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Niemann-Pick Disease Type C: Phenotypic variability often leads to delay in diagnosis. C. Prasad1, C. Pushpamathan2, R. Morris1, A. J. Davids1 and F. E. Dougherty2, Division of Genetics1, Pathology2 and Pediatrics, Janeway Child Health Centre, St. John's, Newfoundland, Canada, and the Division of Genetics and Metabolism3, Children's Hospital, Boston, MA.

Niemann-Pick Disease Type C (NPC-C) a lipidosis, is caused by a unique biochemical block in lysosomal cholesterol esterification protein manifestations of this condition often cause diagnostic confusion in the early stages. We present 3 cases highlighting this with phenotypic differences, and therapeutic findings and complications of this disorder.

Case 1: A 2 year and 9 month old boy presented with neonatal hepatitis, hepatosplenomegaly and developmental delay. Initial investigations failed to establish a cause. A repeat study of the bone marrow showed foamy histiocytes, providing a diagnostic clue.

Case 2: A 14 year old boy presented with chronic megaloblastic anemia, hepatosplenomegaly and short stature. There were no neurological symptoms. Electron microscopy examination of muscle tissue showed complex lipid storage and cholesterol crystals in cytoplasm.

Case 3: A female infant born at 38 weeks gestation developed neonatal hepatitis. At 4 months of age she developed respiratory failure requiring ventilatory support until 2 years and 3 months. She had delayed developmental delay, generalized hypotonia and weakness. A muscle, skin and nerve biopsy showed lamellar inclusions suggestive of NPC.

In each of the three cases the definitive diagnosis was established by demonstration of impaired cholesterol esterification in skin fibroblasts. In conclusion, these cases illustrate the diverse, but common presentations of a rare disorder. Pulmonary manifestations (as in case 3) are rarely described in classical NPC-C, but may be observed in infants during the neonatal period.