

Type 1 diabetes in childhood: an 8 year experience

M. Vallianatou, S. Giannopoulou, M. Oikonomou, G.Krokidas, M.Eliopoulou
General Children Hospital of Patras <Karamandanio>

Background

Type 1 diabetes mellitus (T1D) is a heterogeneous disorder characterized by destruction of pancreatic beta cells, culminating in absolute insulin deficiency. The majority of cases are attributable to an autoimmune-mediated destruction of beta cells (type 1a) while a small minority of cases results from an idiopathic destruction or failure of beta cells (type 1b). T1D accounts for 5–10% of the total cases of diabetes worldwide¹. A second and more prevalent category, type 2 diabetes (T2D), is characterized by a combination of resistance to insulin action and inadequate compensatory insulin secretory response¹. T1D has been historically, and continues to be, the most common type of diabetes in children and adolescents, although type 2 diabetes (T2D) is increasingly diagnosed in youth. T1D requires frequent visits in outpatient pediatric endocrine clinics in order to rearrange their new lives.

Objective and hypotheses

A retrospective study of patients with DMI was performed during 2008-2015, assessing epidemiological and clinical data, treatment and subsequent course.

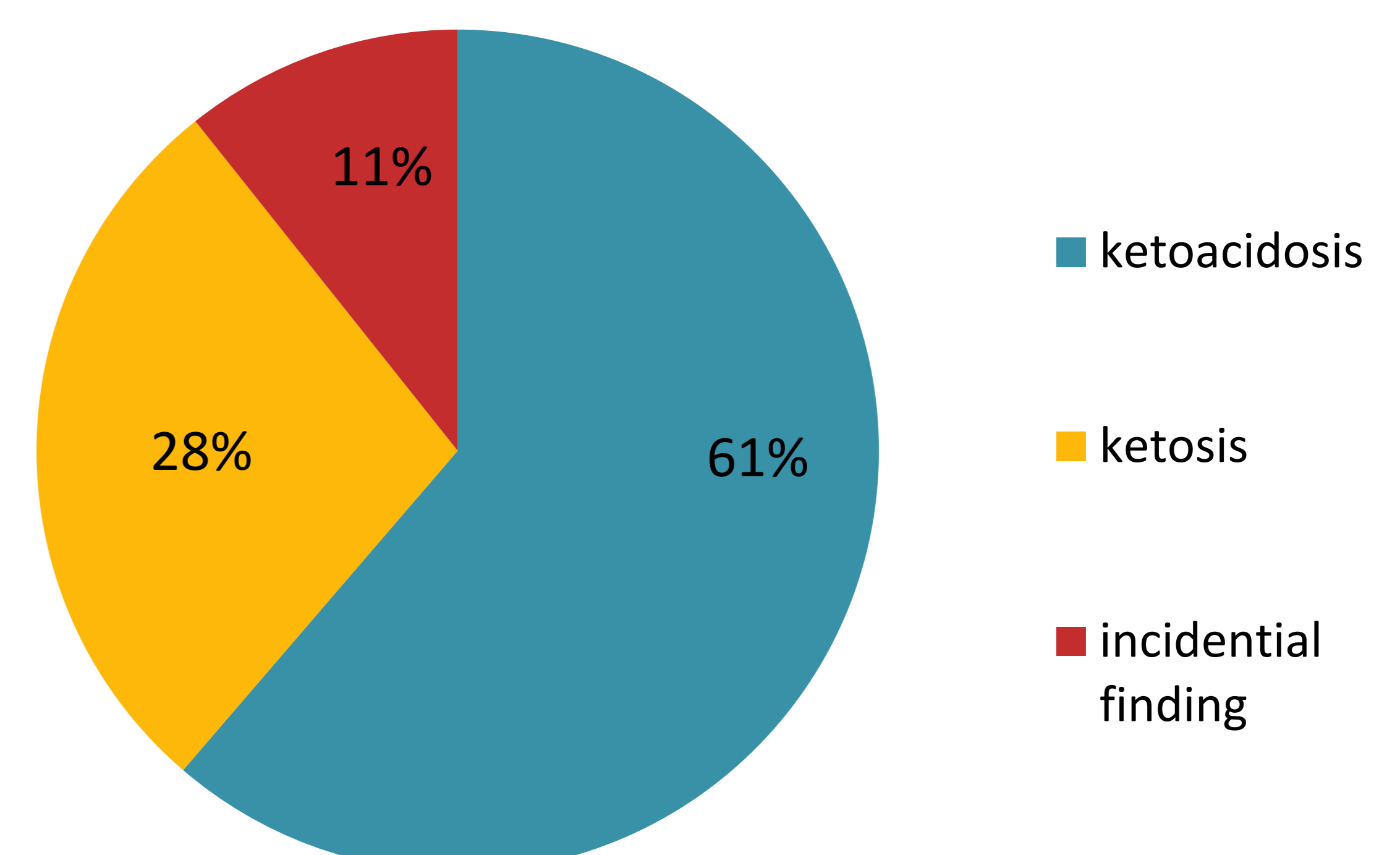
Method

We analyzed the incidence, age and gender of 75 patients at the disease's onset, the HbA_{1c} at first admission, 2, 4, 6 and 8 years of treatment and the type of insulin received. Statistical analysis was performed with SPSS.

Results

The average age of DMI onset was 7.82 ± 3.56 years and two seasonal peaks were observed, mainly in January (33%) and April (30.6%). Initial signs were ketoacidosis (61.3%), ketosis (28%) and hyperglycemia as an incidental finding (10.7%). One single case of severe ketoacidosis was reported and no acute complication occurred during DKA treatment. The average HbA_{1c} at the onset was $12.3 \pm 2.08\%$ and no significant difference was found between the age groups, although all younger patients presented moderate ketoacidosis. Two years after the first diagnosis HbA_{1c} was reduced. However, there has been an increase of HbA_{1c} through the years, especially in puberty. The majority of patients received insulin glargine and lispro. The last year, 5 patients (>14 years old) started treatment with degludec, as basal insulin, and 5 teenagers put insulin pumps, with no significant difference in their metabolic control, but with an improvement in their quality of life. Finally, after 8 year follow up, no complication occurred.

Initial sign of T1D



Conflict of interest

No potential conflicts of interest were disclosed.

References

1. Maahs et al. Epidemiology of type 1 diabetes, *Endocrinol Metab Clin North Am.* (2010) Sep ;39 (3): 481-497
2. Diagnosis and classification of diabetes mellitus. *American Diabetes Association, Diabetes Care.* 2009 Jan; 32 Suppl:S62-7.

Conclusion

The type of insulin therapy has no big effect on the diabetic control, but the proper psychological support and the education in order to deal with their new way of life is more important.

