A Rare Case Of Dubinson Johnson Syndrome With Pregnancy

Mehul Devkaranbhai Patel[1], Kanaklatta D Nakum[2], Vishal Sheth[3]

[1]Junior Resident,[2] Assosiate professor,[3] Junior resident, sir t hospital,Bhavnagar

ABSTRACT

Dubin Johnson Syndrome is an autosomal recessive benign disorder of bilirubin metabolism, in which patients have icterus with non pruritic conjugated hyperbilirubinaemia. Condition may get aggravated during pregnancy and result into fetal wastage. A case is reported in which young 2ndGravida presented with labour pain associated with icterus and conjugated hyperbilirubinaemia. She had full term normal delivery at 40 weeks of gestation. There were no maternal peripartum complications. She was treated with supportive treatment. Her liver functions returned back to normal within short period after delivery. Conditions like Dubin Johnson syndrome must be kept as differential diagnosis while dealing with cases of jaundice in pregnancy.

Key words: Dubin Johnson Syndrome, Jaundice in Pregnancy.

Corresponding author address: Vishal Sheth, Junior Resident., deoartment of obstetrics and gynecology, sir T hospital and gov. Medical college, Bhavnagar, Gujarat

M: 9427232357, **E-Mail:** Vishu.Sheth89@Gmail.Com

Conflict of interest: No

Case report is Original: YES/NO

Whether case report publishes any where? YES/NO

INTRODUCTION

Dubin-Johnson syndrome is an inherited, relapsing, benign disorder of bilirubin metabolism. This rare autosomal recessive condition is characterized by conjugated hyperbilirubinemia with normal liver transaminases, a unique pattern of urinary excretion of heme metabolites (coproporphyrins), and the deposition of a pigment that gives the liver a characteristic black color.1 Patients with Dubin-Johnson syndrome tend to develop nonpruritic jaundice during their teenaged years.2 The overall prevalence of Dubin-Johnson syndrome is extremely low. Dubin-Johnson syndrome has been described in all nationalities, ethnic backgrounds, and races. This group may have an associated deficiency in clotting factor VII that is not observed in other populations.

CASE REPORT

twenty one year old 2nd Gravida from low socio economical stastus,working as house wife presenting with complain of labour pain since 5 hours and icterus since 2 months.she had taken ayurvedik treatment for jaundice. Patient gave history of yellowish discoloration of sclera since childhood and recurrent episodes of jaundice. She was not admitted for this problem. She did not have fever or itching over skin in the past.she had same history of icterus during previous pregnancy. During present pregnancy, she had two episodes of jaundice for which she had taken only oral ayurvedik medicines. personal and family history was not significant.

On examination, she was thin built woman, conscious, oriented, a febrile and vitally stable. Her respiration was normal. She had icterus. There was yellowish discoloration of skin. There was no lymphadenopathy or oedema over feet. Her cardio-respiratory system examination revealed normal. Obstetric examination revealed that the height of uterus was 36 weeks. Uterine tone was raised 3-4/35 sec/20 minutes. The baby was in cephalic presentation with foetal heart rate of 140 beats /minute. Upper abdominal palpation revealed mild hepatomegaly . Per vaginal examination revealed that she was in active phase of labour with 7 cm dilatation.

INVESTIGATION:

Blood examination showed Haemoglobin level of 13.5grams/dl, Total leucocyte count of 13500/cumm, Platelet count of 230000 /cumm.Her prothrombin time (PT) and APTT values were normal. Renal function tests showed blood urea of 25 mg%. Liver function tests showed abnormal function with total bilirubin value of 6 mg%, Conjugated bilirubin value of 4.7 mg%. Serum levels of AST, ALT and Alkaline phosphate were normal. Her blood tests for hepatitis, syphilis, HIV, Malaria and Dengue were normal. Her urine and stool microscopy examination was normal.

Days From admission	Total Bilirubin (mg/dl)	Conj. Bilirubin (mg/dl)
1	6.0	4.7
2	5.4	4.4
4	4.8	4.3
6	3.1	2.2

MANAGEMENT:

Patient was treated with intravenous fluids, inj. Cephotaxime, Inj. Metrogyl, intravenous vitamin B complex and other supportive treatment. Her vitals were monitored. Patient had full term delivery on day of admission. There was no intrapartum or immediate postpartum complication. The baby had birth weight (3250 grams). Baby was kept under observation of paediatrician.

Patient had rapid improvement after delivery. There was rapid and progressive reduction in serum bilirubin levels after delivery. At time of discharge, advice to patient not to take oral contraceptive which was aggregated D-J syndrome.

