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Case Report

Gilbert Syndrome's Impact on Pregnancy: A Case Report

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Abstract

Gilbert syndrome is a hereditary disorder of liver metabolism characterized by mild elevated unconjugated hyperbilirubinemia. We present a case report of a 29-year-old pregnant woman with a known diagnosis of Gilbert syndrome since childhood. She had a previous history of a child born by cesarean section with biliary atresia and gallbladder agenesis, requiring a liver transplant at 9 months.

During her current pregnancy, she was found to have elevated indirect bilirubin and hepatosplenomegaly and subsequently underwent an elective cesarean section at 39 weeks. The neonate did not develop neonatal hyperbilirubinemia, and both mother and baby remained healthy in postnatal follow-ups.

This case is unique due to its presentation and differing pregnancy outcomes, emphasizing the importance of accurate diagnosis and careful follow-up of pregnant patients with Gilbert syndrome.

Keywords: *Gilbert Syndrome; Pregnancy; Hyperbilirubinemia; Biliary Atresia; Gallbladder Agenesis*

Introduction

Gilbert syndrome is an inherited disorder of liver metabolism, characterized by isolated, asymptomatic unconjugated hyperbilirubinemia without evidence of overt hemolysis or abnormal liver enzymes [1]. While most patients remain asymptomatic, some may experience recurrent episodes of mild jaundice and elevated unconjugated bilirubin, often triggered by dehydration, fasting, or acute illness.

The condition results from a defect in the enzyme uridine diphosphate-glucuronosyltransferase 1A1 (UGT1A1), which plays a crucial role in bilirubin conjugation and excretion. The most common genetic mutation associated with Gilbert syndrome is UGT1A1 homozygous polymorphism, which reduces enzyme activity to approximately 30% of normal levels [2].

Abnormal liver function tests are observed in 3- 5% of pregnant women, with causes ranging from serious conditions like HELLP syndrome to benign disorders such as Gilbert syndrome. Accurate diagnosis is essential to differentiate between these conditions and prevent maternal and neonatal complications [3].

This case report presents a unique instance of a woman with Gilbert syndrome, highlighting two pregnancies with distinct neonatal outcomes. Given the rarity of such presentations, this report underscores the importance of proper diagnosis and management in pregnant patients with Gilbert syndrome.

Case Report

A 29-year-old Lebanese woman presented to our hospital for routine antenatal care follow-up. She was diagnosed with Gilbert syndrome at the age of 5 years and had been on folic acid supplementation due to baseline unconjugated hyperbilirubinemia and anemia.

She was gravida 2, para 1, with a previous cesarean section. Her younger child was diagnosed with biliary atresia and gallbladder agenesis at birth, requiring a liver transplant at 9 months. Additionally, she had undergone a cholecystectomy at 15 years for gallstones. She reported episodic jaundice, typically triggered by antibiotics, including amoxicillin-clavulanic acid and azithromycin.

During pregnancy, her total bilirubin levels ranged from 68 to 84 µmol/L, predominantly indirect bilirubin (51 - 71 µmol/L), while remaining liver function tests were unremarkable. Hepatitis B and C serologies were negative.

Her hemoglobin levels fluctuated between 8.5 and 10.5 g/dL, with an elevated reticulocyte count (200 × 10^3/µL). Peripheral smear revealed moderate anemia with no additional abnormalities. Hemoglobin electrophoresis was normal except for elevated HbF (5.1%), likely due to pregnancy.

As her blood group was O-negative, while her husband was Rh-positive, she received anti-D immunoglobulin at 28 weeks and during delivery. Her antibody screen was unremarkable.

Imaging findings

- Antenatal ultrasound: A single live intrauterine gestation with normal growth and adequate amniotic fluid.
- Abdominal ultrasound:
  - Hepatomegaly with a liver span of 17.9 cm (Figure 1)
  - Splenomegaly (spleen size 22.5 cm)
  - No biliary radicle dilatation
  - Portal vein: 15.6 mm, Splenic vein: 12 mm.

