



INTENSIVE THERAPY WITH INSULIN PUMP IN TYPE 1 DIABETES MELLITUS

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Background

Continuous subcutaneous insulin infusion (CSII), alongside multiple daily injections (MDI) are the most frequent therapeutic modalities of type 1 Diabetes Mellitus (DM).

Objectives

We aimed to evaluate the effects of the transition from MDI to CSII in the treatment of type 1 DM.

Material and Methods

This retrospective longitudinal study analyzed patients that received treatment with CSII from 2006 to 2014. We evaluated values such as weight, HbA1c, serum glucose, lipid profile, creatinine, weekly frequency of hypoglycemia (<70mg/dL) and hyperglycemia (>200mg/dL) as well the presence of microvascular complications. The effects of CSII were compared according to the following subgroups: HbA1c pre-CSII ($\leq 7.0\%$ vs $> 7.0\%$); age (≤ 35 years vs > 35 years); sex distribution; duration of disease (≤ 15 years vs > 15 years); presence of microvascular complications.

Results

N = 85 patients

- 58.8% women, **medium age** of 37 ± 11 years and **medium duration of disease** of 15 ± 9 years.

↓ Weekly frequency of episodes of hypo and hyperglycemia

- Hypoglycemia → 3.0 (1.5-6.0) vs 2.0 (1.0-3.9); $p=0.001$
- Hyperglycemia → 5.5 (3.0-7.0) vs 2.5 (1.8-4.5); $p<0.001$

Conclusion

The CSII therapy is more effective than MDI as demonstrated by the significant reduction of hypoglycemia and hyperglycemia episodes. We also observed benefits in the reduction of HbA1c with the CSII treatment in the HbA1c $> 7.0\%$ subgroup (worst metabolic control).

