



THE ROLE OF CONTINUOUS GLUCOSE MONITORING SYSTEM ON THERAPY OF CYSTIC FIBROSIS RELATED DIABETES IN YOUTH – PILOT PROJECT

Todorovic S¹, Milenkovic T¹, Minic P^{2,3}, Mitrovic K¹, Sovtic A^{2,3}, Rodic M², Vukovic R¹, Plavsic Lj¹

¹ Department of endocrinology of the Institute for Mother and Child Health Care of Serbia “Dr Vukan Čupić”, Belgrade, Serbia

² Department of pulmonology of the Institute for Mother and Child Health Care of Serbia “Dr Vukan Čupić”, Belgrade, Serbia

³ Medical Faculty University of Belgrade, Serbia

INTRODUCTION

Cystic fibrosis related diabetes (CFRD)

- ▣ One of the most common complications of CF
- ▣ Great impact on:
 - Progressive deterioration of lung function
 - Poor growth
 - Increased mortality
- ▣ Need for early detection of disturbance of glucose metabolism
- ▣ Current recommendations
 - Screening begins at the age of 10
 - Oral glucose tolerance test (OGTT)
 - It can't reveal the initial glucose disturbance

Continuous glucose monitoring system (CGMS)

- Application of this method for diagnostic purposes in CF – not yet
- Earlier detection of hyperglycemia enables interventions – dietary changes or introducing insulin therapy

OBJECTIVE

- Evaluate the profile of glucose in patients with CF followed up in a single centre
- Indications for CGMS:
 - Abnormalities during OGTT
 - Hyperglycaemia detected during regular visits

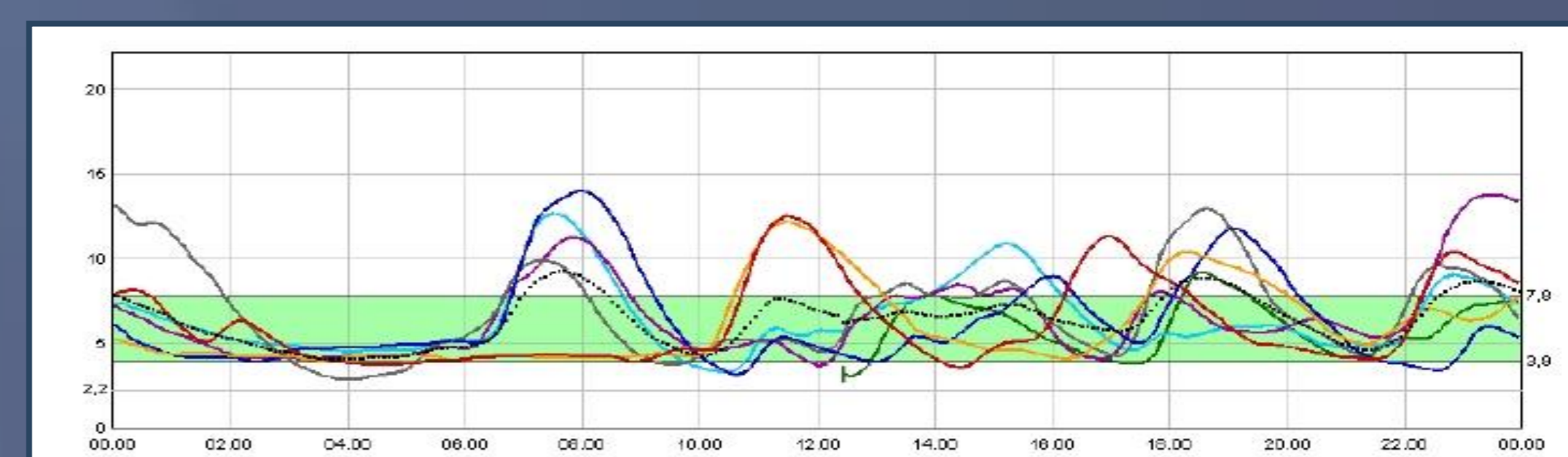
METHOD

- Patients were recruited 2015. -2016.
- Glucose meters and strips were provided
- 4 blood glucose measurements (BGM) per day
- CGMS - iPro2 Medtronic, 7 days
- Diary for all BGM and food intake
- No corticosteroid therapy

