*M J Gonzalez, A Fernandez-Marmiesse, L Gort, J Armstrong, R Montero, M Pineda, V De Diego, A García Cazorla, M M O'Callaghan Gordo*
- P-576** Atypical pediatric presentation in two siblings with Gaucher disease type 3  
*M J Gonzalez, R Lozano, A Diaz-Conradi, J Armstrong, L Gort, C I Ortiz, R Montero, A García Cazorla, M M O'Callaghan Gordo*
- P-577** Oxidative DNA damage is risen in Fabry patients  
*G B Biancini, D J Moura, P R Manini, J L Faverzani, C B O Netto, M Deon, R Giugliani, J Saffi, C R Vargas*
- P-578** Non-invasive biochemical diagnostic procedures for Niemann-Pick C (NPC): Filipin staining in blood smear and oxysterol determination by TOF MS  
*Y Eto, A Takamura, M Fujisaki, T Umeda, T Iwamoto, T Ohashi, H Ida, K Eto, N Sakai*
- P-579** Rare case of a liver Gaucheroma in a young child on ERT.  
*P Owens, S Korula, K Bhattacharya*
- P-580** Biochemical study and molecular analysis identifying novel alleles in children affected with Sandhoff disease from India  
*M Mistri, P Tamhankar, P Kodurkar, F Sheth, J Sheth*
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*N D Sonalkar, A B Jalan, J M Mahakal, K V Kudalkar, R A Jalan, D H Shinde, M A Borugale, M M Joshi, H A Rao, M A Alam*
- P-582** Pompe diagnostic criteria - analysis of determining factors for correct and timely diagnosis of Pompe disease: a hypothesizing cross-sectional study  
*F B Lagler, M Rohrbach, J Hennermann, E Mengel, N Karabul, A Moder, T Hundsberger, K Rösler, M Huemer*
- P-583** Characterization of gait in late-onset Pompe disease  
*S Austin, P McIntosh, L Case, P S Kishnani*
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*S Sreekantam, L Simmons, T Hutchins, E Wassmer, S Vijay, S Santra*
- P-585** Is an increased Tau-protein in cerebrospinal fluid a marker for lysosomal storage diseases with neurodegeneration?  
*S Scholl-Bürgi, M Michel, C Humpel, K Pichler, E Haberlandt, U Albrecht, M Baumann, D Karall*
- P-586** Pycnodysostosis: three patients with cathepsin K analysis  
*E Kilic, S Elmaogullari, S A Ucakturk, F Demirel, K Karaer, S Ceylaner, M Kilic*
- P-587** Development of missense murine model of Pompe disease  
*Y Shimada, T Fukuda, E Nishimura, H Hoshina, H Kobayashi, T Higuchi, H Ida, T Ohashi*
- P-588** Persistent transaminitis in a patient with galactosaemia and I-cell disease despite treatment  
*K M Stepien, A Broomfield, A Hutchesson, P Settle, D Seshadri*
- P-589** A case of Gaucher Disease with negative bone marrow aspirate and normal initial beta-glucocerebrosidase assay  
*K Yulianti, N R Masnadi, D R Sjarif*
- P-590** Cystinosis in an adult metabolic clinic - A truly multi-systemic disease requiring multi-professional and multi-disciplinary management  
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- P-591** Fabry / non-Fabry: is *GLA* p.S126G a pathogenic mutation?  
*C Arrizza, A Nowak, D Hahn, M Gautschi, M Rohrbach, D Ballhausen, J M Nuoffer*
- P-592** Isolated elevated transaminases as an early sign of late-onset asymptomatic Pompe disease  
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- P-593** Think outside the box: how genetic findings can be misleading  
*C Arrizza, M Pavlovic, C Rieubland, E Hewer, E Perret Hoignè, D Hahn, C Casaulta, J M Nuoffer, M Gautschi*
- P-594** Niemann-Pick C Brazil network: five-year report of diagnostic results  
*R Giugliani, F T S Souza, R G Kessler, M G Burin, K Michelin-Tirelli, G E Civaliero, M Polese-Bonato, F B Trapp, C L Rafaelli, C F M Souza, F P Vairo, G S Ribas, C R Vargas, M L Saraiva-Pereira*
- P-595** Acid  $\alpha$ -glucosidase protein interactions in control and Pompe disease fibroblasts  
*M Coletta, C Porto, D Canetti, A Carrella, E Acampora, F Gatto, A Tarallo, M Monti, P Pucci, G Parenti*
- P-596** Infantile onset Pompe disease : the French experience  
*M Tardieu, B Chabrol, F Feillet, V Valayannopoulos, A Cano, M Carneiro, A Masurel, F Rivier, M Barth, D Eyer, A Kuster, K Mention, M Peralta, G Pitelet, C Vanhulle, H Ogier de Baulny, F Labarthe*
- P-597** Diagnosis of cystinosis in the practice of the Russian diversified medical center  
*A A Pushkov, A V Sukhozenko, K V Savostyanov, N A Mayansky, A N Tsygin*
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- P-598** Efficacy of enzyme replacement therapy with agalsidase alfa for 32 naïve Fabry disease patients  
*K Tsuboi, H Yamamoto, H Goto*
- P-599** Efficacy of enzyme replacement therapy with agalsidase beta for 17 naïve Fabry disease patients  
