Acute fatty liver due to poor diabetic control

A 25-year-old lady with poorly controlled type I diabetes presented acutely with vomiting, peripheral oedema and abdominal distention.

She was diagnosed with type I diabetes at the age of 12 and her glycaemic control has always been suboptimal predominantly due to poor compliance with the treatment. She had had numerous admissions with diabetic ketoacidosis in the past.

On examination a tender hepatomegaly was noted. The investigations revealed Ast of 1675 µ/l, ALP 242 µ/l, LDH 2171 µ/l, total cholesterol 8.8 mmol/l and triglycerides 10.9 mmol/l. Her HbA1c at the time was 11%. Both the ultrasound and the CT of the abdomen showed enlarged liver with diffuse granularity. All vessels were patent and there were no signs of cholelithiasis or ascites. Viral hepatitis and autoimmune screen was negative. Haemochromatosis, Wilson's disease and α-1 antitrypsin deficiency were ruled out. Liver biopsy revealed abnormal glycogen accumulation suggesting a possibility of a late presentation of glycogen storage disease which, however, did not fit into the clinical picture. The RBC phosphorylase kinase activity was within normal limits.

The case was discussed on the multidisciplinary team meeting involving diabetologists and histopathologist at the tertiary centre. The general consensus was that this was an acute fatty liver due to poor glycaemic control.

The patient was started on continuous subcutaneous insulin infusion therapy resulting in a dramatic improvement in her diabetes control. Eighteen months after the diagnosis of acute fatty liver was made, her HbA1c was 8.5%, total cholesterol 6.1 mmol/l, triglycerides 2.0 mmol/l. The follow-up CT of the abdomen demonstrated resolution of hepatomegaly with no fatty changes observed.

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