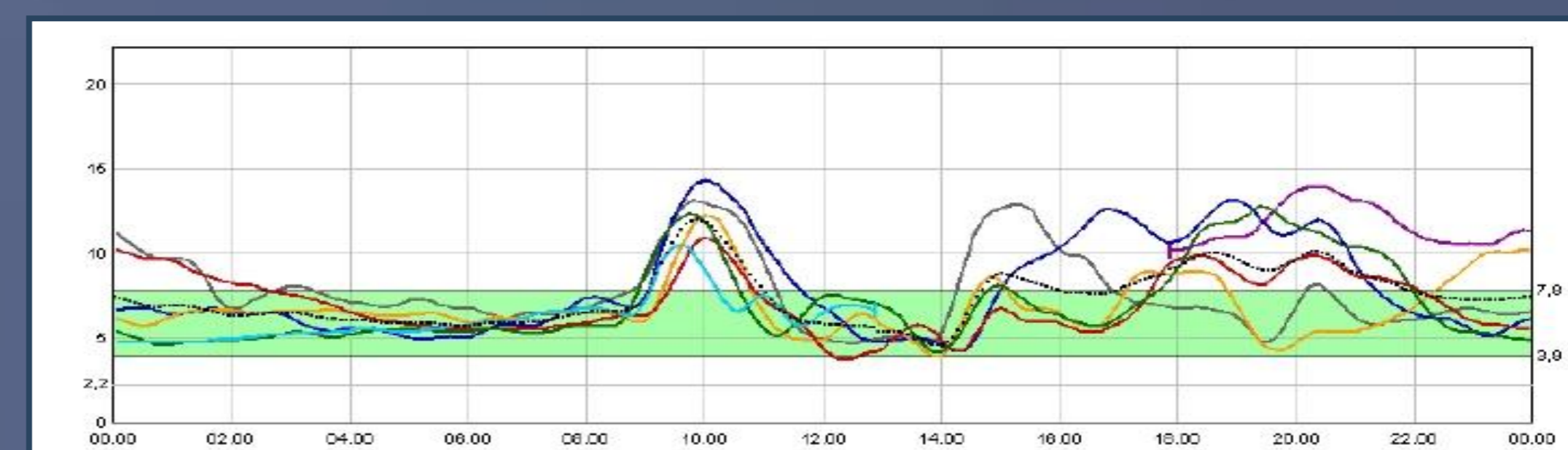
RESULTS

- 14 patients (4 males)
- Mean age 21.6 years (11.1-36.8)
- **CGMS:**
 - In 10 – peaks of glucose > 11 mmol/l
 - After meals even above 19 mmol/l
 - Asymptomatic low glucose – in all 14
 - Dietary habits changes – all 14
 - Insulin treatment – 3 patients