*K Tsuboi, H Yamamoto, H Goto, A Ota*
- P-600** Dose- and time-dependent clearance of lysosomal storage in the Mucopolysaccharidosis-III B (MPS IIIB, Sanfilippo B) mouse model by intracerebroventricular enzyme replacement therapy with BMN-250, a NAGLU-IGFII fusion protein  
*M Aoyagi-Scharber, J Vinclette, R Lawrence, D Crippen-Harmon, B K Yip, B Baridon, H Prill, W Minto, J Van Vleet, C Vitelli, E G Adintori, K M Strong, T Christianson, P M N Tiger, M J Lo, J Holtzinger, E Chen, P A Fitzpatrick, J H LeBowitz, A Bagri, S Bullens, B E Crawford, S Bunting*
- P-601** Comparison of endomyocardial biopsy results and cardiac parameters in Taiwanese patients with the Chinese hotspot IVS4+919G>A mutation: data from the Fabry Outcome Survey (FOS)  
*D M Niu, F P Chang, T H Chu, W C Yu, S H Sung, S Bizjajeva, T R Hsu*
- P-602** Pregnancy, enzyme replacement therapy and mucopolysaccharidosis: successful outcome  
*N Guffon, D Azzi, A Foulhoux*
- P-603** Changes in plasma biomarkers associated with the inflammatory response in type I Gaucher disease patients after one year on therapy with Velaglucerase alfa  
*M Andrade, J Gervas, I García, O Salameo, P Martinez-Odrizola, J A Mendez, F Garcia-Bragado, C Calvo, C Fernandez-Canal, I Sancho-Vál, H Cano, J Perez, J M Hernandez-Rivas, D Lorenzo, M Lopez-Dupla, V Callao, P Giraldo*
- P-604** Few days earlier enzyme replacement therapy for infantile-onset Pompe disease contribute to better outcomes: 7-year cohort study in Taiwan  
*C F Yang, H C Liao, L Y Huang, C C Chiang, H C Ho, C J Lai, T H Chu, T F Yang, S Y Chuang, T R Hsu, D M Niu, C C Yang*
- P-605** Central nervous system manifestations in Fabry disease: comparison of Taiwanese patients with the Chinese hotspot IVS4+919G>A or classical Fabry mutations  
*T R Hsu, S C Hung, H J Lee, W C Yu, T H Chu, C F Yang, S Bizjajeva, D M Niu*
- P-606** An open-label extension study of velaglucerase alfa enzyme replacement therapy in patients with Gaucher disease in Japan  
*H Ida, A Tanaka, T Matsubayashi, K Murayama, T Hongo, H M Lee, B Mellgard*
- P-607** Home infusion of intravenous velaglucerase alfa: experience from velaglucerase alfa clinical trials in patients with Gaucher disease type 1  
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*F B Piazzon, F P Monteiro, L S A Costa, C Bueno, J P Kitajima, R L Borges, M Dellamano, E L Freitas, B A C Santos, I Corrêa, F Kok*
- P-722** Protective role of *CNDP1* genotype on renal survival in children with glomerulopathies  
*V Peters, M Kebbewar, B Janssen, G F Hoffmann, K Möller, S Wygoda, M Charbit, A Fernandes-Teixeira, T Urasinski, N Jeck, J Zschocke, C P Schmitt, F Schaefer, E Wühl*
- P-723** Can the same platform of TMS for newborn screening of amino acid and acylcarnitine be used for investigation of symptomatic patients? A 4-year-experience.  
*F B Piazzon, L R G Garcia, D Y Arita, M A M Iskandar, H H Martins, E N Silva, C Bueno, F Kok, S M Hadachi*
- P-724** A case of metaphyseal chondromatosis with high levels of D-2 hydroxyglutaric acid  
*J J O'Byrne, P E Fitzsimons, S Unger, J M Croft, P D Mayne, E Moylett, C Mc Donnell, S A Lynch*
- P-725** Low plasma aromatic L-amino acid decarboxylase (AADC) activity in children and adolescents with high functioning autism.  
*E J Footitt, P B Mills, D Skuse, I P Hargreaves, G Allen, S J R Heales, P T C Clayton*
- P-726** Designing tools for multiorgan-directed neonatal gene therapy in neuro-hepatotropic inherited metabolic diseases: interest of an ubiquitous promoter "elongation factor 1 $\alpha$ "  
*J Baruteau, J Hanley, S M Buckley, P Gissen, S J Howe, R Karda, P B Mills, J Ng, D Perocheau, A A Rahim, N Suff, S N Waddington*
- P-727** Validation of an NGS-panel for routine diagnosis of lysosomal and peroxisomal disorders  
*M Blomqvist, J Lindgren, L Olsson, J E Månsson, J Asin Cayuela*
- P-728** Awareness amongst medical doctors of inherited metabolic disorders  
*S Bülbül, N A Arslan, Nur, O D Dursun, Osman, M G Gündüz, Mehmet, E D Dursun, Esra*
- P-729** Vacuolar storage material in a family with juvenile parkinsonism and mutations in *FBXO7*  
*E Serdaroglu, R K Ozgul, D Yalnizoglu, M Madeo, A Malandrini, E Klee, Y Li, T N Jepperson, K K Oguz, D Yucel-Yilmaz, M Patterson, M C Krueger, A Dursun*
- P-730** Value of Whole Exome Sequencing in the diagnosis of neurometabolic disorders with unusual clinical presentation  
*L A Selim, I G Mahmoud, J Gleeson, A Rolf*

