RESEARCH ARTICLE

Estimation of the Global Cardiovascular Risk in Patient of the Policlinic Jose Ramon Leon Acosta

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ABSTRACT

Introduction: The Cardiovascular Illnesses constitute the first cause of death in Cuba. To evaluate the risk of suffering them multiple charts of risk they have been created; from the proposal for Gaziano without laboratory. **Objective**: To evaluate the capacity of the charts of Gaziano in the estimate of the Global Cardiovascular Risk in patient. **Materials and Methods:** Was carried out a descriptive study, of traverse court. The population in the study was constituted by 80 patients bigger than 35 years, without antecedents of previous cardiovascular events and modernized clinical histories. **Result:** There was a prevalence of the female sex, with color of the skin target and with ages understood between 65 and 69 years with factors of cardiovascular risk as the Arterial Hypertension. Was proven that the variables of more importance were the age, the presence of diabetes mellitus and the habit of smoking. **Conclusion:** The charts of prediction of Cardiovascular Risk of Gaziano without laboratory in the studied population have a first floor and high risk of presenting a cardiovascular event and was proven that the charts are a good classifier of the patients with high cardiovascular risk.

Key words: Cardiovascular risk, charts of risk, prevention of risk, descriptive epidemiology.

INTRODUCTION

The cardiovascular illnesses (ECV) they are the pathologies that affect to the heart and the sanguine glasses; they are between the main morbimortalidad causes and high discapacidad probability. (1,2)

The cardiovascular risk (RCV), it is the probability that a person develops a cardiovascular event, in a period of certain time, or complication aterosclerótica like sharp infart of miocardic, accident cerebrovascular, any outlying arterial dysfunction or sudden death. It is calculated in function of the following factors of risk: age, sex, tabaquismo, systolic arterial pressure and total cholesterol, also, keep in mind the personal antecedent of diabetes mellitus. (3,4)

The ECV constitutes one of the most important causes in discapacidad and premature death in the entire world. The underlying problem is the aterosclerosys that progresses along the years. The coronary episodes and sharp vascular brain take place in a sudden way and they often drive to the death before the required medical attention can be excused. (5)

In Cuba during the year 2017 died by reason of the illnesses of the heart, 27 176 patients, of them 1939 belonged to the county of Villa Clara (6), being this the first cause of death in the country.

The prediction of the RCV is based on the charts created to obtain it. Those most used ones are based on the equation of risk of the study of Framingham. In the study of Framingham, it is where first the cholesterol plasmatic high total is identified, as an important FRCV. (7)

The study Framingham put in perspective the presence of factors of cardiovascular risk and they have become multiple intents to develop calculators of high value predictivo, but with the appropriate degree of simplicity for a quick implementation to great scale. (8,9,10,11)

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The evaluation of the cardiovascular risk, mainly in the first level of attention of the developing countries, it generates a contribution invaluable for the patient's handling, sitting down the guidelines of the pursuit and the intensity of the interventions, with a preventive focus of the events. (12)

The estimate of the cardiovascular risk by means of charts is fundamental to establish preventive measures adapted in patient asintomáticos but with high risk of presenting cardiovascular illness, also it will allow to establish pharmacological treatment and its periodic pursuit of to be necessary and to intervene in the same ones to achieve changes in its lifestyles. (13)

Gaziano TA et to the. (14) they recommend the use of charts of prediction of risk without the use of laboratory analysis.

In the county of Villa Clara has been carried out studies on the estimate of the cardiovascular risk in populations using the Charts of the OMS/SIH (World Organization of the International Salud/Sociedad of Hypertension, being proven that although the population presents several watering factors her probability of cardiovascular episode is low. (15)

For these reasons intended as fundamental objective to evaluate the capacity of the charts of Gaziano in the estimate of the Global Cardiovascular Risk in the patients object of the study.

