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EPIDEMIOLOGICAL AND CLINICAL PROFILE OF PATIENTS WITH ACUTE CORONARY SYNDROME

PERFIL EPIDEMIOLÓGICO E CLÍNICO DE PACIENTES COM SÍNDROME CORONARIANA AGUDA

PERFIL EPIDEMIOLÓGICO Y CLÍNICO DE PACIENTES CON SÍNDROME CORONARIO AGUDO

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ABSTRACT

Objective: to identify the epidemiological profile, clinical evolution and outcome of patients treated with a diagnosis of Acute Coronary Syndrome in an emergency room. ***Method:*** a quantitative, cross-sectional and exploratory study, in which 367 medical records were analyzed. The data were recorded in a structured form to identify the sociodemographic data and analyzed through the SPSS Program - version 16.0, in which descriptive statistics were used by means of relative and absolute frequencies. ***Results:*** the mean age was 62.1 years and male, white and married participants were predominant. The prevalence of acute myocardial infarction was 84.5%, diagnosed by electrocardiogram, echocardiogram and serial cardiac enzymes. The most commonly performed treatments were antiplatelet drugs (64.3%), cardiac catheterization (65.4%) and percutaneous coronary intervention (27.2%). Most were discharged from hospital, but the mortality rate was 13.2%. ***Conclusion:*** the results showed the importance of the characterization of this type of care, since it can help in the planning of public policies and interventionist actions aimed at the prevention of heart disease, reduction of comorbidities and early treatment. ***Descriptors***: Coronary Disease; Acute Coronary Syndrome; Emergency Medical Services; Myocardial Infarction.

RESUMO

Objetivo: identificar o perfil epidemiológico, evolução clínica e desfecho de pacientes atendidos com diagnóstico de Síndrome Coronariana Aguda em um pronto-socorro. ***Método:*** estudo quantitativo, transversal e exploratório, no qual foram analisados 367 prontuários. Os dados foram registrados em formulário estruturado para identificar os dados sociodemográficos e analisados por meio do Programa SPSS - versão 16.0, em que se utilizou estatística descritiva por média e frequências relativas e absolutas. ***Resultados:*** a idade média foi de 62,1 anos e predominaram o sexo masculino, a raça branca e casados. A prevalência de infarto agudo do miocárdio foi de 84,5%, diagnosticado por eletrocardiograma, ecocardiograma e enzimas cardíacas seriadas. Os tratamentos mais realizados foram os medicamentos antiagregantes plaquetários (64,3%), cateterismo cardíaco (65,4%) e a intervenção coronariana percutânea (27,2%). A maioria teve alta hospitalar, porém a taxa de mortalidade foi de 13,2%. ***Conclusão:*** os resultados demonstraram a importância da caracterização desses atendimentos, visto que pode colaborar para o planejamento de políticas públicas e ações intervencionistas que visem à prevenção das doenças cardíacas, redução das comorbidades e início de tratamento precoce. ***Descritores*:** Doença das Coronárias; Síndrome Coronariana Aguda; Serviços Médicos de Emergência; Infarto do Miocárdio.

RESUMEN

Objetivo: identificar el perfíl epidemiológico, evolución clínica y desarrollo de pacientes atendidos con diagnóstico de Síndrome Coronario Agudo en un pronto-socorro. ***Método:*** estúdio cuantitativo, transversal y exploratorio, en el cual fueron analizados 367 prontuarios. Los datos fueron registrados en formulario estructurado para identificar los datos sociodemográficos y analizados por medio del Programa SPSS - versión 16.0, en que se utilizó estadística descriptiva por media y frecuencias relativas y absolutas. ***Resultados:*** la edad media fue de 62,1 años y predominaron el sexo masculino, la raza blanca y los casados. La prevalencia de infarto agudo del miocárdio fue de 84,5%, diagnosticado por eletrocardiograma, ecocardiograma y enzimas cardíacas seriadas. Los tratamientos más realizados fueron los medicamentos antiagregantes plaquetários (64,3%), cateterismo cardíaco (65,4%) y la intervención coronaria percutánea (27,2%). La mayoría tuvo alta hospitalario, sin embargo la taza de mortalidad fue de 13,2%. ***Conclusión:*** los resultados demostraron la importancia de la caracterización de esos atendimientos, ya que puede colaborar para el planeamiento de políticas públicas y acciones intervencionistas que busquen la prevención de las enfermedades cardíacas, reducción de las comorbidades e início de tratamiento precoz. ***Descriptores***: Enfermedad Coronaria; Síndrome Coronario Agudo; Servicios Médicos de Urgencia; Infarto do Miocárdio.

