IJRAR.ORG E-ISSN: 2348-1269, P-ISSN: 2349-5138

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | IJRAR.ORG

An International Open Access, Peer-reviewed, Refereed Journal

A RARE CASE ON COEXISTENCE OF GILBERTS SYNDROME WITH BETA THALASSEMIA TRAIT IN PREGNANCY

''An uncommon overlap of two genetic disorders in pregnancy''

[1]Dr.Sruthi Mandati, [2]Dr.Sahitya Bammidi

[1]Post graduate, Department of Obstetrics and Gynaecology, Muslim maternity hospital, Chaderghat, Hyderabad, Telangana, India

[2]Professor, Department of Obstetrics and Gynaecology, Muslim maternity hospital, Chaderghat, Hyderabad, Telangana, India

Abstract:-The coexistence of gilberts syndrome and beta thalassemia trait in pregnancy is rare and clinically significant as it effects the bilirubin metabolism and red cell physiology which points us for management challenges. Both the conditions have autosomal recessive inheritance pattern which presents with mild unconjugated hyperbilirubinemia. This paper discusses a prospective observational case report of a 22years old primigravida at 32 weeks of gestation with gilberts syndrome and beta thalassemia trait reported to Muslim maternity and Childrens hospital with complaints of easy fatiguibility, generalised weakness and palpitations. On examination patient had mild icterus and pallor. patient has persistently low haemoglobin levels ranging between 6-8gms% with deranged LFT and raised LDH levels for which she was given with 3 units of PRBC after taking haematologist opinion and her haemoglobin improved and fall in total bilirubin levels and LDH levels noted .Patient was monitored throughout the pregnancy and was induced at 39wks of gestational age and had uneventful assisted vaginal delivery .postpartum patient was stable and discharged on postnatal day -1 without any complications and advised to follow up with haematologist.

Keywords-gilberts syndrome, beta thalassemia trait, hyperbilirubinemia

I. INTRODUCTION:

Gilbert Syndrome is a benign often familial condition with autosomal recessive inheritance characterized by recurrent mild unconjugated hyperbilirubinemia almost always <103µmol/l(<6mg/dl) in the absence of haemolysis or underlying liver diseases. Augustine Gilbert and Pierre Lerebullet first described Gilbert syndrome in 1901

Gilberts syndrome is rarely diagnosed before puberty though it is a congenital disorder. Dehydration, fasting, stress precipitates gilberts syndrome .It is found in 3-7% of general population. More common among men than women with ratio of 2-7:1.

Beta thalassemia is a group of inherited blood disorder with autosomal recessive inheritance caused by reduced or absent synthesis of beta chains of haemoglobin due to heterozygous mutations in beta globin gene with ineffective erythropoiesis rather than hemolysis. The coexistence of these two genetic conditions is infrequent but can lead to exaggerated unconjugated hyperbilirubinemia with chronic anemia .

II. CASE REPORT:

A 22 years old primigravida unbooked case presented to our hospital at 32 weeks of gestation with beta thalassemia trait and Gilbert's syndrome. Patient gives history of multiple episodes of vomiting ,headache, myalgia, yellowish discoloration of skin and sclera with no history of any itching or pale coloured stools at 20 weeks of gestational age .She was admitted managed conservatively with IV fluids and 1 point PRBC in view of severe anemia later she improved symptomatically and was discharged .After thorough evaluation by gastroenterologist and hematologist with Complete blood picture, LFT,HPLC, viral screening, ICT ,and other routine investigations she was diagnosed as gilberts syndrome as a diagnosis of exclusion. Patient was apparently asymptomatic before pregnancy.

On reporting to our hospital patient was appreciating fetal movements well with complaints of easy fatigability , generalized weakness and palpitations, no complaints of any chestpain,shortness of breath ,cough. On general examination icterus and pallor was noted ,while other vitals were stable, uterus corresponding to gestational age with FHR -148BPM. Patient had persistently low hemoglobin levels ranging between Hb:-6-8 gms % LFT- increased total bilirubin(5.2mg/dl) and indirect bilirubin levels (4.8mg/dl)normal direct bilirubin levels, normal liver enzymes ,raised LDH levels of >600mg/dl. Viral screening for hepatitis infection was negative. Reticulocyte count was normal. ECG was done and sinus tachycardia was noted. Coagulation profile and USG abdomen was done and found to be normal.