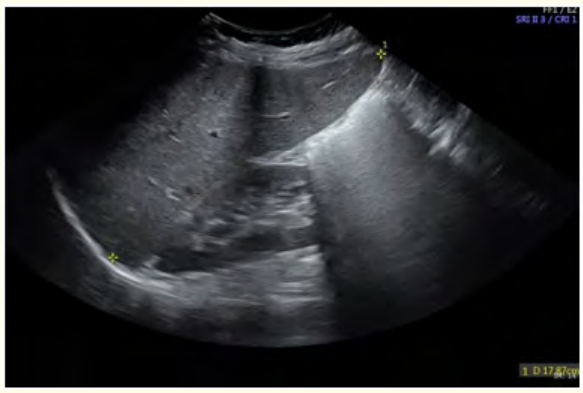

Figure 1: *Hepatomegaly of 17.9 cm.*

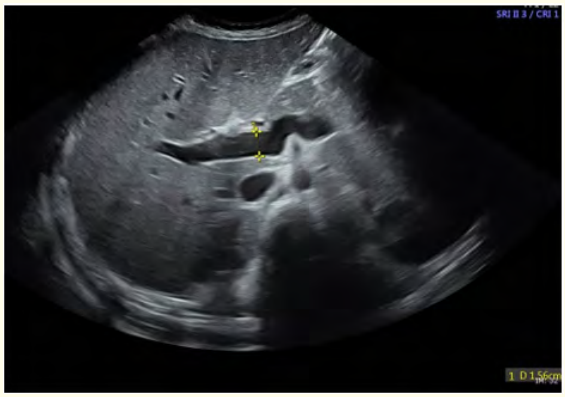

Figure 2: *Portal vein: 15.6 mm.*

Delivery and neonatal outcome

At 39 weeks, she underwent an elective cesarean section, delivering a healthy male infant (3.2 kg). The neonate did not develop jaundice, and his bilirubin levels remained within normal limits postnatally.

Both mother and baby remained well during subsequent postnatal follow-ups. The patient received genetic counseling regarding Gilbert syndrome and was advised to continue regular gastroenterology follow-ups postpartum.

Discussion

Gilbert syndrome is present in approximately 5% of the population, with a higher prevalence in males compared to females [4]. It is primarily a diagnosis of exclusion, requiring careful evaluation to rule out hemolytic and chronic liver diseases before confirming the diagnosis [1]. This includes liver function tests, complete blood count, and ultrasound imaging to exclude other underlying causes. Genetic testing is an additional tool for confirming the diagnosis and providing genetic counseling to address patient concerns [5].

Gilbert syndrome results from a metabolic defect in the rate-limiting enzyme of bilirubin glucuronosylation, UDP-glucuronosyltransferase 1A1 (UGT1A1), encoded by the UGT1A1 gene. The most common pathogenic mutations include the A(TA)7TAA insertion (UGT1A1*28) and the p.Gly71Arg missense variant (UGT1A1*6) [5]. Studies indicate that bilirubin levels tend to be higher in Asian populations compared to Caucasians, likely due to a higher prevalence of heterozygous UGT1A1 gene variants, which result in reduced enzyme expression [1].

Our patient had Gilbert syndrome diagnosed in childhood and developed moderate indirect hyperbilirubinemia during pregnancy, likely exacerbated by the physiological changes of pregnancy. Additionally, she had a history of cholecystectomy for gallstones, which is known to be associated with Gilbert syndrome, as increased unconjugated bilirubin levels can predispose individuals to bile pigment stone formation [6].

Another notable finding in our patient was hepatosplenomegaly, identified both on ultrasound during pregnancy and on a CT scan performed two years prior at an outside center. This was associated with reticulocytosis (5.6%), raising suspicion of a concurrent hemolytic process. Studies have reported hemolysis and hepatosplenomegaly in Gilbert syndrome patients with hereditary spherocytosis [7-9]. However, a peripheral smear for our patient did not reveal spherocytes, ruling out hereditary spherocytosis as a coexisting condition.