MATERIALS AND METHODS

Was carried out a traverse descriptive study directed to identify the cardiovascular risk by means of the application of the charts of prediction of risk of Gaziano without the use of the laboratory (16) in the Clinic 15 of the Policlinic Jose Ramon Leon Acosta, municipality Santa Clara county Villa Clara, in the understood period of March of the 2017 to March of the 2018. The population was constituted by the 80 patients bigger than 35 years without antecedents of more cardiovascular event: IMA, stable or unstable angina; illness cerebrovascular and outlying arterial illness.

Inclusion approaches

1. Patient with ages understood among 35-75 years of age.

2. patient that are assisted in the clinic.

3. patient with will to participate in the study.

Exclusion approaches

1. The patients' transfer toward other residence places and outside of the area of health.

2. Inability mental physical y/o that prevents to participate in the study.

Exit approaches

-Patients that abandon the investigation voluntarily.

Collection of the information

To begin the development of the investigation was carried out a bibliographical revision of the topic making a meticulous analysis of the most excellent aspects in the Cuban means as at international level. It was used as technical, the documental revision that included individual clinical histories.

Statistical prosecution

The obtained data were stored and processed in the statistical package SPSS 20.0 for Windows. To characterize the sample according to variables of interest absolute and relative frequencies they were used expressed by number and percent.

RESULTS

In the investigation when applying the chart of cardiovascular risk of Gaziano, the population's 27,5% presented a moderate risk and 36,3% it represents a first floor and high risk, coinciding both percents for the groups of risk Chart 1.

Chart 1: Evaluation of the cardiovascular risk according to the charts of Gaziano

Groups of risk	Frequency	Porcentage
under risk	29	36,3 %
Moderate	22	27,5 %
high risk	29	36,3 %
Total	**80**	**100**

Source: Form of collection of data

In the study the stocking of the index of corporal mass was obtained for the group of low risk it was of 27,65 with a standard deviation of 5,23, for the group of moderate risk the stocking it was of 26,47 with a standard deviation of 4,10 and for the group of high risk the stocking of the index of corporal mass was of 28,08 with a standard deviation of 5,37.

The distribution of the basal glucemia with the different groups risks sees that the stocking for the group of low risk was of 4,64 mmol/L, for that of moderate risk of 5,39 mmol/L and for that of high risk the stocking of basal glucemia was of 5,52 mmol/L.

The stocking of the cholesterol for the group of high risk belonged to 5,34mmol/L minor that the stocking of the other groups. The stocking of the systolic arterial tension for the group of low risk was of 122 mmHg for a standard deviation of 9 for the group of moderate risk it was of 123 mmHg, the stocking for a standard deviation of 11, for the group of high risk was of 128 mmHg and the stocking for a deviation of 11 (Chart 2).

Chart 2: Distribution of the Cardiovascular Risk and clinical variables and of laboratory

	Groups of risk of Gaziano					
	Under		Moderate		High	
	Media	Standard deviation	Media	Standard deviation	Media	Standard deviation
Index of corporal mass	27,65	5,23	26,47	4,10	28,08	5,37
Hematocrit	0,40	0,02	0,39	0,03	0,42	0,03
Basal Glucemic	4,64	1,13	5,39	1,54	5,52	1,64
Creatinine seric	68,98	17,07	83,45	20,95	76,24	14,95
Uric acid	191,21	69,43	251,68	75,57	234,76	104,44
Cholesterol	6,35	2,28	6,60	1,32	5,34	1,32
Trygliceric	2,50	4,72	1,85	1,07	2,16	1,43
Tension arterial systolic	122	9	123	11	128	11
Tension arterial dyastolic	80	8	80	7	83	10
Arterial tension media	94	9	94	7	98	10

