

Spectrum of Depression in Children and Adolescents with Type 1 Diabetes—Report of Three Cases

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ABSTRACT

Sparse literature is available on mental health in the context of diabetes in children and adolescents of developing countries, such as India. We report three cases of depression in children and adolescents who are suffering from type 1 diabetes mellitus (T1DM). We found a spectrum of depression ranging from double depression to depression with somatic syndrome to severe depression with psychosis in diabetics of these age groups. We suggest that further original research may be directed in the arena of mental health in children and adolescents.

Keywords: Child and adolescent, Depression spectrum, Diabetes mellitus.

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INTRODUCTION

Type 1 diabetes is a disorder of impaired insulin secretion and glucose metabolism. The initial diagnosis is most commonly made in children and adolescents who often present with an acute illness followed by several weeks of polyuria, polyphagia, polydipsia, and weight loss. Sometimes, the diagnosis is incidental during a routine blood sugar test. Diagnosis of type 1 diabetes and its management is a significant stressor for children and parents.¹ In 2007, the total child population of the world (0–14 years) was estimated to be 1.8 billion, of whom 0.02% had diabetes. Approximately, 440,000 children around the world have diabetes at any given time and 70,000 new cases are diagnosed each year.² The estimated prevalence of a psychiatric disorder was 47.6% in one longitudinal investigation of 92 children (ages 8–13 at the time of diagnosis) followed for 10 years with major depression being the most frequent diagnosis at 27.5%, followed by conduct and anxiety disorders. The highest incidence of depression was in the 1st year after diagnosis.³ Mood disorders, such as major depressive disorder and dysthymia, are the most frequently reported diagnoses in youth with type 1 diabetes, with a cumulative probability of 27.5% by the 10th year of type 1 diabetes duration.⁴ Sparse literature is available on mental health in the context of diabetes in children and adolescents of developing countries, such as India.

Aim

To describe rare cases of depression in type 1 diabetes in childhood and adolescents.

Objectives

- To understand depression in children and adolescents with chronic medical conditions, such as diabetes.
- To appreciate challenges in the assessment, diagnosis, and management of depression in pediatric diabetes.

CASE DESCRIPTION

Case 1

Master Abc, a 15-year-old boy with type 1 diabetes in pediatrics ward who was under evaluation for fever and abdominal pain, was referred to the child and adolescent psychiatry clinic in view of sadness of mood, anger outburst, crying spells, and behavior

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problems. The patient reported that for the past 1 year he was sad, feeling hopeless, helpless, crying, not getting good sleep, and feeling that he is a burden to his family. There was no family history of psychiatric illness and developmental delays. His medical history revealed that he had raised blood glucose level and his HbA1C was 11.40% and was on daily insulin injections since 1 year. His mental status examination confirmed that he had depressed mood and affect and depressive cognitions of hopelessness, helplessness, worthlessness, and schemas of loneliness. He was diagnosed with depressive disorder, current episode moderate with somatic syndrome with diabetes mellitus and stressors related to coping with illness, and perceived financial burden to parents. He was started with tablet escitalopram 5 mg titrated to 10 mg once a day (OD) along with cognitive behavioral therapy. He showed good improvement in his depressive symptoms.

Case 2

Miss Xyz, a 12-year-old girl, a known case of type 1 diabetes since 4 years, admitted in the pediatrics ward for fever, vomiting, and loose stools, was referred to the child and adolescent psychiatry clinic in view of sadness of mood, refusal to eat food, not talking with family members, and irritability. She was complaining of feeling depressed since the past 4 years but not that severe and was able to carry on with her daily activities. She had feelings of sadness and hopelessness since the past few years on a daily basis, but since the past 6 months she had become more depressed and was crying a lot. She felt that she was a burden to her family and was finding it difficult to cope with her repeated medical

admissions. She was not able to go to school regularly and missed her friends. There was no family history of psychiatric illness and developmental delays. Her medical history revealed raised blood glucose level and her HbA1C was 10.30% and was on daily insulin injections. Her serum creatinine was high, probably due to diabetic nephropathy. Her mental status examination confirmed that she had depressed mood and affect and hopelessness, worthlessness, and rumination of thought. She was diagnosed with dysthymia with depressive disorder (double depression) and diabetes mellitus, and stressors related to coping with illness. She was started with tablet escitalopram 5 mg OD and titrated to 10 mg OD over 2 weeks with regular counseling and cognitive behavioral therapy. The patient showed improvement in depressive features and her adherence to her diabetes treatment also improved and she is on regular follow-up in liaison with pediatrics.

Case 3

Master Abc, a 13-year-old boy, a known case of type 1 diabetes since 5 years, was referred from the pediatric ward to the child and adolescent psychiatry clinic in view of behavioral problems, namely, irritability, not cooperating properly with treatment, getting angry, refusing to eat food, and being quarrelsome. Caregivers reported that there was history of sadness of mood, ideas of hopelessness, and helplessness and that he had lately become suspicious towards others, feeling that others are talking about him and laughing at him. He was feeling guilty and asked for repeated forgiveness from his parents for being a burden to them. He had started expressing ideas that he does not want to live any longer and was not cooperating with treatment properly. There was no family history of psychiatry illness or any developmental problems. His medical history revealed raised blood glucose level and his HbA1C was 9.70%. He was on daily insulin injections. His mental status examination showed that he had depressed mood and affect and depressive cognitions. His thought examination showed delusion of guilt and persecution secondary to his mood state. He was diagnosed with depressive disorder and severe episode with psychotic features with diabetes mellitus. He was started with tablet fluoxetine 10 mg and risperidone 2 mg along with cognitive behavioral therapy. He showed improvement in depression.

DISCUSSION

It is important to highlight that depression may be underdiagnosed in children with diabetes because of the overlap of symptoms, such as fatigue, weight loss, and impaired memory, which are common in both mood disorder and fluctuations in blood glucose levels, such as hypoglycemic episodes and chronic hyperglycemia may directly contribute to alterations in behavior and mood.^{5,6} Patients with poor metabolic control were three times more likely to be depressed than those with good control and that for each 1% rise in HbA1C, there was a 27% increased probability of depression.⁷ Depression may affect adherence to diabetes treatment due to decreased interest, energy, and motivation, which subsequently cause poor diabetic control and may worsen symptoms of guilt or hopelessness.⁸ Depression in young people with T1DM has a variety of consequences including poor glucose control due

to nonadherence to medication, which can negatively impact long-term health outcomes. Depression can lower the quality of life and increases suicide rates. Suicidal thoughts in the 1st year after T1DM diagnosis are related to poor compliance with diabetes care. Adolescents are already a high-risk group for suicide due to the challenges of puberty, peer pressures, and independence from parental control.⁹ Diagnostic criteria for depression are the same for children and adults, with the exception that children and adolescents may express irritability rather than sad or depressed mood, and weight loss may be viewed in terms of failure to reach appropriate weight milestones. Treatment of childhood and adolescent depression consists of psychotherapy, pharmacotherapy, or a combination of these.¹⁰

CONCLUSION

Depression can exist in children and adolescents with type 1 diabetes. We found a spectrum of depression in the case series ranging from double depression to depression with somatic syndrome to severe depression with psychosis in children and adolescents with diabetes. Further studies are required in the arena of mental health problems in children and adolescents who suffering from T1DM.

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