Iron studies were done to look for any overload and found to be normal and was transfused with 3 units of packed RBC transfusion in 3rd trimester as per hematologist opinion and hemoglobin improved and bilirubin levels decreased and jaundice resolved . Patient was advised routine antenatal visits every 2weeks and she received a prophylactic course of corticosteroid keeping in mind about the risk of preterm delivery. All other routine investigations were normal , ICT-negative, growth scan revealed single live intrauterine fetus in cephalic presentation with adequate liquor ,appropriate for gestational age, normal doppler, placenta in upper segment .

Patient was induced at 39wks of gestational age and had uneventful assisted vaginal delivery for obstetric indications and a term alive female baby of weight 2.99kgs was delivered. Baby did not have any signs of jaundice at birth and the patient was discharged on post-natal day-2 without any complications and advised to follow up with LFT after 1 week and hematologist review was advised.

III. DISCUSSION

Gilberts syndrome is a benign , autosomal recessive inherited disorder characterised by recurrent mild hyperbilirubinemia .It is strongly related with a genetic abnormality in the TATA box of the promoter region of the gene encoding UDP glucuronyl transferase enzyme causing its reduced activity (Figure1 and 2). Though it is a congenital condition it is rarely diagnosed before puberty. Dehydration, fasting, stress will precipitates Gilberts syndrome. In our patient it was precipitated by dehydration.

Thirty percent of the patients with Gilberts syndrome are usually asymptomatic. Rest of them will present with mild symptoms like fatigue, nausea, vomiting, pain abdomen, jaundice. This patient has the same clinical picture. On evaluation only mild unconjugated hypebilirubinemia was noted and ruled out other inherited causes of unconjugated hyperbilirubinemia such as criggler najjer syndrome where the bilirubin is raised to>20mg/dl where as in our patient raised upto 6mg/dl. UDPGT1 enzyme activity is decreased in Gilberts syndrome whereas it is absent in Criggler najjer syndrome. Both infectious causes of jaundice and other causes of hemolysis were ruled out.

Beta thalassemia trait is Autosomal recessive disorder where individuals carry one copy of mutated beta globin gene and one normal copy (Figure 3). It usually doesn't pose any significant health problems, pregnancy can exacerbate the anemia associated with the trait .The complete blood picture in these patients will have microcytic hypochromic anemia which should be differentiated from iron deficiency anemia. In our patient diagnosis of beta thalassemia was made during workup for evaluation of Severe anaemia at 20wks of gestation by High performance liquid chromatography.

Although thalassemia trait women are normally asymptomatic before pregnancy, physiological changes during pregnancy can deteriorate leading to anaemia. The co-existence of gilberts syndrome can exacerbate the hyperbilirubinemia seen in beta thalassemia trait patients. The (TA)7/(TA)7 genotype of the UGT1A1 gene, common in gilberts syndrome ,is particularly linked to increased bilirubin levels in thalassemia trait individuals.

During pregnancy beta thalassemia trait will cause slight increased risk of Preterm labour, Fetal growth restriction, preeclampsia, low birth weight babies. Being mindful on the above complications, maternal and fetal surveillance was done for every 2weeks in our patients.

