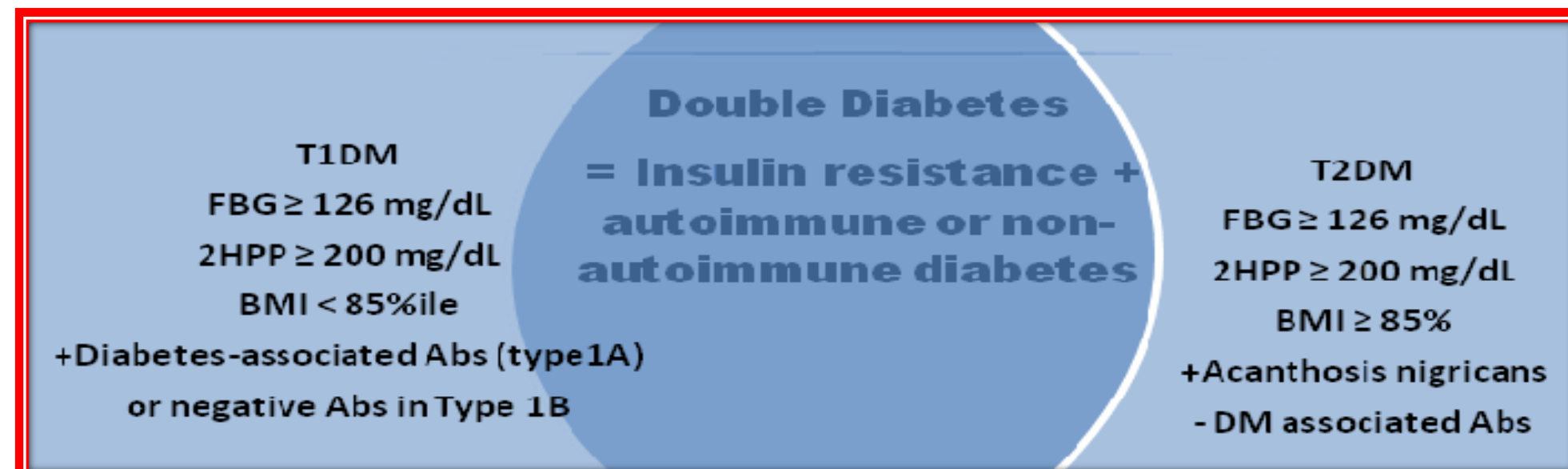


The Prevalence of Double Diabetes (DD) in Children and Adolescents in Qatar

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Introduction

The incidence of both type 1 (T1DM) and type 2 diabetes (T2DM) has shown a rise in Qatar in parallel with a notable increase in the incidence of a new expression of the disease in children and adolescents, with the characteristics of a mixture of the two types of diabetes and referred to as 'double diabetes' (DD).



Insulin resistance and obesity, together with the presence of markers of pancreatic autoimmunity - namely, autoantibodies to islet cell antigens - typically define this condition. The prevalence of obesity in children and adolescents in Qatar is one of the highest in the world. In addition high rate of consanguineous marriage is reported in Qatar.

The aim of this study was to determine the prevalence of DD among children aged 6 months: 14 years in a large cohort of children with Diabetes attending the Diabetes Centre, Hamad General Hospital, Doha, Qatar.

Methods and Materials

This was a cross sectional descriptive study to determine the prevalence of double diabetes in obese diabetic children with acanthosis nigricans (AN) and family history of metabolic syndrome with normal C peptide level (> 2 ng/ml) with the presence of beta cell autoimmunity (Anti GAD, anti-islet cell and anti-insulin antibodies) in a large cohort of children and adolescent (aged 2-16 years) with DM (n = 450) investigated at their first presentation at Hamad General Hospital Diabetes Center, Doha, Qatar (2012: 2016)

