



Acute Fatty Liver of Pregnancy Developing in Early Stages Erken Dönemde Gelişen Gebeliğin Akut Yağlı Karaciğer Hastalığı

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Dear Editor,

Acute fatty liver of pregnancy is usually seen in the third trimester of pregnancy and leads to severe maternal and fetal complications. The etiopathology of the disease shows that the most accused mechanism causing the disease is the accumulation of fatty acids that develop as a result of fetal mitochondrial β oxidation disorder that eventually results in maternal hepatic microvesicular steatosis. This letter presents the case of a 25 year-old patient diagnosed with acute fatty liver of pregnancy in the second trimester of her third pregnancy due to liver dysfunction and hepatic encephalopathy.

With complaints of nausea, vomiting, abdominal pain, and fatigue in the 22nd week of her third pregnancy, the patient was referred to our clinic with the following examination results: AST: 279 U/L, ALT: 272 U/L, total bilirubin: 4.5 mg/dl, and INR: 1.5. The laboratory test results reported as follows: Viral hepatitis panel showed negative results for cytomegalovirus, herpes simplex, Epstein Barr virus, parvovirus, hepatitis A, B, C, and E; TORCH panel results for auto antibodies, brucella, and salmonella were also negative. The follow-up test results were as follows: ALT: 374 U/L, AST 1601 U/L, ALP: 128, ammonia: 71, direct bilirubin: 11 mg/dL, total bilirubin: 15.2 mg/dL, INR: (has risen up to) 2.5, creatinine: 0.46, lactate: 26, albumin 1.9 g/dL, WBC: 5.2×10^3 /mL, hemoglobin: 7.9 g/dl, platelets: 149×10^3 /mL, and CRP: 2.24. The blood pressure was normal and protein in the urine was negative. The abdomen ultrasonography showed that the patient's liver was 18 cm in size and parenchymal echo was increased in favour of diffuse steatosis. The 22-week fetus in the uterus was also visible in the ultrasound. A liver biopsy could not be administered due to coagulopathy. In the second week of admission to the hospital, the patient developed stage II hepatic encephalopathy and was consulted to the gynaecology department due to the possibility of acute fatty liver disease of pregnancy. Eventually a 750g male infant was delivered by cesarean section. However the baby died in a short time. Three weeks after the caesarean section, the patient's clinical condition and

laboratory test results improved and she was discharged in good health to attend the follow ups in the coming weeks.

Acute fatty liver of pregnancy often occurs in the 30-38 weeks of the first pregnancy. Despite their rarity, there are case studies reporting the disease in the 22-26 weeks of pregnancy (1,2). The incidence rate of the diseases varies between 1/9000 and 1/16,000. Maternal mortality rate is between 12% and 18% while neonatal mortality rate ranges from 7% to 58%. Patients are often faced with this situation in their first pregnancies while the incidence rate increases in subsequent pregnancies (3).

Our case is thought to be worth considering since it was first seen during the third pregnancy of our patient unlike many other acute fatty liver of pregnancy cases. The pathogenesis of the disease points to mitochondrial oxidation defect of long-chain fats along with genetic predisposition of individuals (4). A large number of studies have concentrated on the relationship between acute fatty liver of pregnancy and the E474Q and G1528C mutations as well as long-chain 3-hydroxy acyl-coenzyme A dehydrogenase deficiency. The risk of disease increases 20-fold in mothers with fetuses that have fatty acid oxidation defects. In such cases, the accumulating fetal fatty acids participate in the maternal circulation and end up in the liver thus leading to liver toxicity. Liver biopsy plays an important role in the diagnosis however coagulopathy may hinder biopsy (5).

The typical histological appearance displays microvesicular fatty infiltration in centrilobular hepatocytes. The disease can be diagnose with the help of clinical and laboratory findings. If hepatic encephalopathy, hepatic rupture, and liver failure are still progressing, liver transplantation can be required. The only possible treatment for the disease is urgent delivery the baby followed by supportive therapy. In a case of a 28-week pregnant woman reported by De

Nagy et al., the pregnancy was terminated by induction upon determining maternal hepatic encephalopathy (6). In short, acute fatty liver of pregnancy turns out to be a disease with a high mortality rate if untreated.

In this paper, we have presented a successfully treated case of an unusual acute fatty liver of pregnancy hoping that the case may guide other colleagues consider the possibility of the disease in problematic pregnancies with similar outlook.

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