- P-731** Elevated pipercolic acid in cerebro-facial-ocular skeletal syndrome  
*D Trujillano, R Abou Jamra, O Brandau, J Berger, C Wiesinger, C Lampe, A Rolfs, M Scarpa*
- P-732** Rett-like clinical picture as an entry to detect inborn errors of neurotransmission  
*J Armstrong, S Vidal, N Brandi, E Gerotina, M O'Callaghan, M S Perez-Poyato*
- P-733** Neuroimaging findings in patients with GLUT1 deficiency syndrome  
*E A Larshina, S V Mikhailova, L P Andreeva, E Y Zakharova*
- P-734** A completely new approach to the diagnosis of inborn errors: development of a 450-gene (all metabolic disorders) next-generation sequencing panel  
*F Ezgu, B Ciftci, B Topcu, I Okur, A Inci, A Olgac, A Karaoglu, G Biberoglu, L Tumer, A Hasanoglu*
- P-735** *DNM1* mutations: from exercise-induced collapse syndrome to a metabolic cause of severe epileptic encephalopathy  
*C Lourenco, C Leprevost, M Almeida, L Nobre, W Marques Jr*

### 01. Inborn errors of metabolism in adult

- A-001** Withdrawn

### 02. Novel diagnostic/laboratory methods

- A-002** Comparison of non-derivatization and derivatization tandem mass spectrometry research methods for analysis of amino acids, acylcarnitines, and succinylacetone in dried blood spots  
*V Thibert, X Xie, M Kozak*
- A-003** Direct and fully automated extraction/analysis of Dried Blood Spots (DBS)  
*S Gaugler*