Results

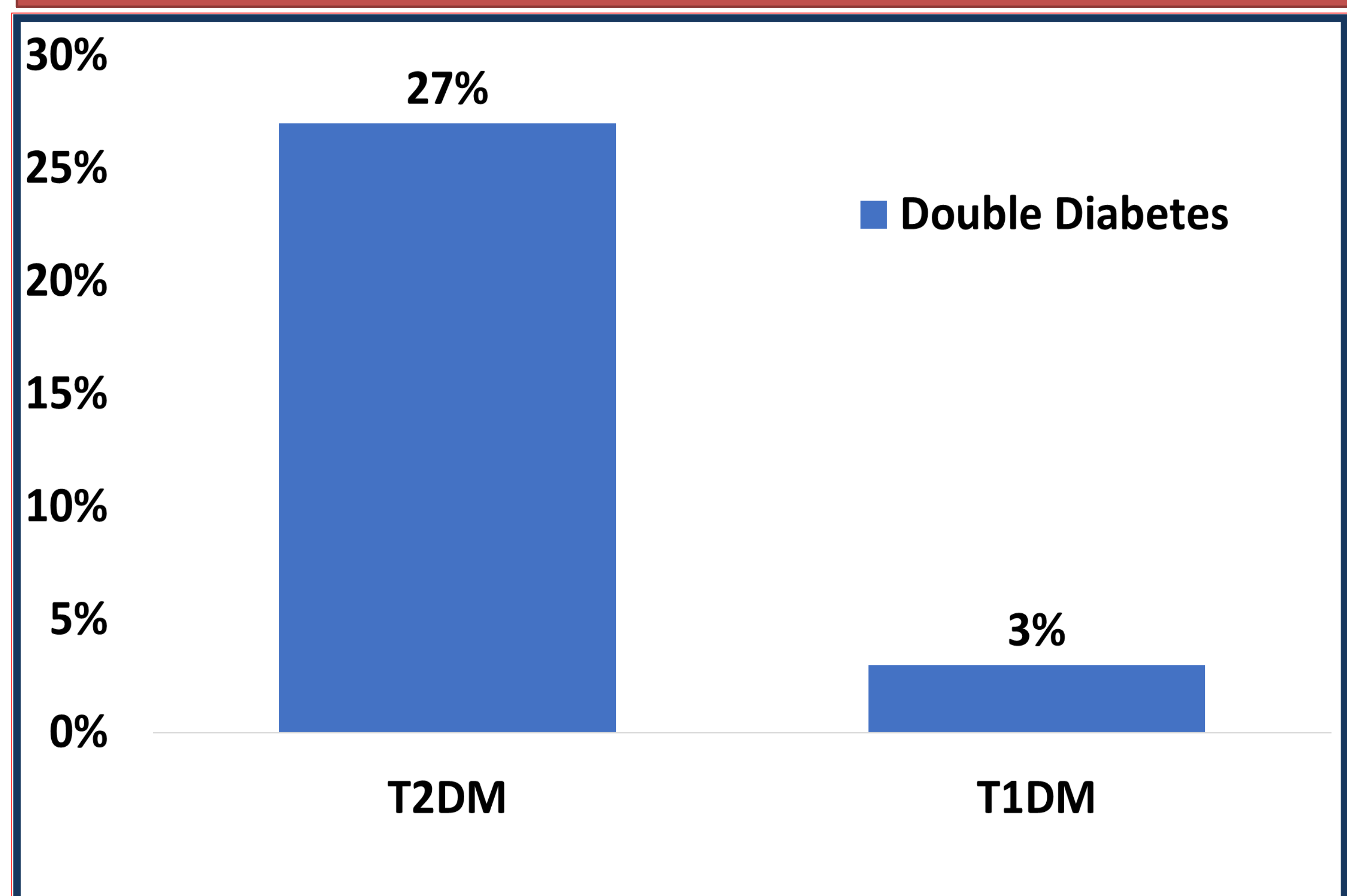
Out of 450 diabetic children, 59 had T2DM. Out of those 14 had obesity with AN, family history of metabolic syndrome and normal C peptide level the characteristics of DD with autoantibodies against beta cells.

Results

All the 14 had anti GAD antibodies, 5 had anti islet cell antibodies and 7 had anti-insulin antibodies.

This gives DD a prevalence of 3.1% in our diabetic patients with T1DM and 23.7% of patients of patients with T2DM

Prevalence of DD in T1DM and T2DM in children



Discussion

The high prevalence of obesity in children and adolescents in Qatar appears to result in this new expression of diabetes mellitus designated as DD.

The entity encompasses the autoimmune load of T1D and the metabolic load of T2D.

There is no consensus on the best therapeutic modality for this new expression

Conclusions

Double diabetes has a frequency of 23.7% in our children and adolescents with T2DM.

Optimum therapeutic options must address the coexistence of both metabolic and autoimmune components of diabetes mellitus in these patients

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