



Fatal neonatal hypertrophic cardiomyopathy caused by compound heterozygous truncating *MYBPC3* mutation

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We report the clinical and genetic findings of a previously healthy girl who died suddenly at the age of 9 weeks. Severe cardiac enlargement was observed on post-mortem MRI (Fig. 1a) and at autopsy. Cardiomyocyte disarray was observed with distinct (peri)nuclear changes consistent with hypertrophic cardiomyopathy (HCM), by light microscopy (Fig. 1b). No signs of mitochondrial or storage diseases were seen by electron microscopy (not shown). There was no history of maternal diabetes mellitus and family history was negative for sudden death, cardiomyopathy or heart failure. DNA testing revealed compound heterozygous truncating *MYBPC3* mutations: c.2373dup p.(Trp792Valfs*41), inherited from the mother, and c.2827C>T p.(Arg943*), inherited from the father. Both are Dutch founder mutations and are, in a heterozygous state, the most common causes of (adult onset) HCM in the Netherlands [1]. Identification of these pathogenic mutations not only explained the neonatal onset of HCM in the index, but also allowed for the screening of other relatives at risk for (adult onset) HCM. Fatal neonatal HCM caused by homozygous or compound heterozygous pathogenic

mutations in one of the sarcomeric protein encoding genes is thought to be rare, but the exact prevalence is unknown [2–5]. Although other causes of neonatal cardiac hypertrophy must be considered (such as maternal diabetes, RASopathies, mitochondrial or storage disorders), we believe this case underlines the value of testing for genetic causes of HCM.

Conflict of interest S. Alsters, L. Wong, L. Peferoen, H.W.M. Niessen, H. Bikker, M.W. Elting and A.C. Houweling declare that they have no competing interests.

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Fig. 1 **a** Post-mortem MRI showing severe cardiac enlargement. **b** Light microscopy displaying cardiomyocyte disarray with distinct (peri)nuclear changes consistent with hypertrophic cardiomyopathy. *HE* Haematoxylin and eosin stain