### 03. Newborn screening

- A-004** Moved to P-736
- A-005** The first index case with coincidence of phenylketonuria, polysplenia syndrome and methylene tetrahydrofolate reductase mutation from newborn screening  
*I Ozer, S Çam, Ç Durakbaşa, A Kral*
- A-006** Current state of newborn screening in Slovenia  
*A Smon, U Groseelj, M Zerjav Tansek, A Bicek, A Oblak, M Zupancic, C Krzisnik, B Repic Lampret, S Murko, S Hojker, T Battelino*
- A-007** Newborn screening using the DBS-MS 500 from CAMAG  
*S Gaugler*

### 04. Dietetics and nutrition

- A-008** Intravenous and enteral ketogenic diet in a patient with cow milk allergy  
*A Desloovere, P Verloo*

### 06. Phenylketonuria: general

- A-009** Nutritional evaluation and metabolic profile in children affected by phenylketonuria (PKU): case-control study  
*F Moretti, E Verduci, S Paci, E Salvatici, J Zuvadelli, S Bellini, E Riva*

- A-010** Vitamin D levels in an adult PKU population  
*D L Green, M McLoughlin, S McDarby, S Ripley*
- A-011** Marmara metabolism group consensus report for large neutral amino acids  
*I Ozer, T Zübarioğlu, H Önal, G Gökçay, H Sağlam, Y Cesur, I Taş, A Aydın, M C Balci, E Kiykam, Ç Aktuğlu Zeybek, M Demirkol*
- A-012** First day phenylalanine levels in the offspring may reflect maternal phenylketonuria  
*O Unal, G Celen*
- A-013** Moved to P-739 06. Phenylketonuria: General
- A-014** Supporting patients with a congenital metabolic disease and their social environment: the development of an educational book for children and adolescents  
*A Boury*
- A-015** Metabolic group study for consensus development on the management of phenylketonuria  
*M Demirkol, M C Balci, I Ozer, A C Aktuğlu Zeybek, H Sağlam, C Yasar, H Onal, E Kiykam, S Erdol, A Yesil, M S Cansever, T Zubarioglu, Ü Türkoğlu, G Gokcay*

### 07. Phenylketonuria: treatment, BH4

- A-016** Prevalence, frequency and phenotype of BH4 deficiencies identified in a Neonatal Screening Program for hyperphenylalaninemia  
*C A A Souza, R D L Soares, M R A Alves, V C Kanufre, R C Norton, A L P Starling, M J B Aguiar*

### 08. Sulphur amino acid disorders

- A-017** Trimethylaminuria (Fish odor syndrome) in a adolescent boy  
*M Kilic, P Celik-Babalioglu, B Tokgoz-Cuni*
- A-018** Withdrawn

### 09. Other amino acid disorders

- A-019** Hereditary tyrosinemia type 1, effectiveness of early treatment  
*B Sadaoui, Z Arrada*
- A-020** Drug development for paediatric patients with inborn errors of metabolism (IEM) – A development program for an oral suspension of nitisinone for hereditary tyrosinemia type 1 (HT-1)  
*M Rudebeck, L Svensson, M Sahlberg, B Olsson*
- A-021** Clinical case report: maple syrup urine disease treatment  
*V C Kanufre, A F Cruz, J C C Lopes, M C Alves, E R Valadares*
- A-022** MSUD presenting as an episodic ataxia  
*P Verloo, H Verhelst*

### 10. Urea cycle disorders

- A-023** Continuous renal replacement therapy for neonatal hyperammonemia due to ornithine transcarbamylase deficiency  
*J Y Han*
- A-024** Clinical and biochemical features, molecular diagnosis and management of a Moroccan female with *OTC* gene mutation  
*S Dahri, H Talbaoui, Y Kriouile, C Acquaviva, C Vianey-Saban, L Chabraoui*

