P-088 - SEVERE LIVER AND LUNG INVOLVEMENT WITH NO EVIDENCE OF NEUROLOGICAL IMPAIRMENT IN AN INFANT WITH ACID SPHINGOMYELINASE DEFICIENCY AND NOVEL VARIANT IN SMPD1 GENE

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Acid sphingomyelinase deficiency (SD), also known under the acronym Niemann-Pick A/B disease, is a rare autosomal recessive genetic condition in which sphingomyelin accumulates in lysosomes of macrophages and other mononuclear phagocyte cells in different organs and tissues. These anomalous deposits are the cause of clinical symptoms presented by patients with SD. We report the clinical findings of an infant presenting severe liver and lung involvement and novel variant in SMPD1 gene, which encodes acid sphingomyelinase enzyme. The 9-year-old female infant was referred for clinical investigation of recurrent severe respiratory infections, hepatosplenomegaly and signs of early liver failure. Laboratory workup showed 10-fold increase in chitotriosidase, a non-specific marker of lysosomal deposits, and remarkably decreased levels of acid sphingomyelinase enzyme. Liver biopsy depicted advanced fibrosis and enlarged macrophages (Kupffer cells) with profuse cytoplasmic deposits. Molecular analysis demonstrated the novel homozygous variant c.1148A>G, which predictively determines a missense at codon 383 (p.(Asn383Ser)). Last clinical follow-up occurred at the age of 1y2mo. At that moment, no neurological involvement was noticed, while lung involvement has progressed to oxygen dependence and hepatic dysfunction to cirrhotic stage. The vast clinical variability of symptoms and signs may be a challenge for early diagnosis of SD, especially in young children. Another clinical challenge is to determine neurological prognosis for patients with novel variants, for which, in the present case, remains to be determined.