DISCUSSION

Dubin-Johnson syndrome is an autosomal recessive disorder that is caused by a mutation in the gene responsible for the human canalicularmultispecific organic anion transporter (cMOAT) protein, also called the multidrug resistance protein 2 (MRP2) or ABCC2.5-8 This protein mediates adenosine triphosphate (ATP)-dependent transport of certain organic anions across the canalicular membrane of the hepatocyte. Dubin-Johnson syndrome occurs in both sexes,

The conjugated hyperbilirubinemia observed in Dubin-Johnson syndrome results from defective transport of bilirubin glucuronide across the membrane that separates the hepatocyte from the bile canaliculi. Pigment that is not secreted from the hepatocyte is stored in the lysosome and gives rise to black colour to liver A hallmark of Dubin-Johnson syndrome, the mechanism of which is not fully understood, is a reversal of the usual ratio between the byproducts of heme biosynthesis: urinary coproporphyrin I levels are higher than coproporphyrin III levels. In unaffected individuals, the ratio of coproporphyrin III to coproporphyrin I is approximately 3-4:1.

Dubin-Johnson syndrome is a benign condition, and life expectancy among patients is normal. Complications of Dubin-Johnson syndrome include jaundice (the most consistent finding) and hepatomegaly.Reduced prothrombin activity, resulting from lower levels of clotting factor VII, is found in 60% of patients. Some neonates present with cholestasis, which may be severe.

It requires no specific therapy, although patients should be warned that pregnancy, oral contraceptive use, and intercurrent illness can exacerbate the associated jaundice. Once diagnosed with Dubin-Johnson syndrome, patients should be informed of the disease process and its benign nature, and they should understand that no further investigative workup is required in the future .

The diagnosis of Dubin Johnson syndrome was made on the basis of history of onset since childhood with repeated attacks of jaundice without pruritis and high levels of conjugated bilirubin without evidence of obstruction in hepato- biliary tract. Additional confirmatory tests could not be carried out as the facilities were not available in this hospital

CONCLUSION

Dubin Johnson syndrome is a rare cause of jaundice during pregnancy. It is diagnosed from history of onset during childhood and presence of conjugated hyper bilirubinaemia. It has a benign course but can get aggravated during pregnancy, as it has reported in this case. The fetal outcome may be unfavourable in the presence of other associated adverse factors.

REFERENCES

1. Seligsohn U, Shani M. The Dubin Johnson Syndrome and pregnancy. ActaHepato-gastroenterol (Stuttg). 1977; 24(3):167-9.
2. Mori K, Ogasawara K, Yoshikawa K, Takahashi T, Ono K. Dubin-Johnson syndrome associated with idiopathic jaundice in pregnancy. Naika. 1971;27(5):970-6
3. Zlotogora J. Hereditary disorders among Iranian Jews. Am J Med Genet 1995; 58(1):32-7.
4. Mor-Cohen R, Zivelin A, Fromovich-Amit Y, Kovalski V, Rosenberg N, Seligsohn U. Age estimates of ancestral mutations causing factor VII deficiency and Dubin-Johnson syndrome in Iranian and Moroccan Jews are consistent with ancient Jewish migrations. Blood Coagul Fibrinolysis.2007; 18(2):139-44.
5. Paulusma CC, Kool M, Bosma PJ, Scheffer GL, ter Borg F, Scheper RJ, et al. A mutation in the human canalicularmultispecific organic anion transporter gene causes the Dubin-Johnson syndrome. Hepatology. 1997; 25(6):1539-42.
6. Toh S, Wada M, Uchiumi T, Inokuchi A, Makino Y, Horie Y, et al. Genomic structure of the canalicularmultispecific organic anion-transporter gene (MRP2/cMOAT) and mutations in the ATP-binding-cassette region in Dubin-Johnson syndrome. Am J Hum Genet. 1999; 64(3):739-46.
7. Benz-de Bretagne I, Respaud R, Vourc'h P, Halimi JM, Caille A, Hulot JS, et al. Urinary elimination of coproporphyrins is dependent on ABCC2 polymorphisms and represents a potential biomarker of MRP2 activity in humans. J Biomed Biotechnol. 2011; 2011:498757.
8. Nisa AU, Ahmad Z. Dubin-Johnson syndrome. J Coll Physicians Surg Pak. 2008; 18(3):188-9.
9. Frank M, Doss M, de Carvalho DG. Diagnostic and pathogenetic implications of urinary coproporphyrin excretion in the Dubin-Johnson syndrome. Hepatogastroenterology. 1990; 37(1):147-51.
10. Zhou L, Liu C, Bai J, Dong S, Wei J. Dubin-Johnson syndrome with cholecystolithiasis and choledocholithiasis. Int J Surg Case Rep. 2013; 4(7):587-8.