- A-025** Recurrent vomiting and somnolence in a 18-month old girl: ornithine transcarbamylase deficiency due to de novo heterozygous mutation  
*S Grkovic, M Djordjevic, A Sarajlija, B Kecman*

### 11. Organic acidurias: branched-chain

- A-026** Replacement of ethyl acetate with acetonitrile greatly improves extractability of derived urinary organic acids before GC/MS  
*M Z Habbal*
- A-027** Patient with MSUD presenting with diabetic ketoacidosis  
*A Olgac, I Okur, E D Akbas, E Doger, F S Ezgu, A Bideci, L Tumer*
- A-028** Propionic acidemia and humoral immune deficiency  
*C F M Souza, F O Poswar, L F Refosco, A Sitta, M Wajner, M S L Jobim, A N R Taniguchi, F P Vairo, I V D Schwartz*

### 12. Organic acidurias: others

- A-029** 3-methylglutaconic aciduria and cerebellar vermis hypoplasia in a non-syndromic autistic boy: A new entity?  
*M Ersoy, S Yilmaz*
- A-030** A novel mutation for L-2 hydroxyglutaric aciduria in a 7 year old patient  
*A Olgac, L Tumer, F Ezgu, G Biberoglu, A Hasanoglu*
- A-031** Evaluating laboratory performance in external quality assessment schemes for urine organic acids by GCMS  
*L Jafri, N Shirazi, A Jamil, F Jehan, R Mehar, N Yousufzai, B Afroze, A H Khan*
- A-032** Ethylmalonic encephalopathy with a homozygous mutation in C.554T>G in the exon 5 of *ETHE1* gene  
*S Lougani, L Moussa, K Neggazi, A SAADI, M Chaoch, V Tiranti, W Ameur Elkhedoud, M Bendib*
- A-033** The Acute Management in Intercurrent illness of Isovaleric Acidemia Associated with Typhoid Fever  
*N A Widjaja, E Puspitaningtyas, R Irawan*
- A-034** Associated Glutaric aciduria type 1 and celiac disease  
*P Kuyum, S Cakar, Y Ozturk*

### 13. Carbohydrate disorders

- A-035** Clinical, laboratory data, molecular features, and follow up of 3 Iranian GSD type IIIa patients  
*T Zaman, S Moarefian, F Saeed Tehrani, R Moradian*
- A-036** Galactosemia case with a novel mutation  
*M Kilic, A Zenciroglu, E Goksun, D Y Yilmaz, R K Ozgul*
- A-037** Genotype-phenotype characteristics of Turkish patients with glycogen storage disease type I at a single centre  
*M Kilic, P Ozbudak, E Demir, Ç S Kasapkara, H G Tanyildiz, C Aytekin, F Özbay-Hosnut, G Sahin, K Karaer, S Ceylaner*
- A-038** Hepatic glycogen storage diseases in Macedonian patients: A single centre experience  
*A Kostovski, N Zdraveska*
- A-039** Successful dietary management of severe hyperlipidemia in patients with glycogen storage disease type 1

