CASE REPORTS

A CASE OF GILBERT'S SYNDROME

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Abstract

A middle aged lady presented with recurrent jaundice with normal SGPT, serum alkaline phosphatase, serum albumin and prothrombin time. Haemolysis was excluded by normal haemoglobin, peripheral blood film and reticulocyte count and finally she was diagnosed to have Gilbert's syndrome.

Key words: *Gilbert's Syndrome, Hyperbilirubinaemia.*

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Case Report:

A 42 years old housewife, hailing from East Nayatola, Moghbazar, Dhaka was admitted into Dhaka Community Medical College & Hospital on 12th March, 2010 with the complaint of recurrent jaundice. The first episode began 4 months back and recovered within 2 weeks. The second episode was noticed 1 week before admission. Anorexia accompanied both the episodes although there was no nausea, vomiting or abdominal pain. Yellow colouration of urine was not noticed in either of the episodes. On examination, she was icteric with no other abnormal sign. Routine liver biochemistry revealed elevation of serum bilirubin with normal SGPT, serum alkaline phosphatase, serum albumin and prothrombin time. Common viral markers were also negative. Serum bilirubin was predominantly unconjugated. Urine biochemistry did not detect any bilirubin.

This picture indicated unconjugated hyperbilirubinaemia with two possible pathologies – haemolytic anaemia and Gilbert's syndrome. A normal haemoglobin level, peripheral blood film and reticulocyte count excluded the possibility of a haemolytic disorder. The patient was diagnosed as a case of Gilbert's syndrome and discharged with reassurance.

Discussion:

Gilbert's syndrome is named after Augustin Gilbert (1858-1927), a French physician [1]. It is defined as benign, familial, mild, unconjugated hyperbilirubinaemia not due to haemolysis and with normal routine tests of hepatic function and liver histology. It affects some 2-5 % population.[2]

Unconjugated bilirubin is lipid-soluble. Uridine diphosphate glucuronosyl transferase (UGT) is the enzyme that converts unconjugated bilirubin to conjugated bilirubin monoglucuronide and diglucuronide, makes it water soluble and allows its excretion into the bile. The gene expressing bilirubin UGT is on chromosome 2, having 5 exons and the promoter region (TATAA box) [3,4].

Patients with Gilbert's syndrome have a deficiency in bilirubin UGT activity – about 30% of normal. It is inherited as autosomal recessive, that is, the patients are homozygous for this abnormality [5]. The promoter region of the gene encoding bilirubin UGT – $A(TA)_6TAA$ has an additional TA dinucleotide – $A(TA)_7TAA$ [6,7]

The condition may be diagnosed incidentally at a routine medical examination or when blood being examined for another reason, for instance, viral hepatitis. Jaundice is mild and

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intermittent. Bilirubin levels are most often <3 mg/dl[5]. Deepening may follow an intercurrent infection or fasting and is associated with malaise, nausea and often discomfort over liver. There is no other abnormal physical sign [2].

Specialist diagnostic tests include the increase in serum bilirubin on fasting [8] or following intravenous nicotinic acid which raises the osmotic fragility of RBC [7] and the fall on taking phenobarbitone which induces hepatic conjugating enzymes [2].

However, Gilbert's syndrome is usually diagnosed easily without recourse to these specialist methods. The demonstration of a raised bilirubin level that is predominantly unconjugated, with normal liver enzymes and no evidence of haemolysis, is usually sufficient. [2]

Gilbert's syndrome has an excellent prognosis [9]. Patients have a normal life expectancy and reassurance is the only necessary treatment. Hyperbilirubinaemia is life long and not associated with increased morbidity [10]. Serum bilirubin may be reduced by phenobarbitone [11] but, as jaundice is rarely obvious, few patients will get cosmetic benefit from this treatment. Patients should be warned that jaundice can follow an intercurrent infection, repeated vomiting or missed meal [2].

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References:

1. Watson KJR, Gollan JL. Gilbert's syndrome. Clin Gastroenterol 1989; 3: 337.
2. Sherlock S, Dooley J. Jaundice. In: Diseases of the liver and biliary system, 11th ed. London: Blackwell; 2002: p. 214-7.
3. Burchell B, Hume R. Molecular genetic basis of Gilbert's syndrome. J Gastroenterol Hepatol 1999; 14: 960.
4. Straussberg CP, Manns MP. Jaundice, genes and promoters. J Hepatol 2000; 33: 476.
5. Ghany M, Hoofnagle JH. Approach to the patient with liver disease. In: Kasper DL, Braunwald E, Fauci AS, Hausern SL, Longo DL, Jameson JL, eds. Harrison's Principles of Internal Medicine, 16th ed. New York: McGraw-Hill; 2005: p. 1819.
6. Bosma PJ, Chowdhury JR, Bakker C *et al*. The genetic basis of the reduced expression of bilirubin UDP-glucuronosyl transferase in Gilbert's syndrome. N Engl J Med. 1995; 333: 1171.
7. Monaghan G, Ryan M, Seddon R *et al.*, Genetic variation in bilirubin UDP-glucuronosyltransferase gene promoter and Gilbert's syndrome. Lancet. 1996; 347: 578.
8. Owens D, Sherlock S. The diagnosis of Gilbert's syndrome: role of reduced calorie intake. BMJ. 1973; iii: 559.
9. Chapman RW, Collier JD, Hayes PC. Liver and biliary tract disease. In: Boon NA, Colledge NR, Walker BR, eds. Davidson's principles & practice of medicine. 20th ed. Edinburgh: Churchill Livingstone; 2002: p. 946.
10. Olsson R, Stigendal L. Clinical experience with isolated hyperbilirubinaemia. Scand J Gastroenterol. 1989; 24: 617.
11. Black M, Sherlock S. Treatment of Gilbert's syndrome with phenobarbotone. Lancet. 1970; i: 1359.