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Hepatic lipidosis during pregnancy: A clinical observation from Somalia

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Abstract
This comprehensive report presents a detailed case of hepatic lipidosis occurring in a pregnant woman, thoroughly outlining her clinical presentation, laboratory findings, and the management strategies employed. The case effectively underscores the critical need for prompt and accurate diagnosis, as well as appropriate and timely intervention, in managing such complex conditions.

Keywords: Acute fatty liver of pregnancy, hepatic lipidosis, pregnancy complications, hypoglycemia, resource-limited settings, Somalia

Introduction
Hepatic lipidosis, identified as an uncommon yet serious complication during gestation, presents notable challenges in both diagnosis and management [1]. This condition involves the excessive build-up of fat within hepatocytes, which may lead to hepatic failure if not promptly addressed [2]. It is typically associated with acute fatty liver of pregnancy (AFLP), a critical condition that can cause significant maternal and fetal morbidity if not swiftly identified and managed. The occurrence of hepatic lipidosis during gestation is estimated to range from 1 in 7,000 to 1 in 15,000 pregnancies, underscoring its rarity; nonetheless, the gravity of its potential complications necessitates comprehensive clinical vigilance and preparedness for intensive care [3].

Typically emerging in the late third trimester, the condition poses a diagnostic dilemma as its symptoms can be nonspecific and overlap with other pregnancy-related hepatic disorders like preeclampsia and HELLP syndrome [4]. This case report is derived from Somalia, a region challenged by limited healthcare resources and constrained access to advanced medical diagnostics, complicating timely diagnosis and intervention. By documenting this specific case, our objective is to enhance the understanding of hepatic lipidosis in pregnant patients and provide insights into effective management practices in resource-limited settings. These insights are crucial for healthcare providers worldwide, particularly those operating in analogous environments, to improve patient outcomes.

Case Presentation
A 32-year-old woman, who is experiencing her first pregnancy, presented to our emergency department at 34 weeks of gestation. She reported a one-week history of abdominal pain, nausea, and vomiting. Upon examination, the patient appeared severely jaundiced and lethargic. Her vital signs included a blood pressure of 110/60 mmHg, a pulse rate of 120 bpm, and an oxygen saturation of 99%. Notably, she experienced severe hypoglycemia, with blood glucose levels at times dropping to as low as 10 mg/dL. There were normal abdominal examination findings, with no signs of peritonitis.

The patient was promptly resuscitated and admitted to the high dependency unit. During this time, fetal distress was observed along with abnormalities in the cardiotocography (CTG). While efforts were being made to stabilize the patient, the fetus unfortunately progressed to intrauterine fetal demise (IUFD).

Laboratory findings revealed a white blood cell count of 15,000, a platelet count of 50,000, and a hemoglobin concentration of 12 g/dL. The levels of aspartate aminotransferase (AST) and alanine aminotransferase (ALT) were elevated at 550 U/L and 620 U/L, respectively, while alkaline phosphatase (ALP) registered at 1,300 U/L. The total bilirubin was measured at 8

mg/dL, with a direct bilirubin of 5 mg/dL. Prothrombin time (PT) was 16 seconds, and partial thromboplastin time (PTT) was 32 seconds. Gamma-glutamyl transferase (GGT) was noted at 450 U/L. Blood glucose levels stood at 10 mg/dL. The total protein level was 5 g/dL with an albumin level of 1.5 g/dL. Tests for viral markers, including HIV, HBV, and HCV, returned negative results. Renal function tests were within normal limits. An immediate abdominal ultrasound examination was conducted, revealing a liver of normal dimensions with grade 2 hepatic steatosis, alongside a gallbladder that appeared normal.

In light of the clinical and laboratory findings, a diagnosis of acute fatty liver of pregnancy was made. The patient was managed with intravenous fluids and dextrose to address the hypoglycemia. Furthermore, the patient received supportive care, including antiemetics and analgesics. Due to the deteriorating condition of the patient and the unfortunate demise of the fetus, an emergency caesarean section was performed. The procedure was completed without complications, and the patient was transferred to the intensive care unit for close monitoring. The patient remained stable postoperatively, with no further episodes of hypoglycemia. The patient was discharged from the intensive care unit on the 7th postoperative day.

The patient was followed up in the outpatient clinic for six months. She remained well, with no complaints and normal laboratory findings. The patient was counselled regarding future pregnancies and the associated risks of recurrent hepatic lipidosis. Informed consent was obtained from the patient for the publication of this report. Ethical approval was obtained from the hospital's research and ethical committee.

Discussion

This case illustrates a classic presentation of acute fatty liver of pregnancy, a condition that remains poorly understood. The exact pathophysiological mechanisms remain to be fully elucidated. However, it is believed that there is an interplay of maternal, fetal, and placental factors contributing to the development of the condition. The condition is often associated with multiple pregnancies, pre-existing maternal obesity, and gestational diabetes [5]. In this case, the patient was indeed a primigravida and had a body mass index of 32 kg/m², categorising her as obese.

The diagnosis of AFLP is made based on the presence of the classic clinical triad of symptoms: maternal hypoglycemia, hepatic dysfunction, and evidence of ketosis [5]. In this case, the patient presented with all three features, alongside leukocytosis and thrombocytopenia. The presence of fetal distress and subsequent IUFD further corroborated the severity of the condition.

The management of AFLP is primarily supportive, with the mainstay being the correction of hypoglycemia and the provision of maternal and fetal monitoring. In cases of severe maternal or fetal compromise, as in this case, early delivery is warranted. The patient was followed up for six months and remained well. This case adds to the existing literature on AFLP and highlights the importance of prompt diagnosis and management.

AFLP is a rare condition; however, it is the commonest cause of acute liver failure in pregnancy. It carries a maternal mortality of approximately 18% and a fetal mortality of 20% [6]. The exact aetiology of AFLP remains unclear. However, it is believed to be multifactorial. It is associated with genetic defects in mitochondrial fatty acid oxidation, with the most commonly implicated enzyme being long-chain 3-hydroxyacyl-CoA dehydrogenase [7]. It is also associated with a deficiency of maternal serum mitochondrial antigens. The condition is thought to be more common in pregnancies affected by fetal congenital anomalies [7].

Despite its rarity, it is crucial that healthcare professionals are aware of the condition and its associated features. AFLP is a diagnosis of exclusion, and its presenting features can often overlap with those of other hepatic conditions in pregnancy, including gestational hypertension and HELLP syndrome. Prompt diagnosis and management are crucial in minimizing maternal and fetal morbidity and mortality. This case also highlights the challenges faced in resource-constrained settings, where access to advanced monitoring and diagnostic facilities can be limited [8].

Conclusion

AFLP is a rare condition with significant maternal and fetal risks. This case contributes to literature, emphasizing the need for prompt diagnosis and management. It highlights challenges in resource-limited settings and underscores the importance of awareness among healthcare workers in these environments. Limited access to advanced monitoring can delay diagnosis. Thus, healthcare professionals should recognize AFLP and its features. AFLP is a diagnosis of exclusion, often overlapping with other hepatic conditions in pregnancy, such as gestational hypertension and HELLP syndrome. Prompt diagnosis and management are vital to reduce maternal and fetal risks.

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Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this case report.

Ethical Approval

Ethical approval for this case report was obtained from the Research and Ethics Committee of Kaafi Hospital, Mogadishu, Somalia. Written informed consent was obtained from the patient for publication of this report and accompanying data.

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