- B Kecman, M Djordjevic, A Skakic, M Stojiljkovic, A Sarajlija, S Grkovic*

### 14. Disorders of fatty acid oxidation and ketone body metabolism

- A-040** Primary systemic carnitine deficiency: two turkish cases with two novel *SLC22A5* mutations  
*B Seker Yilmaz, D Kor, O Kucukosmanoglu, D Bulut, G Ceylaner, M Oktem, N Onenli Mungan*
- A-041** Screening for inherited metabolic disorders in patients with familial Mediterranean fever  
*E Kiykim, A C Aktuglu Zeybek, K Barut, M S Cansever, T Zubarioglu, O Kasapcopur, A Aydin*
- A-042** Is there any effect of acylcarnitines on proinflammatory process in obese children  
*G Biberoglu, B Derin Genc, A Inci, E Doger, I Okur, F S Ezgu, L Tumer*
- A-043** Screening of free carnitine and acylcarnitine status in patients with familial Mediterranean fever  
*E Kiykim, A C Aktuglu Zeybek, K Barut, T Zubarioglu, M S Cansever, S Alsancak, O Kasapcopur, A Aydin*
- A-044** Determination of free carnitine and acyl-carnitine status in patients with juvenile idiopathic arthritis  
*E Kiykim, A C Aktuglu Zeybek, K Barut, T Zubarioglu, M S Cansever, S Alsancak, O Kasapcopur, A Aydin*
- A-045** Challenge to detect the suspected of carnitine palmitoyl transferase-1 (CPT-1) deficiency with limited resources  
*L C Gultom, D R Sjarif*
- A-046** Two novel mutations in clinically detected MCADD  
*A Smon, U Groselj, B Repic Lampret, M Zerjav Tansek, T Battelino*
- A-047** Medium/short chain 3-hydroxyacyl-coA dehydrogenase deficiency *M/SCHAD*: A case report  
*M Kendirci, F Kardas, P Ustkoyuncu, S Gokay, B N Akyildiz, N Tekerek*
- A-048** Systemic primary carnitine deficiency - early treatment with a good outcome in first case from India!  
*S Bijarnia-Mahay, S Deswal, K Hara, Y Shigematsu, I C Verma*
- A-049** A case of severe rhabdomyolysis in early childhood: *LPIN1* gene mutation  
*T Zubarioglu, A C Aktuglu Zeybek, E Kiykim, M S Cansever, D Demirkol, A Aydin*

### 16. Mitochondrial disorders: nuclear encoded

- A-050** PolG deficiency revealed by valproic acid in a 3-year-old child  
*S Torre, K Cassinari, L Abily-Donval, A Tebani, A M Guerrot, P Gaignard, S Marret, A Slama, S Allouche, S Bekri*
- A-051** Rare cause of congenital lactic acidosis: A case of TMEM70 - ATP synthase deficiency  
*M Çoker, E Canda, S Güneş, Ö Altun Köroglu, T Tanyalçın, N Kültürsay*
- A-052** Mitochondrial DNA depletion syndrome: A case with DGUOK mutation  
*G Kilic Yildirim, S Durmus Aydogdu, N Tekin*
- A-053** Deoxyguanosine kinase deficiency in a Turkish infant with a novel mutation  
*M Gunduz, E Ozaydin, M Bastemur, C T Kirsaciloglu, O Unal*



**17. Mitochondrial disorders: mtDNA**

- A-054** A case with Kearns Sayre Syndrome and definition of an atypical mutation  
*M Köse, E Canda, M Kağmıcı, S Bozkurt Gökçe, L Ertürk, S Kalkan Ucar, S Kalkan Ucar, S Ceylaner, R Ozyurek, M Çoker*
- A-055** Mitochondrial respiratory chain disorders in the Old Order Amish population  
*J Vockley, L Ghaloul Gonzalez, A Goldstein, S Dobrowolski, C Walsh Vockley, A Irani, B Wayburn, H Morton*
- A-056** Clinical variability of mitochondrial encephalopathy, lactic acidosis, and stroke-like (MELAS) syndrome  
*S Lee, J Yu*
- A-057** Mitochondrial hepatopathy as an unusual presentation of mtDNA mutation  
*H Kathom, D Avdjieva-Tzavella, S Mihailova, R Tincheva*
- A-058** Patient with *DGUOK* gene mutation diagnosed by using new generation sequence technology scanning 500 metabolic diseases  
*I Okur, A Inci, L Tümer, A Olgac, S Sari, B Cifci, A B Topcu, C Turkyilmaz, F S Ezgu*

**18. Other disorders of energy metabolism, creatine disorders**

- A-059** Mitochondrial deficiency in two siblings with Cockayne syndrome  
*M Mexitalia, J C Susanto, A Utari, A Purwanti*

**20. Lipid and lipoprotein disorders, porphyrias**

- A-060** Abetalipoproteinemia: A case report  
*G Kilic Yıldırım, S Durmus Aydogdu, M Eren, T Tekin*

