

Clinical presentations, glycemic control, complications and associated autoimmune diseases among children and adolescents with type 1 diabetes mellitus

Asmaa Milyani

King Abdulaziz University Hospital, Saudi Arabia

To study the correlation between initial presentation, metabolic control, long-term complication and the concomitant autoimmune diseases. In addition to exploring the various risk factors that can impact the glycemic control in children and adolescents with type 1 diabetes mellitus (T1DM).

Methods: A retrospective cross-sectional study was conducted on 461 patients including children and adolescents with T1DM, who were followed up at the pediatric clinic at King Abdul Aziz University Hospital from January 2004 to December 2016. The medical records and laboratory findings in the hospital's electronic system of all patients were reviewed. Collected data comprised of the primary disease presentation including hyperglycemic and diabetic ketoacidosis (DKA) symptoms, associated autoimmune diseases and consequent chronic complications.

Results: The mean patient age was 10.4 ± 4.8 years. A total of 62.1% and 27.9% initially presented with hyperglycemia and DKA, respectively. Glycemic control did not significantly differ between the pubertal and the pre-pubertal groups, although


the glycated hemoglobin A1C levels were higher in the pre-pubertal group (62.3%) than in the pubertal group (37.7%). Chronic complications were observed as follows: steatohepatitis (11.1%), microalbuminuria (11%), dyslipidemia (10.3%) and retinopathy (5.7%). Regarding the associated comorbidities, vitamin D deficiency was present in 58.9% of children and was significantly associated with gender (68.4% females and 51.9% males), whereas autoimmune thyroiditis and celiac disease were present in 20% and 8.2% of children, respectively.

Conclusion: Pre-pubertal children exhibited less glycemic control as compared to adolescents. The most common presentation at diagnosis included signs of hyperglycemia rather than those of DKA. The co morbidities showed a significant relationship with gender. Vitamin D deficiency is the most common associated medical condition in children with diabetes.

Speaker Biography

Asmaa Milyani is a humble student, a passionate physician and an aspiring researcher with a prospering interest in the field of pediatrics.

e: asmaamilyani@gmail.com

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