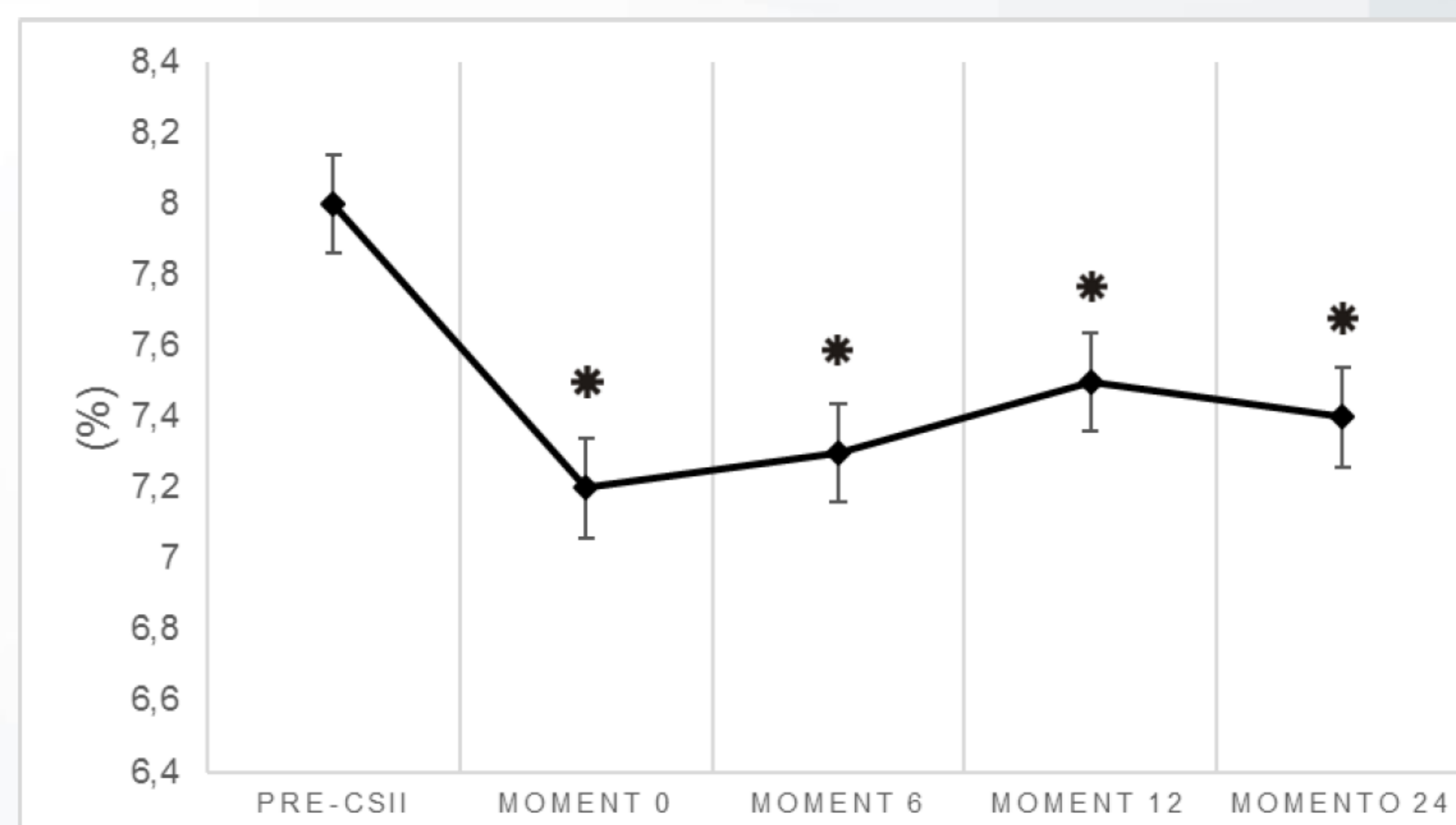


Figure 1. Median HbA1c (%) values through the moments of the study. * $p < 0.001$ in comparison with MDI regimen value (Pre-CSII)

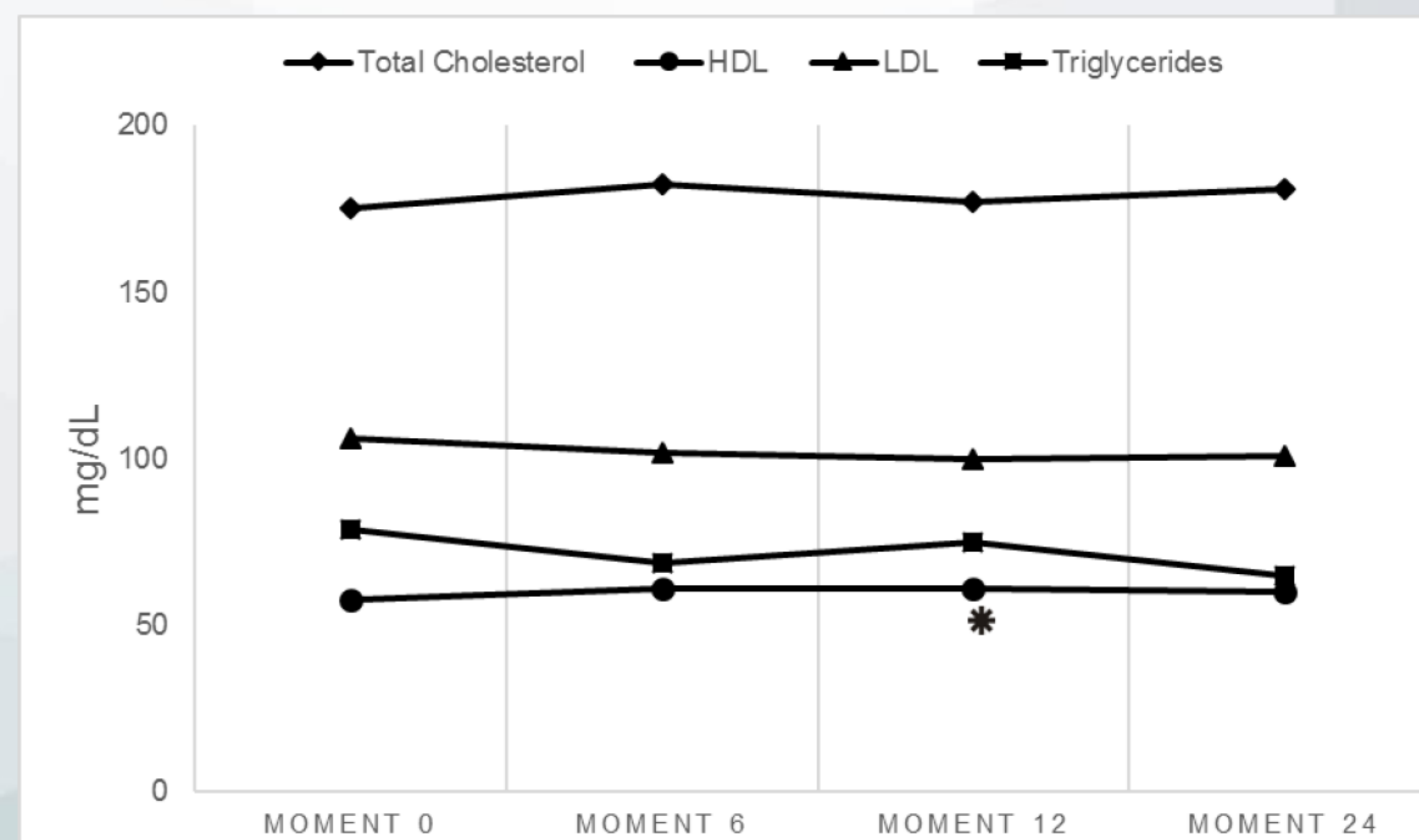


Figure 2. Median value variation of lipid profile through the moments of the study. * $p < 0.05$ in comparison with moment zero.