**21. Peroxisomal, sterol and bile acid disorders**

- A-061** X-linked dominant chondrodysplasia punctata: clinical phenotype in an affected female  
*V Plaiasu, D Ochiana, G Motei, A Coltoiu*

**22. Lysosomal disorders: mucopolysaccharidoses, oligosaccharidoses**

- A-062** p.258delY: A novel mutation of *IDUA* gene with atypical cardiac involvement in an infant with Mucopolysaccharidosis-I  
*M Ersoy, M B Akyol, S Yaroglu Kazanci*
- A-063** A carrier detection of Hunter syndrome (MPSII) in Mongolia  
*Z Doljoo, M Tumurkhuu, S Jav, P Ichinkhorloo, M Puntsag, N Tsendenbal, M Bazarragchaa*
- A-064** Long-term clinical course of a patient with mucopolysaccharidosis type IIIB  
*J H Lee, J H Kim*
- A-065** Moved to P-737
- A-066** Moved to P-738
- A-067** Clinical and radiologic findings of Morquio A disease and spondylo-epi-metaphyseal dysplasia of two prepubertal girls  
*M Mexitalia, F M Wahyuni, J C Susanto, A Purwanti*
- A-068** A novel aspartylglucosaminuria mutation in a patient with co-existence of Gaucher disease

*E Kiykim, A C Aktuglu Zeybek, O Gorukmez, T Zubarioglu, S Gunes, M S Cansever, A Aydin*

- A-069** Mucopolysaccharidosis type VI Maroteaux-Lamy Syndrome: A rare case report  
*A Juliaty*
- A-070** A case of  $\alpha$ -mannosidosis  
*E Canda, M Köse, M Kağmıcı, S Kalkan Ucar, M Çoker*
- A-071** Growth curves in mexican children with mucopolysaccharidosis I receiving enzyme replacement therapy  
*E D Ruiz-Cruz, M A Márquez-Gutierrez, M E Vega-Ramírez, S J Franco-Ornelas*
- A-072** Mucopolysaccharidosis Type VII at an Early Age: A good candidate for investigational enzyme replacement therapy  
*A Karaoglu, F S Ezgu, G Biberoglu, A Olgac, A Inci, I Okur, L Tümer*
- A-073** Bilateral tarsal tunnel syndrome in mucopolysaccharidosis type VI  
*A L Barth, D S Silva, A C Esposito, A R Bellas, J F M Salomão, D D G Horovitz, J C Llerena*
- A-099** Biodistribution of idursulfase in cynomolgus monkeys after intrathecal-lumbar administration  
*J K Chung, M A Mascelli, E Brown, R Crooker, K J Palmieri, T G McCauley*

**23. Lysosomal disorders: sphingolipidoses**

- A-074** A novel mutation in a patient with early infantile type GM1 gangliosidosis  
*S Erdöl, S Dorum, H Saglam*

**24. Lysosomal disorders: others**

- A-075** Two cases of Pompe's disease  
*M Kilic, B Tokgoz-Cuni, E Polat, I Ertugrul, M Akcaboy, P Zorlu*
- A-076** Cases of neuronal ceroid lipofuscinosis  
*M Çoker, E Canda, M Kağmıcı, M Köse, A Tosun, M Polat, S Kalkan Ucar*
- A-077** Novel small deletion of *GALC* gene in a young Russian boy with Krabbe disease  
*N V Jourkova, A A Pushkov, K V Savostyanov, N L Nechaeva, L M Kuzenkova*
- A-078** Clinical spectrum of Fabry disease In Egyptian children : report of 6 cases  
*N M Al Menebawy, M Y Girgis, L A Selim, I G Mahmoud, A I El Badawy, M Abdelmoneim*

**25. Lysosomal disorders: treatment, enzyme replacement therapy**

- A-079** Histologic examination of the effect of a proprietary recombinant human acid  $\alpha$ -glucosidase co-administered with a pharmacological chaperone on glycogen reduction in disease-relevant muscles of Pompe mice  
*Y Lun, S Xu, R Gotschall, A Schilling, R Soska, M Frascella, A Garcia, J Feng, K Chang, H Do, K J Valenzano, R Khanna*
- A-080** Hematological manifestations and enzyme replacement therapy outcomes of Gaucher disease: experience of eighteen years  
*T Zubarioglu, E Kiykim, M S Cansever, A C Aktuglu Zeybek, A Aydin*

