

MEETING ABSTRACT

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Glycemic control affecting the autonomic modulation in type 2 diabetes

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Background

Diabetes Mellitus (DM) is a chronic disease with high morbidity and mortality and one of the most important risk factors for developing cardiovascular disease. DM is associated with cardiac autonomic dysfunction.

Objective

To evaluate if the glycemic control affects cardiac autonomic modulation in individuals with type 2 diabetes.

Materials and methods

We evaluated 49 patients (51.2±7.7 yrs.) with a confirmed diagnosis of diabetes. The subjects were randomized in two groups according to glycated hemoglobin-HbA1c: HbA1c < 7% and HbA1c >7%. The fasting plasma glucose and HbA1c were performed in a specialized laboratory and HR and iRR were recorded for 10 min in the supine position. Statistical analysis included Shapiro-Wilk Test, Mann Whitney Test and Spearman Correlation.

Results

Diabetics with HbA1c>7 presented lower values of all HRV indices compared to diabetics with HbA1c<7 (mean iRR=844.25±117.64 vs 928.47±67.83 ms; STDRR=21.13±12.85 vs 34.92±19.51 ms; RR Tri=5.57±3.07 vs 9.02±5.12; TINN=107.82±65.72 vs 149±50.32, SD2=37.70±19.11 vs 61.94±25.06 ms, except for mean HR (72.45±9.55 vs 65.12±4.91 bpm) where was higher in HbA1c>7 group. HbA1c was negatively correlated with mean iRR (r=-0.28); STDRR (r=-0.33); RRTri (r=-0.35), SD2(r=-0.39) and positively with mean HR (r=0.28). Whereas fasting plasma glucose was negatively correlated with SD2 (r=-0.42); STDRR (r=-0.36), RRTri (r=-0.36) and TINN (r=0.33).

Conclusion

These findings suggest attenuated cardiac autonomic response in diabetics type 2 with poor metabolic control.

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