



DETECTION OF CARDIAC ALTERATIONS IN PATIENTS WITH TYPE 1 DIABETES MELLITUS OF MORE THAN 5 YEARS OF EVOLUTION AND THEIR RELATIONSHIP WITH CARDIOVASCULAR RISK FACTORS.



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***The authors declare that they have no conflicts of interest.**

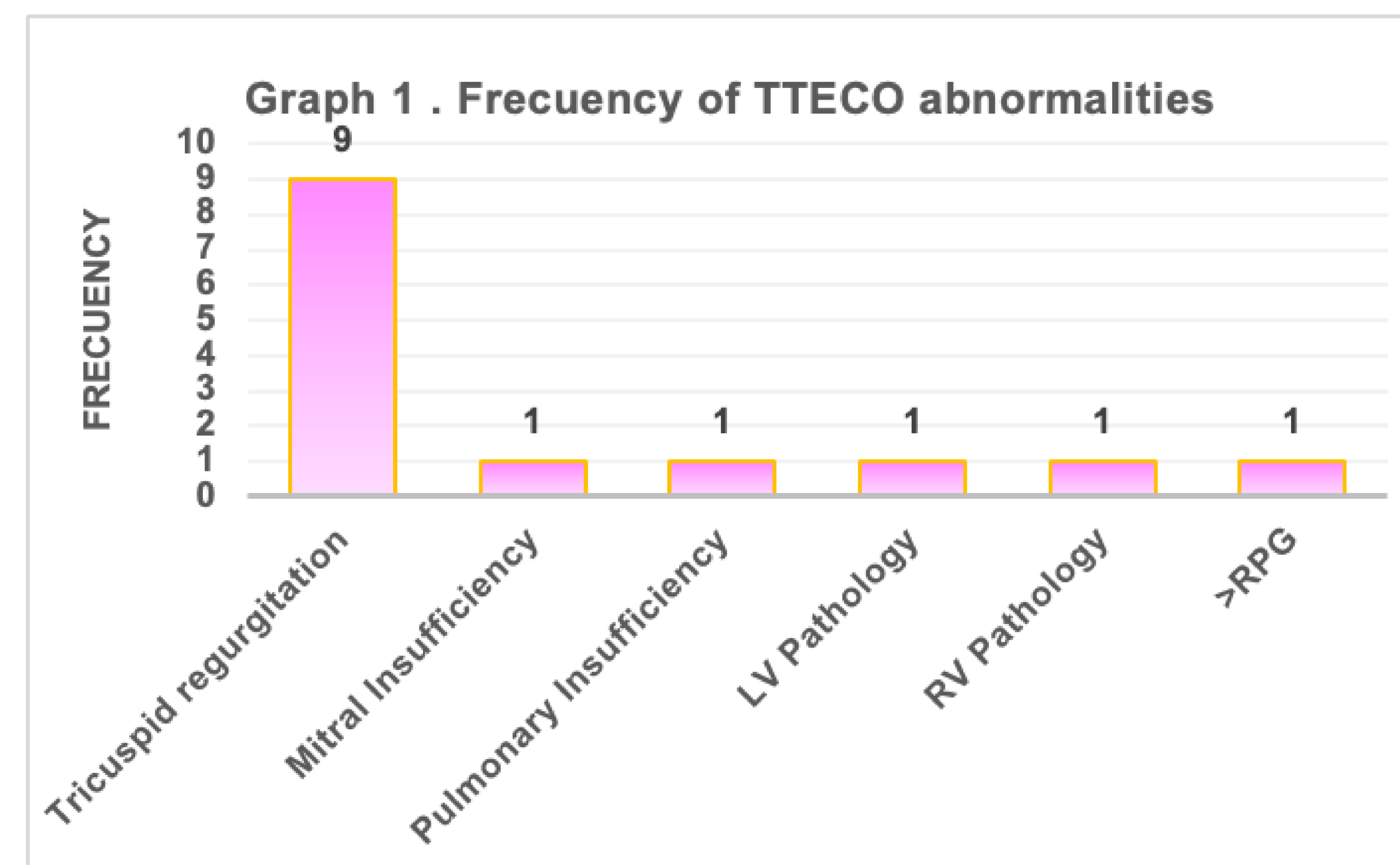
INTRODUCTION

Type 1 diabetes is a common chronic disease during childhood and with an increasing incidence. Affected young people, throughout their lives, experience increased morbidity and mortality. The burden of the disease is mainly due to the associated vascular complications that affect different organs, including the cardiovascular system. The most important factors for the development of cardiovascular disease continue to be hyperglycemia, hypertension, dyslipidemia, insulin resistance and obesity, however, the burden of these factors and the objective measurement of cardiovascular health in children with type 1 diabetes has not been established. Therefore, echocardiographic assessment can be a useful tool and objectively define cardiovascular risk in these patients. The left ventricular diastolic dysfunction is the main finding in TDM1. The AIM of our study was to detect cardiovascular alterations and their relationship with other cardiovascular risk factors in TDM1.