- A-100** Comorbidities and use of concomitant medications in adults with Gaucher disease (GD): a MarketScan™ US claims database analysis  
*R Pleat, L Underhill, L Ross, L Nalysnyk, J Ibrahim, S Tcherny-Lessenot, L Wang*
- 26. Glycosylation disorders/CDG, protein modification disorders**
- A-081** Our patients with congenital disorders of glycosylation  
*M Köse, E Canda, M Kagnici, S Kalkan Ucar, M Çoker*
- A-082** CDG incidence in unknown genetic-metabolic/neurometabolic disorders  
*M Kılıc, Ç S Kasapkara, E Kılıc, J Jaeken*
- 28. Disorders of vitamins, cofactors and trace elements**
- A-083** Evaluation of vitamin B12, methylmalonic acid and homocysteine levels in obese adolescents  
*R Turan, M Akis, P Kuyum, S Cakar, M Kant, N Arslan, H Islekel*
- A-084** 5,10-Methylenetetrahydrofolate reductase deficiency with different pictures  
*M Çoker, M Köse, E Canda, M Kagnici, D E C Smith, M I Mendes, S Kalkan Ucar, G S Salomons*
- A-085** Reappearance of neurological symptoms in a patient with a remethylation defect due to a cerebral folate deficiency  
*F Eyskens, P Verloo*
- A-086** Withdrawn
- A-087** Cobalamin (Cbl) D deficiency: A case report  
*M Kendirci, F Kardas, P Ustkoyuncu, S Gokay, H Per, A Kacar Bayram*
- A-088** The clinical predictive power in terms of the clinical results and family history of the MTHFR thermolabile variants  
*I Ozer, F Ozen*
- 29. Miscellaneous**
- A-089** The inborn errors of metabolism emergency folder: making life easier for health professionals and families  
*J Robinson*
- A-090** Application of sigma metrics for the assessment of quality assurance for plasma amino acid analysis in biochemical genetics laboratory in Pakistan  
*L Jafri, N Yousufzai, N Sherazi, A Jamil, F Jehan, R Mehar, B Afroze, A H Khan*
- A-091** Netherton syndrome: *SPINK5* gene mutation found through whole exome sequencing  
*B Seker Yilmaz, D Kor, S Ceylaner, D Bulut, M Yilmaz, N Onenli Mungan*
- A-092** Coexistence of pseudohypoaldosteronism and cholelithiasis, presenting with metabolic acidosis, dystrophy and vomiting in a neonate  
*K Karavanaki, T Sdogou, K Kakleas, A Soldatou, A Skouma, A Papatthanasίου*
- A-093** Pelizaeus-Merzbacher Disease (PMD) and Mitochondrial Dysfunction  
*P E Fitzsimons, P D Mayne, K Shadani, I Robinson, B Lynch*
- A-094** Clinical experience in an Inherited Metabolic Diseases Unit of a high complexity hospital in Medellin, Colombia, between 2010 to 2014  
*B L A Ortiz, C L A Garcia*
- A-095** Clinical and psychophysiological aspects of l-dopa treatment in ataxia-telangiectasia patients: preliminary observations  
*D D Daniela, d'agnano, D M Daniela, Mannarelli, V L Vincenzo, Leuzzi, C C Caterina, Caputi, F F Francesco, Fattapposta*
- A-096** The experience of erythrocyte-delivered dexamethasone in ataxia-telangiectasia  
*D D'Agnano, R Micheli, P Alessandro, C Luciana, M Mauro, L Vincenzo*
- A-097** Whole exome sequencing in clinical context identifies treatable intellectual disability  
*O Brandau, D Trujillano, A Rolfs, R Abou Jamra*
- A-098** Atypical presentation of Lowe syndrome  
*K Brennerova, A Šalingova, J Škodova, A Gerinec, V Bzduch*