Source: Form of collection of data

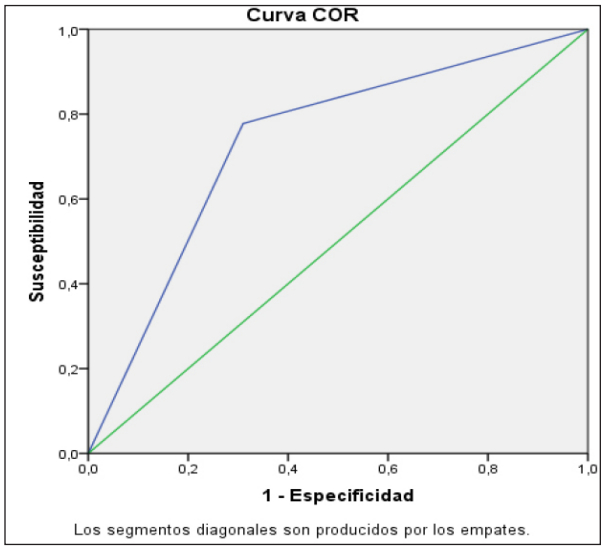

Figure 1: Sensibility and specificity for the calculation of the cardiovascular risk.Source: Form of collection of data

It is shown the sensibility and specificity among the charts for the calculation of the cardiovascular risk of the OMS and those of Gaziano without laboratory.

DISCUSSION

This way it was not results in the literature, of studies carried out applying the Charts of Gaziano without Laboratory to calculate the cardiovascular risk abroad.

In a study Not carried out in Cuba inside the population of the area of health. 33 of Cautious Christ using the charts of Gaziano without laboratory, it showed that of the 937 interviewed with ages between 35 and 74 years, they classified as high risk 27,6% of these individuals (15). In another Cuban study Not carried out in the Clinic. 18 of the area of health Guanabo that included 180 people with range of ages between 20-80 and more years, was chosen those that belonged to the group of ages 34-74 years to apply them the charts of Gaziano without Laboratory, 15% of the men it classified as moderate, high and very high risk and 21,6% of the women in that same range. (16)

As they can observe the current investigation it didn't coincide with the results found in the studies carried out in Cuba, where it was smaller the patients with high cardiovascular risk.

The antecedent of diabetes mellitus, the habit of smoking, the arterial hypertension and the obesity contributed in this order the biggest number of patient with high cardiovascular risk. They were also the most important factors of risk found in the studied patients. But the arterial Hypertension was the antecedent that more prevailed in all the groups of risk.

A study carried out by Sánchez MA included 216 914 16-74 year-old workers carried out in 2005 it showed a tobacco prevalencia: (51,3% in men) and (43,8% in women), arterial hypertension: (27,0% in men and 8,8% in women), obesity IMC>30 (18,3% in men and 13,3% in women) and diabetes (7,8% in men and 1,9% in women). (17)

The participation of the women, the same as in other carried out studies, it prevailed. (18,19,20,21)

In another study carried out in Cuba in a medical clinic of the family of Guanabo results similar to the present investigation they were picked up, Francisco Felipe Hernandez Garciga showed that the arterial hypertension is the factor of risk more prevalente, continued by the tabaquismo, the diabetes mellitus and the obesity in order of frequency with 56,6%, 21,1%, 20,5% and 13,8% respectively. (19)

Framinghan Herat Study evidenced that the vascular changes either induced by the arterial hypertension by direct pathological action or to stimulate the process aterogénico they contribute to the appearance of pathological changes in vital organs as the heart, brain, kidney, among others. The arterial hypertension increases the incidence with the age; nevertheless, this fact is not considered a relentless consequence of the aging, since in the societies where it exists a first floor consumption of sodium and healthy lifestyles its prevalencia it is low. (20)

Harmful effects have been attributed by their association with the factors of classic of high risk of cardiovascular illnesses, as the mature age (the adults are more sedentary than the youths), the excess of weight, the tobacco and the cholesterol high seric. The physical exercise increases the lipo proteins of the density, it diminishes the free cholesterol and the levels of lipo proteins of low density, for what the exercise exercises an effect protective aterosclerotic, also, also carried out in a regular way it can reduce the systolic arterial tension in 10 mmHg. (21)

It is known that the HTA constitutes a factor of risk, the most important in the old man, for the prevalencia of accidents cerebrovasculares and cardiovascular and that factors like the hiperlipoproteinemia, obesity, sedentarism and habit of smoking, although it is necessary to take care, they don't have the same degree of danger. (22)

In the study of the total of patient hipertensos in the current study 48,8% had a high risk of developing a fatal cardiovascular event.