Although several case reports on Gilbert syndrome in pregnancy exist, most describe normal neonatal outcomes [10-13]. However, a longitudinal study by Kamal., *et al.* found that 7 out of 8 neonates born to mothers with Gilbert syndrome developed neonatal hyperbilirubinemia [14].

Our patient's case is particularly unique as her first child was born with biliary atresia and gallbladder agenesis, requiring a liver transplant at 9 months. In contrast, her second child was born healthy, with no neonatal jaundice or bilirubin abnormalities. Due to the rarity of such presentations, it remains unclear whether Gilbert syndrome contributed to these differing pregnancy outcomes.

Larger studies with wider sample sizes are needed to further evaluate the impact of maternal Gilbert syndrome on neonatal health and assess whether there is any potential correlation with congenital biliary anomalies.

Conclusion

Pregnancy can trigger episodes of jaundice in Gilbert syndrome, occurring as early as the first trimester and potentially extending into the postnatal period. Given its benign clinical course, it is crucial to rule out other causes of jaundice during pregnancy to ensure an accurate diagnosis.

Patient education plays a key role in managing Gilbert syndrome, as it is essential to inform patients about its favorable prognosis, normal life expectancy, and potential triggering factors that should be avoided to improve their quality of life [13]. This is particularly important for pregnant women, as proper counseling can provide reassurance, reduce anxiety, and ensure better maternal and neonatal outcomes [10].

Bibliography

1. Vítek L and Tiribelli C. "Gilbert's syndrome revisited". *Journal of Hepatology* 79.4 (2023): 1049-1055.
2. Fretzayas A., *et al*. "Gilbert syndrome". *European Journal of Pediatrics* 171.1 (2012): 11-15.
3. Tran TT., *et al*. "ACG Clinical Guideline: Liver Disease and Pregnancy". *American Journal of Gastroenterology* 111.2 (2016): 176-194 quiz 196.
4. King D and Armstrong MJ. "Overview of Gilbert's syndrome". *Drug and Therapeutics Bulletin* 57.2 (2019): 27-31.
5. Gu L., *et al*. "Genetic testing of UGT1A1 in the diagnosis of Gilbert syndrome: The discovery of seven novel variants in the Chinese population". *Molecular Genetics and Genomic Medicine* 10.7 (2022): e1958.
6. Bale G., *et al*. "Incidence and risk of gallstone disease in Gilbert's syndrome patients in Indian population". *Journal of Clinical and Experimental Hepatology* 8.4 (2018): 362-366.
7. Garg PK., *et al*. "Hereditary spherocytosis coexisting with Gilbert's syndrome: a diagnostic dilemma". *Singapore Medical Journal* 49.11 (2008): e308-e309.
8. Kang LL., *et al*. "Gilbert's syndrome coexisting with hereditary spherocytosis might not be rare: Six case reports". *World Journal of Clinical Cases* 8.10 (2020): 2001-2008.
9. Aiso M., *et al*. "Gilbert syndrome with concomitant hereditary spherocytosis presenting with moderate unconjugated hyperbilirubinemia". *Internal Medicine* 56.6 (2017): 661-664.

10. Vafaei E. "Gilbert's syndrome diagnosis in a pregnant woman: a case report". *Family Medicine and Primary Care Review* 26.1 (2024): 137-140.

11. Mohan M., *et al*. "Pregnancy with gilbert syndrome - a case report". *Journal of Clinical and Diagnostic Research* 8.6 (2014): OD01-OD02.

12. Haixia L and Li R. "Gilbert's syndrome with diabetes mellitus". *Cureus* 13.7 (2021): e16557.

13. Teoh SH., *et al*. "A case of Gilbert's syndrome diagnosis during pregnancy". *Bangladesh Journal of Medical Science* 19.2 (2020): 333-335.

14. Kamal S., *et al*. "The frequency, clinical course, and health related quality of life in adults with Gilbert's syndrome: a longitudinal study". *BMC Gastroenterology* 19.1 (2019): 22.

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