McKusick-Kaufman syndrome (MKS, OMIM #236700) is a rare syndrome inherited in an autosomal recessive pattern with a phenotypic triad comprising hydrometrocolpos (HMC), postaxial polydactyly (PAP), and congenital cardiac disease (CHD). The syndrome is caused by mutations in the MKKS gene mapped onto chromosome 20p12 between D20S162 and D20S894 markers. Mutations in the same gene cause Bardet-Biedl-6 syndrome (BBS-6, OMIM #209900) inherited in an autosomal recessive pattern. BBS-6 comprises retinitis pigmentosa, polydactyly, obesity, mental retardation, renal and genital anomalies. HMC, CHD, and PAP defects can also occur in BBS-6, and there is a significant clinical overlap between MKS and BBS-6 in childhood. We describe a new borderline case of MKS and BBS syndrome and suggest insights for understanding correlation between MKKS gene mutations and clinical phenotype. Here, we report the results of molecular analysis of MKKS in a female proband born in an Italian nonconsanguineous healthy family that presents HMC and PAP. The mutational screening revealed the presence of two different heterozygous missense variants (p.242A>S in exon 3, p.339 I>V in exon 4) in the MKKS gene, and a nucleotide variation in 5'UTR region in exon 2 (-417 A>C).