A new DAX-1 mutation in a family with a case of neonatal adrenal insufficiency and a sibling with adrenal hypoplasia and sudden death at 3 years of age

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Adrenal hypoplasia congenita (AHC) is a hereditary disorder that leads to adrenal insufficiency and hypogonadotropic hypogonadism (HHG) in childhood. The gene responsible for the X-linked form of AHC, DAM (dosage-sensitive sex-reversal, AHC, on the X-chromosome, gene 1)/NR0B1, encodes for a nuclear factor which lacks the characteristic zinc finger DNA-binding domain that is highly conserved in nuclear receptors. Deletions and point mutations in the DAX1 gene have been described in more than 70 AHC families. We present the clinical and genetic data of two brothers affected by AHC. We report a new DAX1 gene mutation in a family with two affected members: one with neonatal adrenal insufficiency, and a sibling with adrenal hypoplasia and sudden death at 3 years old. The NR0B1/DAX1 gene was amplified in three PCR fragments from the patient's and mother's gDNA extracted from peripheral lymphocytes. Sequencing revealed a novel single nucleotide deletion in codon 419 from exon 2 that resulted