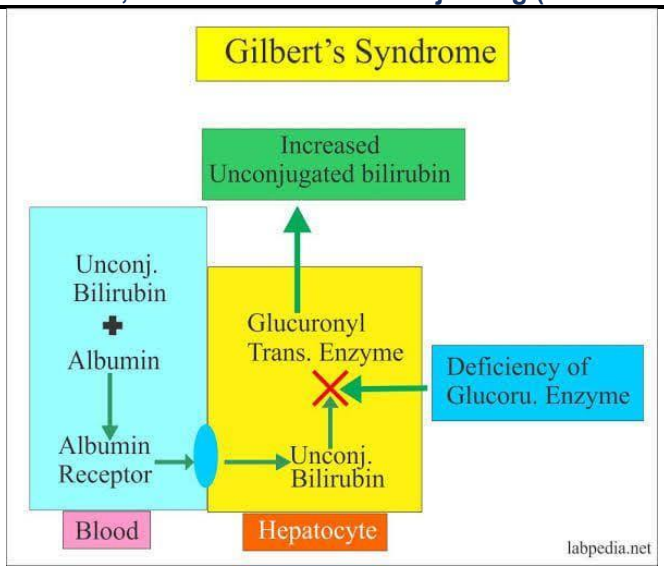

fig-1 pathophysiology of gilberts syndrome

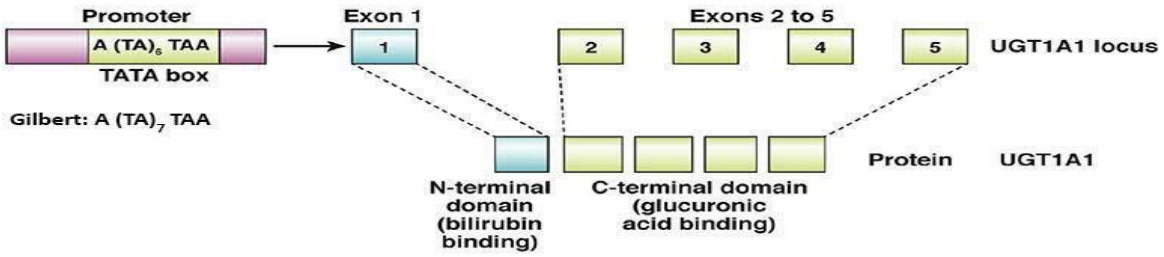

fig-2 genetic basis of gilberts syndrome

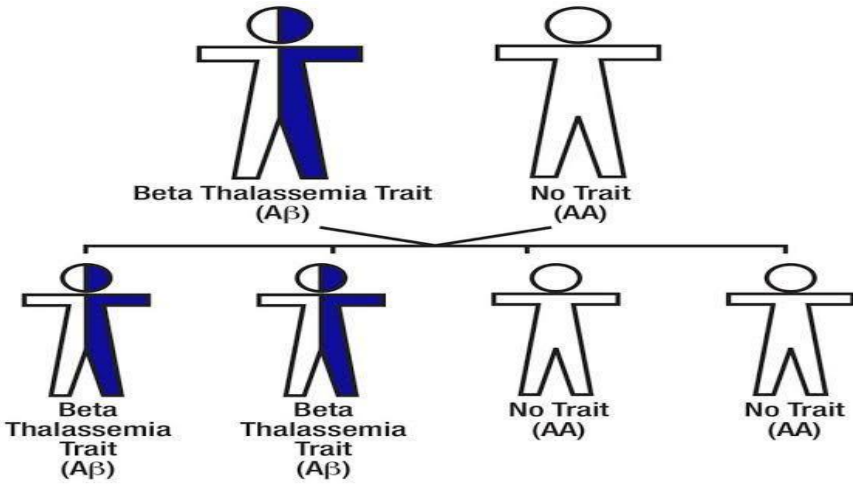

fig:3-inheritance pattern of beta thalassemia trait .

IV. CONCLUSION

Gilberts syndrome with beta thalassemia trait is a rare condition in pregnancy .Patient can be reassured of its benign nature, excellent prognosis as it is a selflimiting condition. Regular monitoring with multidisciplinary approach will help obstetrician to manage the case effectively and reduce the complications with good outcome. Caesarean section should be done only for obstetric indications. In a pregnant woman presenting with chronic anemia,it is clinically appropriate to evaluate liver function through laboratory testing to exclude liver pathologies that may contribute to or exacerbate the anemic state. Increased awareness with proper genetic counselling are the key components of management.

V. ACKNOWLEDGEMENT

We sincerely acknowledge the unwavering support and guidance by our professor Dr.Sahitya bammidi and other medical and nursing staff involved in the management of this case.

VI. REFERENCES

1) Tzetis M, Kanavakis E, Tsezou A, Ladis V, Pateraki E, Georgakopoulou T, Kavazarakis E, Maragoudaki E, Karpathios T, Kitsiou-Tzeli S. Gilbert syndrome associated with beta-thalassemia. Pediatr Hematol Oncol. 2001 Dec;18(8):477-84.

2) Mohan M, P LS, Reddy PV. Pregnancy with gilbert syndrome - a case report. J Clin Diagn Res. 2014 Jun;8(6):OD01-2.

3) Dabke PS, Colah RB, Ghosh KK, Nadkarni AH. Role of co-inherited Gilbert syndrome on hyperbilirubinemia in Indian beta thalassemia patients. Hematology. 2014 Oct;19(7):388-92.

4) Harrison's Principles of Internal Medicine, 21e.Joseph Loscalzo, Anthony Fauci, Dennis Kasper, Stephen Hauser, Dan Longo, J. Larry Jameso

5) Galanello R, Cipollina MD, Dessì C, Giagu N, Lai E, Cao A. Co-inherited Gilbert's syndrome: a factor determining hyperbilirubinemia in homozygous beta-thalassemia. Haematologica. 1999 Feb.