Acquired partial lipodystrophy is associated with increased risk for developing metabolic abnormalities

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Objective

Acquired partial lipodystrophy (APL) is a rare disorder characterized by progressive selective fat loss. In previous studies, metabolic abnormalities were reported to be relatively rare in APL, whilst they were quite common in other types of lipodystrophy syndromes. However, there has been no systematic study on metabolic abnormalities in APL so far.

Fifteen individuals (71.4%) had at least one metabolic abnormality. Six patients (28.6%) had diabetes, 12 (57.1%) hypertriglyceridemia, 10 (47.6%) low HDL cholesterol, and 11 (52.4%) hepatic steatosis. Steatohepatitis was further confirmed in 2 patients with liver biopsy. Anti-GAD was negative in all APL patients with diabetes. APL patients had lower leptin and adiponectin levels compared to patients with type 2 diabetes and healthy controls. However, contrary to what we observed in patients with congenital generalized lipodystrophy (CGL), we did not detect consistently very low leptin levels in APL patients. The mix meal test suggested that APL patients with diabetes had a significant amount of functional pancreatic beta cells, and their diabetes was apparently associated with insulin resistance.

Methods

We systematically evaluated 23 Turkish patients with APL, who were enrolled in a prospective follow-up protocol. Subjects were investigated for metabolic abnormalities. Fat distribution was assessed by whole body MRI. Hepatic steatosis was evaluated by ultrasound. MRJ and MR spectroscopy. Patients with diabetes underwent a mix meal stimulated C-peptide/insulin test to investigate pancreatic beta cell functions. Leptin and adiponectin levels were measured.

Results

Table 1: Clinical and laboratory characteristics of patients with APL

Table 2: Comparison of APL, patients with and without diabetes, subjects with CGL, type 2 diabetes and healthy controls.

Table 3: Characteristics of subjects evaluated for the mix meal test.

Conclusions

APL is associated with increased risk for developing metabolic abnormalities. Close long-term follow-up is required to identify and manage metabolic abnormalities in APL.