Introduction: Patients with type 1 diabetes mellitus (T1DM) may present with diabetic ketoacidosis (DKA) at diagnosis. Young age (especially < 2 years), diagnostic error, delayed treatment, and residence in a country with low T1DM prevalence are DKA risk factors.

Objectives: We studied the initial clinical presentations and DKA prevention in T1DM patients.

Methods: We accessed medical records of T1DM patients who were treated in our hospital in July 2018. We noted their age at diagnosis, symptoms, and duration of symptoms. We then classified patients according to DKA severity and noted their chief complaints at the first visit percentages of patients who had symptoms characteristic of T1DM, and blood glucose, glycated hemoglobin (HbA1c), and blood C-peptide levels.

Results: We treated 49 patients (aged 14.2±5.9 years; 18 male, 31 female). We assessed initial clinical presentations in 45 patients, who were diagnosed at 7.7±4.5 years of age, had a symptom duration to diagnosis of 36.5±37.6 days, and polydipsia (91.1%), polyuria (88.8%), and weight loss (60.0%). Meanwhile, 4 patients detected through an annual urine test in their schools were asymptomatic. Thirty-three patients were divided based on DKA severity: 17, not affected; 7, mild; 5, moderate; and 4, severe. Six patients were younger than 2 years, and 3 patients had severe DKA. The chief complaints in the severe group were not characteristic of T1DM and did not lead to T1DM suspicion initially. However, all patients in the severe and moderate groups had polydipsia, polyuria, and weight loss. Blood C-peptide levels significantly decreased when DKA severity worsened, but blood glucose and HbA1c levels were not different.

Conclusions: Severe DKA patients may exhibit symptoms not characteristic of T1DM, but characteristic symptoms may be revealed through careful medical interviews. Thus, T1DM patients must be identified before they develop severe DKA. Regular urine tests may also help identify T1DM patients.

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First description of LADY with DKA and in a male adolescent

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Introduction: Latent Autoimmune Diabetes of the Young (LADY) has been described in 7 female patients so far, with a slowly progressive beta-cell destruction with complete remission up to 4 years.

Objectives: To describe cases of LADY followed in our Institute.

Methods: Data on onset and follow-up were collected for patients with LADY, defined as diabetes mellitus with the presence of at least 1 autoantibody against beta-cell, absence of known genetic variations causative for MODY (Maturity Onset Diabetes of the Young) and a remission period (IDAA1C< 9) >18 months.

Results: Out of 67 patients < 18 years with type 1 diabetes mellitus, 2 fulfilled the criteria for LADY.

Case 1 was a normal weight 13-year-old female with severe ketoacidosis (DKA) at onset (pH 6.85), positive autoantibodies (IA2, ICA, ZnT8, GAD, insulin). She was discharged with am insulin daily requirement (IDR) of 0.05 U/kg/day. IDAA1C was < 7 in follow-up visits, C-peptide was normal (1.62 ng/ml). Family did not agree to had a trial off insulin. After 6 years there was an increase in A1c (9.4%) and IDR (0.29 U/kg/day) with IDAA1C 10.9.

Case 2 was an overweight 14-year-old male with moderate DKA at onset (pH 7.17), positive autoantibodies (IA2, insulin). He was discharged with an IDR of 1 U/kg/day. After 3 months his DAA1c was 7. After 2 years, due to a very low IDAA1c (4.4) with C-peptide 5.43 ng/ml, he stopped insulin and started metformin with a good control (A1c < 6%). After 4 years his A1c increased to 10.7% and insulin had to be started again with IDR of 0.38 U/kg/day (IDAA1C 14.4).

Genetic tests excluded mutations in HNF4A, GCK, HNF1A, PDX1, HNF1B/TCF2, NEUROD1, KLF11, CEL, PAX4, INS, BLK, ABCC8/