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Conjugated hyperbilirubinemia after surgery. A diagnosis of Dubin-Johnson syndrome confirmed by genetic testing

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Dear Editor,

We report the case of a ten year old patient with abdominal distension, vomiting and progressive jaundice after a surgical procedure for peritonitis due to appendicitis. A blood sample showed increased acute phase reactants, leukocytosis, neutrophilia and increased bilirubin levels (total 6.74 mg/dl, direct 6.21 mg/dl). The AST, ALT, GGT, ALP and albumin were normal. He had no past medical history and had never had a blood test before.

Since the patient had conjugated hyperbilirubinemia with normal liver function, a diagnosis of Dubin-Johnson syndrome was considered. Therefore, genetic testing was performed. The ABCC2 gene was analyzed, which is known to be involved in the pathogenesis of Dubin-Johnson syndrome. A homozygous deletion at c2325delC in exon 18 of the ABCC2 gene was found. This caused the formation of a premature stop codon and consequently, the synthesis of a truncated protein. This mutation had never been described previously as being related to the Dubin-Johnson syndrome. As the

variant results in a truncated protein and the variant was present in homozygosity, it was considered to be pathogenic. Accordingly, a diagnosis of Dubin-Johnson syndrome was confirmed.

After resolution of the intercurrent episode, the patient improved gradually. The level of total serum bilirubin was 2.73 mg/dl and direct bilirubin was 1.55 mg/dl when discharged.

Discussion

The Dubin-Johnson syndrome is a rare benign inherited disorder that is caused by mutations in the ABCC2 gene. It is characterized by predominantly conjugated hyperbilirubinemia that can be increased by intercurrent infectious illnesses or surgical procedures (1,2). Genetic diagnostic tests have recently been introduced into the clinical practice (3). A correct diagnosis is important in order to be able to distinguish the syndrome from other severe hepatobiliary disorders. This will ultimately avoid unnecessary diagnostic procedures as the Dubin-Johnson syndrome has a good prognosis (4).

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