The habit of smoking is a factor of independent risk of first order for the sharp infarto of the miocardio and it could be considered as the main amendable factor of those associated to coronary cardiopatic. The epidemic evidence was established in the study of Framingham that demonstrated an increase of the cardiovascular mortality of 18% in the men and 31% in the women that consumed more than ten cigarettes a day. (23)

The catecolaminas liberation that causes the nicotine contributes to the increase of the heart frequency and the arterial tension associated to the consumption of the tobacco, and the direct and indirect effects on the plaquetas and the cellular components of the walls of the sanguine glasses can contribute to the aterogénesis.

The nicotine is directly citotoxic for the cells vascular endoteliales and also can potenciar the tumorigenicidad inhibiting the cellular apoptosis. Another of the most excellent factors of risk to consider is the habit of smoking, grateful as the factor of risk more prevalentes and prevenibles internationally. Their fundamental deleterious effect is given by the action of the nicotine. (24)

In the current study of the total of smoking patients 57,1% was they had a high cardiovascular risk to develop in next 5 years a fatal cardiovascular event.

On the other hand the patients' 80% with diabetes mellitus dies for aterosclerosis, while the fourth 3 parts of these cases die for coronary arterial illness.

The study of Framingham notifies that the relative risk of miocardic infart is 50 higher% in men with diabetes mellitus and 150% in women with this illness that in the population without alterations in the metabolism of the hydrates of carbon. The fourth remaining part is due to a mixture of quick and outlying cerebral vascular affection, each one of those which has an incident 5 times adult in patient with this morbid square, in comparison with others of the same characteristics, but without the affection.

The diabetes mellitus in general, and that of type 2 in particular, together to other factors predisponents, they should be considered as affections of high cardiovascular risk. (25)

The investigator affirmed that of the total of studied diabetic patients 87,5% had a high risk of presenting a fatal cardiovascular event.

The obesity is associated with a state of low inflammation degree and this inflammatory process plays a pathological paper in the resistance to the insulin and the metabolic syndrome. Different

metabolic abnormalities cause cardiovascular complications and vascular brain and consequently they need a preventive therapeutic focus for the metabolic syndrome(26)

It is fundamental to determine the cardiovascular risk in an area of health so much at populational level as singular. It should be organized promotion strategies and prevention at level of big groups where the influence is generally certain for the environment and the way of life, as well as the actions of prevention at individual level where they influence in a more decisive way the person's lifestyle and the human biology. The actions would be designed to apply them so much at a level macro as at a level individualized micro.

CONCLUSION

The charts of prediction of cardiovascular risk of Gaziano without laboratory in the studied population have in same proportion a first floor and high risk of presenting a cardiovascular event in next five years. Also, is proven that this charts are a good classifier of the patient with high cardiovascular risk when being kept in mind by way of conclusion that the most significant age group according to the charts of prediction of Gaziano belongs together with the variable sociodemographic in the study in correspondence with one of the periods of the age geriátrica associated with its factor of risk of more connotation like the arterial hypertension. Of this forms it continues thinking that starting from the primary attention of health the systematizing of the calculation should be established from the cardiovascular risk to the whole population starting from certain age with the control of this activity supported by the basic groups of work facilitating a preventive function and of promotion of health for the Cuban population.

CONFLICT OF INTEREST

The authors declare not to have conflict of interests

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