



Type 2 Diabetes Melitus in Adoloscents: A Call for Action

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Editorial

In recent times, there has been an alarming increase in the prevalence of Type 2 Diabetes Melitus (T2DM) in adolescents worldwide [1]. Once it was believed that type 2 diabetes is a disease of adulthood, however the current data suggests that there is unique differences between the adult onset and adolescent onset T2DM in terms of pathophysiology, clinical course, complications and management. Hereby I emphasize the need for future research, government initiative and awareness regarding this entity for better health outcome of adolescents.

Prevalence on the Rise

Recent U.S. data [2] suggests stark increase in the prevalence of type 2 diabetes in adolescents secondary to unhealthy eating habits, sedentary lifestyle and higher prevalence of maternal diabetes. Prevalence of diabetes is more common among obese individuals with more than 90% of patients suffering from type 2 diabetes in adolescent period are obese and have family history of diabetes [3]. The future prediction model predicts that the number of individuals with diabetes in this age group is going to double or even quadruple by 2050 which indicates urgent redressal of the issue.

Rapid Progressive Clinical Course

Adolescents with type 2 diabetes often have very aggressive disease course. They experience rapid decline in beta cell function, higher rate for treatment failure and the early onset diabetic complications [4]. Early onset microvascular complications like nephropathy retinopathy and macrovascular complications like cardiovascular disease and cerebrovascular accidents lead to significant morbidity

and mortality. Comorbid conditions like non alcoholic fatty liver disease (NAFLD), obstructive sleep apnea (OSA) dyslipidemia, hypertension, dyspepsia and polycystic ovary disease (PCOS) add significant morbidity in this population. This has huge implications on health of adolescents and it leads to diminished quality of life.

Lack of Therapeutic Options

Management of type 2 diabetes in adolescents is challenging. Most of the times the individuals are not matured enough and thus remain at a denial mode. The compliance with the prescribed diet and exercise is the poor due to immaturity and socioeconomic conditions. Until recently insulin and metformin were the only agents approved for use below 18 years of age. Recent data suggests Glucagon like peptide 1 analogue (GLP1a) and SGLT 2 inhibitors (SGLT2i) can be used in adolescent age group safely [5,6]. However long term data with these agents is yet not available and they are often underutilized agents in this age group.

Broader Impact

Being diagnosed as type 2 diabetes has huge impact on the mental and social health of an individual. The prevalence of depression, anxiety and other mental disorders are high in this population. Associated NAFLD and PCOS also leads to additional health related issues. For adolescent girls, future adverse pregnancy outcomes perpetuate the intergenerational health risks.

The Way Forward

To combat this multifaceted epidemic a comprehensive course of action is necessary. There should be aggressive screening

for diabetes in adolescents, especially for those who are obese have family history of diabetes and ensure treatment with immediate effect. Those who have risk factors should be educated about healthy diet and active lifestyle measures to prevent diabetes at an earlier age. School and community program and mass media campaign regarding this epidemic may improve awareness among general population.

On a research front, more emphasis should be given to the current knowledge gap for this entity. Active research on pathophysiology, contribution of genetic and environmental factors, detailed evaluation for prevention of complication and long term data on therapeutic options in this age group should be actively sought for. More collaborative and multidisciplinary research approach is necessary for better understanding of this complex disorder.

Conclusion

The rising prevalence of T2DM in children and adolescents represents a public health crisis with far-reaching consequences. The lack of knowledge regarding pathophysiology and limited therapeutic potential makes the fight more difficult for the professionals. More emphasis should be put on prevention of disease by implementing healthier lifestyle among adolescents and childhood. Regular screening for complications and enhancing therapeutic options are required to mitigate the impact of this devastating disease.

This editorial urges policymakers, healthcare providers, and researchers to collaborate in addressing the challenge of youth-onset type 2 diabetes. Although the task is huge, it is not impossible to work collaboratively to reverse the tide of the ongoing epidemic.

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