LONG TERM FUNCTIONAL PROGNOSIS IS WORSE FOR PATIENTS WITH CHRONIC HYPERGLYCEMIA

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INTRODUCTION

Diabetes and acute hyperglycemia are known to increase stroke volume and disability in stroke patients, and deliver worse outcomes after reperfusion therapies. Chronic glycemic status has recently been linked to stroke functional outcome, but its impact on long term prognosis of stroke has rarely been studied. We conducted a study to investigate the impact of glycosylated hemoglobin (HbA1c) levels on functional outcome 1 year after stroke.

METHODS

Patients with acute stroke or TIA were prospectively included. Sociodemographic factors, premorbid conditions, and clinical, biochemical and hematological parameters that were considered as possible prognostic factors in previous studies were collected, as well as modified Rankin Scales (mRS) scores at different times. Multivariate logistic regression analyses were conducted to identify factors related to achieving functional independency 1 year after stroke. HbA1c levels higher than 6,4% were considered as pathologic.

RESULTS

Table 1. Sample Characteristics

Variable	Total (n=382)	HbA1c ≤ 6,4 (n=93)	HbA1c > 6,4 (n=38)	p
Age (Mean;y)	73,9	72,8	73,4	Ns
Sex (Male;%)	54,2	55,1	64,8	ns
TIA (%)	19,1	17,4	16,9	Ns
Cardioembolic	24,9	24,6	22,5	Ns
TACI (%)	12,3	12,3	8,5	Ns
NIHSS (Mean)	5,6	5,3	4,7	ns
Hypertension (%)	74,6	72,5	84,5	0,052
Diabetes Mellitus (%)	36,1	20,3	85,9	< 0,001
Dyslipidemia (%)	42,9	30,4	60,6	< 0,001
Atrial Fibrillation (%)	15,7	13,8	9,9	ns
Ischemic Heart Disease (%)	15,2	6,5	22,5	0,001
Triglycerides (Mean;mg/dL)	4,9	5,1	4,8	ns

Table 2. Prognostic factors for independency 3 months after stroke

Variable	OR	IC 95%	P
PD ≤ 180	4,155	1,435 – 12,033	0,009
Sex (Male)	2,907	1,102 – 7,690	0,031
Uric Acid	1.010	10.001 – 1.019	0,043
Onset NIHSS	0,832	0,752 – 0,919	<0,001
Previous mRS	0,286	0,189 – 0,433	< 0,001
Hb A1c > 6,5	0,190	0,064 – 0,568	0,003
Infectious comorbidity	0,037	0,006 – 0,249	0,001

Figure 1. Previous mRS

Figure 2. Onset mRS

Figure 3. mRS 3 months after onset

Figure 4. mRS 12 months after onset

■ mRS 0 ■ mRS 1 ■ mRS2 ■ mRS 3 ■ mRS 4 ■ mRS 5 ■ mRS 6

BIBLIOGRAPHY

Previous glycemic status is an independent prognostic factor for long term outcome after stroke, as patients with higher HbA1c are more frequently disabled one year after the event. We propose that HbA1c levels should be determined in all stroke patients to help physicians predict functional status after stroke.

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