



Continuous Glucose Monitoring Results of Our Cases With MODY Type 2 Diabetes

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INTRODUCTION

- The most common type of diabetes in childhood is type 1 diabetes. The group of diabetes called MODY (maturity onset diabetes of the young) is much more rare.
- Mutations that occur in the MODY 2 glucokinase gene cause disruption in the perception of the resultant glucose level and, consequently, impaired insulin release, leading to the development of diabetes.
 - Because of mild, non-progressive hyperglycemia, medical treatment is rarely recommended to the patients.
- In our clinic, we performed continuous glucose monitoring (CGM) in 8 patients who were diagnosed with MODY 2 by genetic analysis. With this study we aim to reveal the presence of hyperglycaemic periods in a day.

Case number	Gender	Main Complaint	Age Of Diagnosis (year)	First Hba1c (%)	GCK Mutation Type
1	F	Asymptomatic	2,81	6,8	p.M393T
2	F	Asymptomatic	14,9	6,1	p.L244P
3	F	Polyurea, polydipsia	3,6	4,9	p.L244P
4	F	Asymptomatic	17	6	p.L244P
5	M	Asymptomatic	7	5,8	p.L244P
6	M	Stres-induced hyperglycemia	11	6,5	p.R36W
7	M	Polyurea, polydipsia	14,9	6,8	p.V182M
8	M	Stres-induced hyperglycemia	11	6,4	p.M393T

- ✓ 8 patient with heterozygous GCK mutation
- ✓ CGM performed up to 6 days
- ✓ Male / female ratio: 1/1
- ✓ 2 patient attend with classical diabetes mellitus symptoms, and 2 other attend with stres-induced hyperglycemia
- ✓ Majority of patients (4/8) diagnosed while they are asymptomatic.

Case Number	Age (year) at CGM	Hba1c (%) at CGM	C-peptid (ng/mL) at CGM	Number Of Glucose Measurement	Glucose (%) >150 (mg/dl)	Glucose (%) >200 (mg/dl)
1	6,9	6,4	1,05	1307	27,6	0,1
2	16,72	6,2	1,79	1303	27,9	0,7
3	7,75	6	1,83	1188	32,4	1,5
4	18,1	6,1	1,47	1710	27,6	1,5
5	9	6,1	0,9	1306	47,8	2,9
6	11,08	6,4	5,94	1581	18	0,6
7	17,96	7,1	1,59	1353	29,6	2,4
8	14,58	6,9	3,44	1498	31,3	1,6

CONCLUSION

Although the HbA1c values of the MODY-2 patients were generally below 7.5, all patients showed a glucose elevation of about 50% and a high blood sugar value of 0.1-3% in relation to lifestyle and nutritional status. As can be seen from these patients, as long as they do not obey certain rules, they will not develop symptoms during the day but will have high sugar levels that can cause damage in the future similar to that caused by other types of diabetes. We think that continuous glucose monitoring, which will be applied from time to time in adolescents, may be useful for awareness and reminding the importance of lifestyle change.