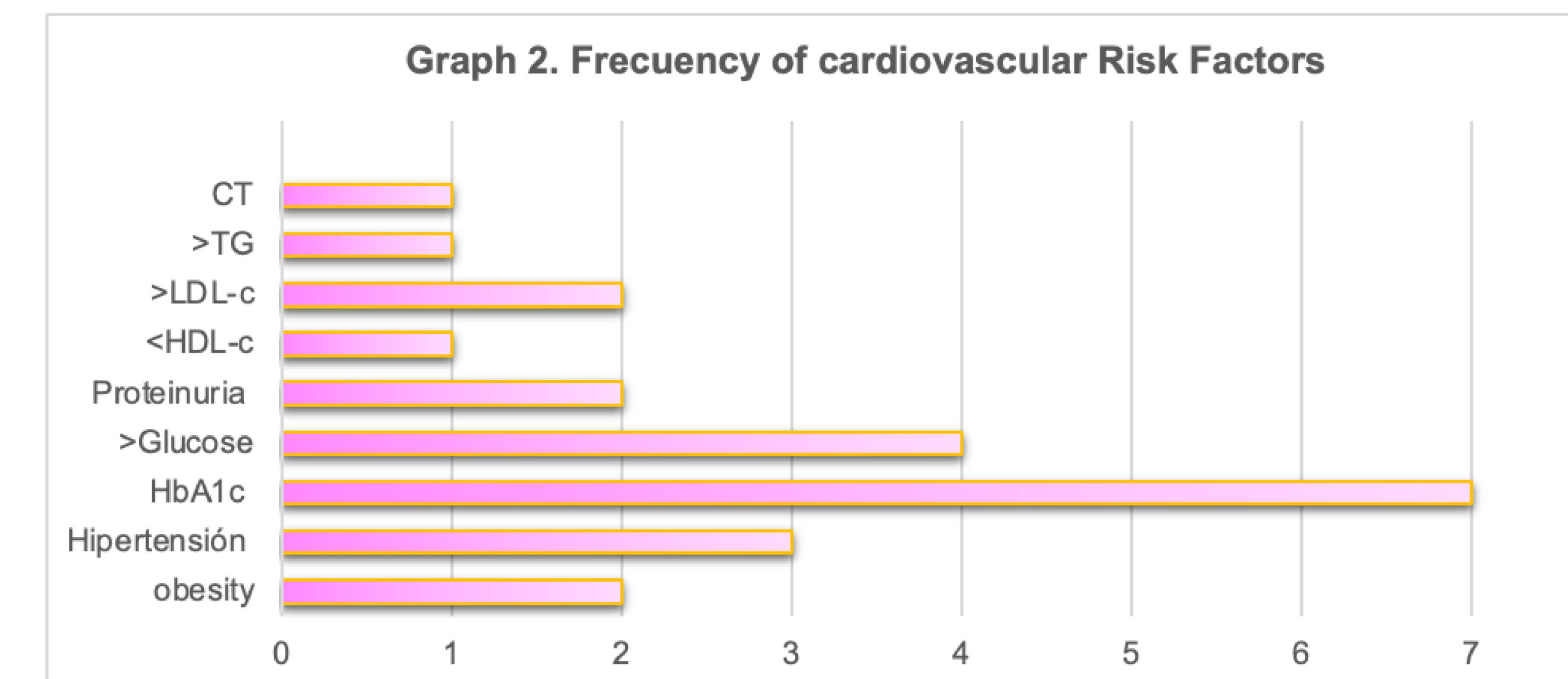
RESULTS

In total, 3 women, 6 men, with an age of 15.8 ± 1.4 , with years of evolution of TDM1 7.1 ± 2.2 . Normal electrocardiogram and chest X-ray in all 9. All had signs of mild tricuspid regurgitation.

In TTECO of 3 patients, 1 anomaly was found in each of them: mitral valve (left ventricular diastolic diameter (LVDD) upper limit) and mitral insufficiency, pulmonary valve (Systolic diameters (LVSD) upper limit in and LVDD in upper limit) with mild pulmonary insufficiency and finally in the interventricular wall (Relative wall thickness (RPG) > 0.45 , abnormal Devereux index) respectively, the latter indicating left ventricular pathology.



Cardiovascular risk factors occurred with this frequency: Total cholesterol >200 mg/dl in 1; LDL-Col >100 mg/dl in 2; HDL-Col <50 mg/dl in 1; TG >150 mg/dl in 1; Proteinuria in 2, Glucose >180 mg in 4, HbA1c $>7\%$ in 7, obesity ($>P95$) in 1. Glycemic control was suboptimal in 7 of the patients, with a mean HbA1c of 9.1% (range of 6.1 to 15.3%).). These data are represented in Graph 2.



CONCLUSIONS.

The results show a relationship between cardiac pathology and years of evolution although our P is not statistically significant. This can be explained by the size of the sample and/or the existence of other cardiovascular risk factors. Given that the first cause of death is acute myocardial infarction and stroke, cardiovascular evaluation should be part of the interventions in this group. Our work will be complemented by more patients and comparison with peers.

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MATERIAL AND METHODS.

This is a Cross-sectional, analytical study, with a approvald by the etical committees of the Children's Hospital in Ciudad Victoria Tamaulipas, México.

Nine TDM1 patients participated more than five years of evolution.

Cardiovascular risk factors were listed.

ECG (EDAN-SE12EXPRESS), chest X-ray and Echocardiogram (TTECO) (SIEMENSACUSONP500) are performed.

Z score values were obtained, data capture in Excel and analysis in STATA 11.0.

Means, frequency, OR and Fisher's exact were calculated.