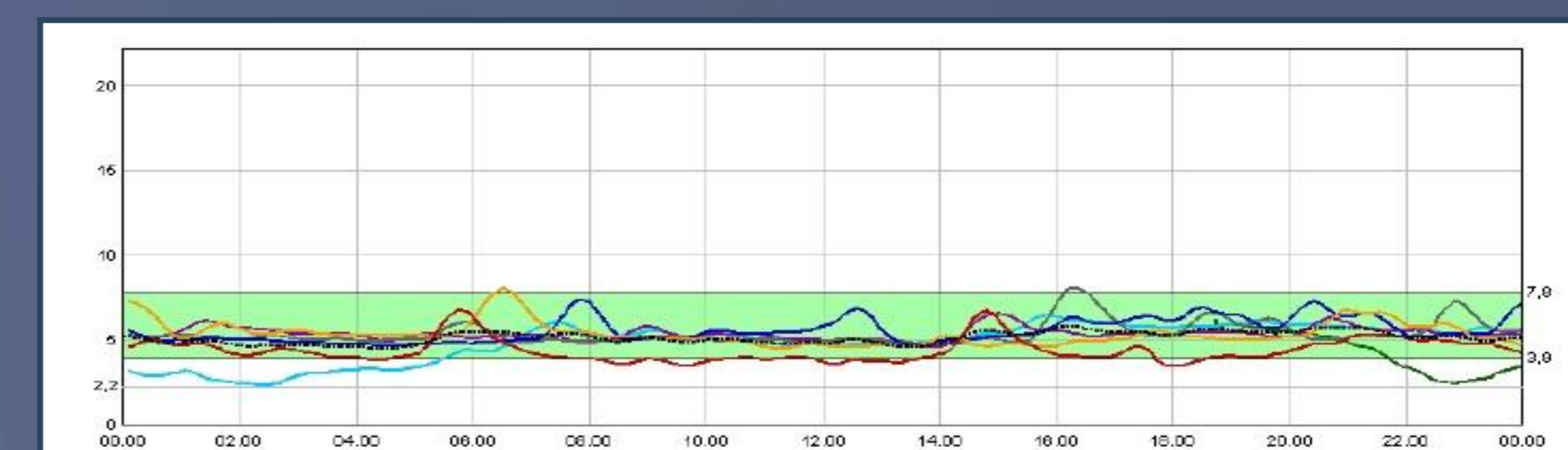
SAMPLES



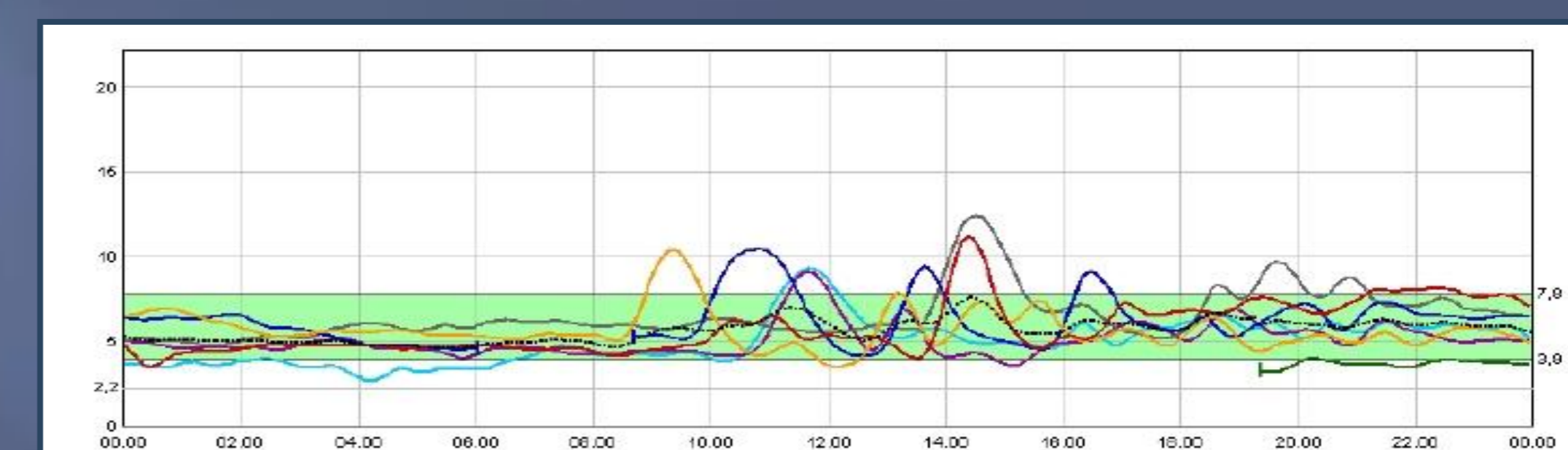
REGULAR INSULIN – often eating



INTENSIVE INSULIN THERAPY – analogues

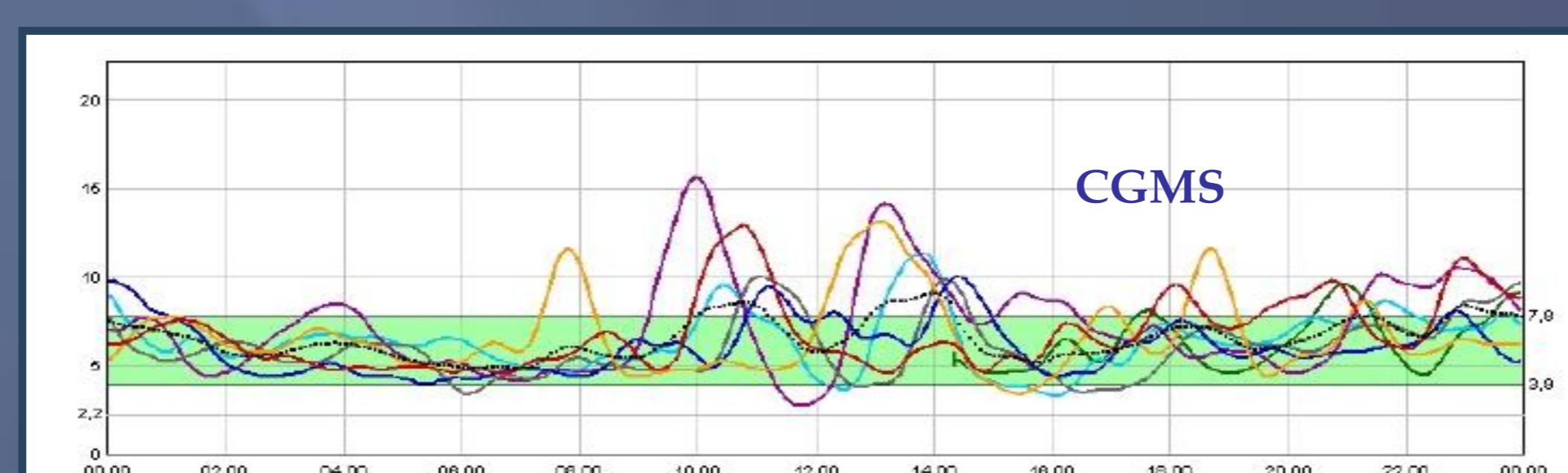
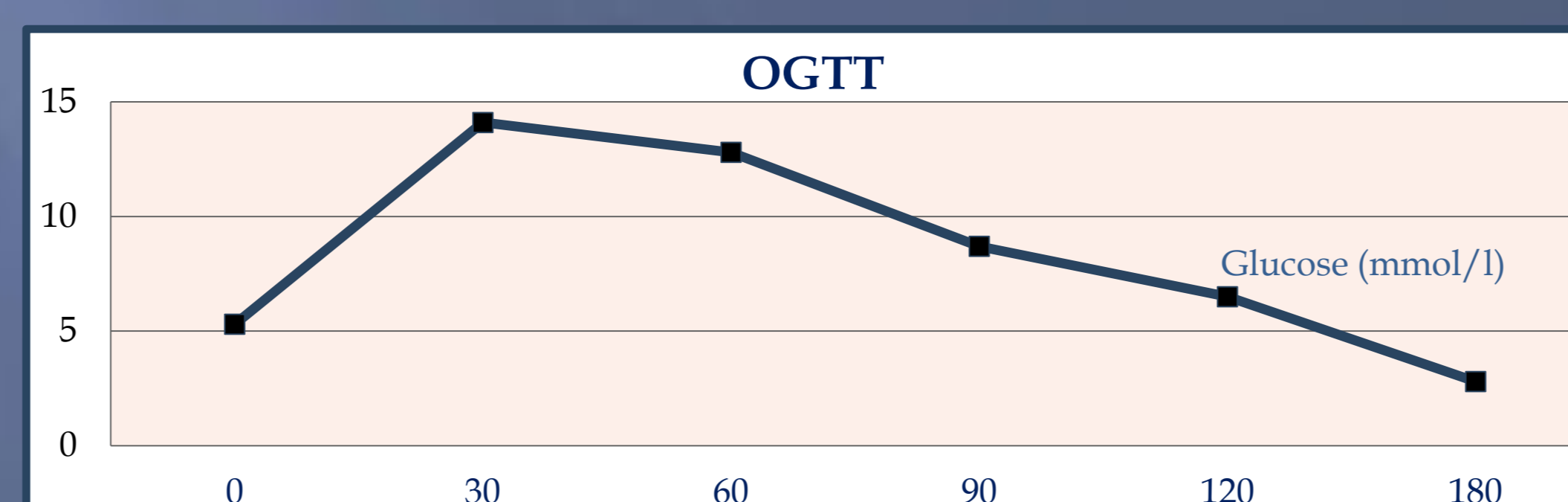
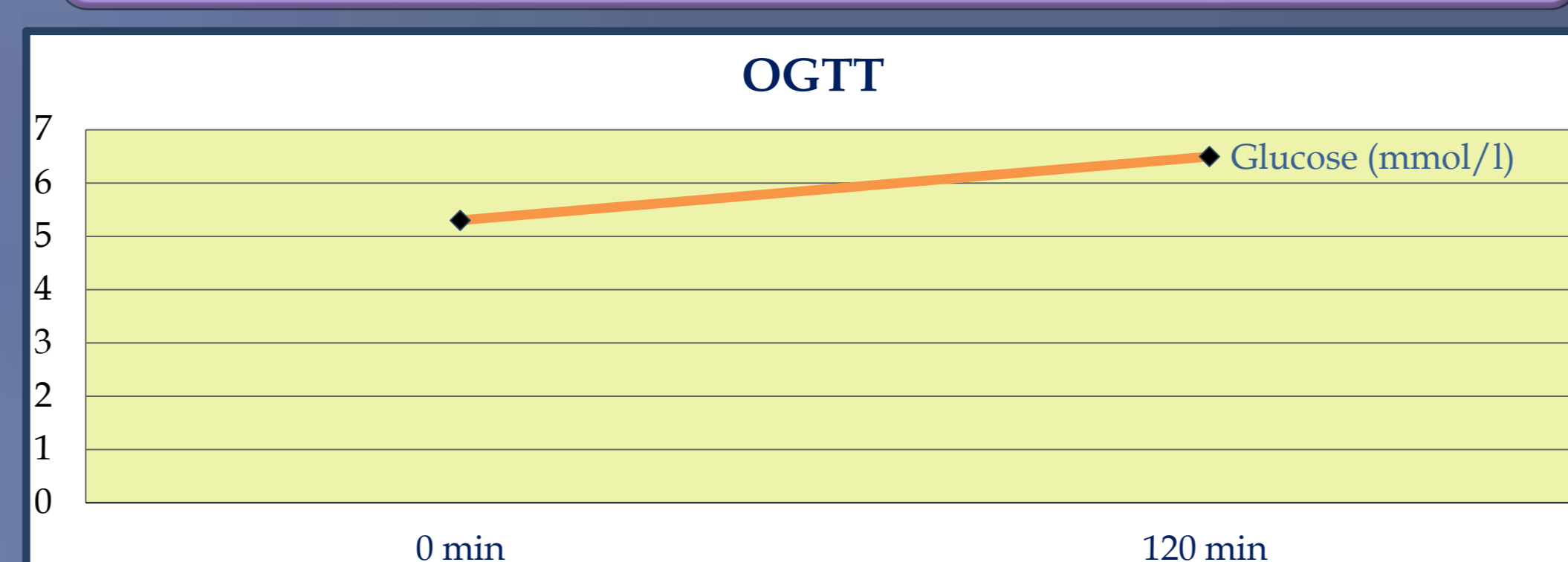


DIETARY CHANGES – low glucose



DIETARY CHANGES – low glucose during night, high after meals

GLUCOSE METABOLISM TESTS



CONCLUSIONS

- We observed abnormal glucose values in almost all patients
- CGMS allows better insight in glucose impairment than OGTT
- CGMS can reveal elevated glucose in real time, during normal activities
- Insulin therapy can be initiated early

Contact informations:
Sladjana Todorovic, MD
 Institute for Mother and Child Health Care of Serbia
 “Dr Vukan Čupić”
 Radoja Dakica 8
 11070 Belgrade, Serbia
 Telephone: +381 11 3108 193
 E-mail: sladjat71@gmail.com