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INTRODUCTION

The rapid growth of urbanization centers, combined with industrialization and technological development, has led to important changes in lifestyle in several countries, such as the adoption of inadequate eating habits and physical inactivity. These factors have favored a change in the epidemiological profile of the population, since chronic noncommunicable diseases (CNCD) are the main causes of morbidity and mortality, overlapping infectious diseases.[3] Thus, there has been a reversal in the cause-of-death scenario, making CNCDs a global public health problem that has been posing a threat to health and human development.[1]

In developed countries, by the year 2020, there should be a 20% increase in the risk of mortality from CNCD, and in developing countries this perspective will double due to lifestyle and to the deficit in access to health services.[3] This said, it is estimated that in Brazil the highest incidences of CNCD will occur in the next decades.[4]

Among the CNCDs, there are the cardiovascular diseases, which according to estimates by the World Health Organization (WHO) will account for 23.6 million deaths in 2030[1]. In Brazil, they are the main cause of death, with acute myocardial infarction (AMI) accounting for 36.7% of mortality in the period from 2002 to 2008, especially in people over 65 years.[2]

Acute Coronary Syndrome (ACS) occurs due to coronary obstruction and the interaction between thrombosis and vasospasm phenomena, resulting in several clinical signs and symptoms that are similar to myocardial ischemia, including unstable angina (UA) and AMI with or without supra ST segment elevation.[5]

The most efficient way to reduce the impact of cardiovascular diseases, especially ACS, is the development of preventive actions and treatment of modifiable risk factors, that is, those over which individuals can have control, such as hypertension, diabetes mellitus (DM), dyslipidemia, sedentary lifestyle and smoking; and of non-modifiable risk factors, such as age, sex, ethnicity and heredity[5]. Thus, identifying the epidemiological profile, evolution and clinical outcome of these patients can support the development of such preventive strategies and even healing actions.

OBJECTIVE

- To identify the epidemiological profile, clinical evolution and outcome of patients treated with a diagnosis of Acute Coronary Syndrome.

METHOD

This is a quantitative, retrospective, descriptive study of the medical records of patients with ACS treated and hospitalized from January 2010 to December 2012, in the emergency unit of a University Hospital in the state of Paraná-Brazil.

The data collection was carried out from July to September 2015, with the selection of medical records in the medical records service of the said hospital. A total of 367 medical records were identified that met the following inclusion criteria: both sexes, with diagnosis of ACS, AMI with and without supraclerosis of ST segment, and stable and unstable angina. Those with illegible handwriting were excluded.

Data were recorded in a structured form to identify sociodemographic data (age, sex, marital status and race/color), origin, diagnosis, risk factors, life habits (smoking and alcoholism) and comorbidities, which in this study comprised the epidemiological profile of the interviewees. Medical behaviors related to medications and examinations were also surveyed. Finally, the outcome of the patients, that is, hospitalization, discharge and deaths, was described.

Data were analyzed through the Statistical Package for Social Sciences (SPSS), version 16.0, using descriptive statistics by means of relative and absolute frequencies.

In this research, Resolution 466/2012 was respected and the project was approved by the Research Ethics Committee under the number 204,769. For the accomplishment of this study, the researchers committed to maintain confidentiality on all the information obtained through the Confidentiality Agreement Form.

RESULTS

Of the 367 charts analyzed, the mean age of the patients was 62.1 years. There was prevalence of males (201; 54.8%), of white color (301; 82.0%), married (217; 59.1%), followed by widowed people (56; 15.3%) and in stable union (39; 10.6%).

The patients had mostly come from the city where this hospital is located (263; 71.7%), coming from services referred to as Emergency Mobile Care Service (SAMU), Integrated Emergency Care Service (SIAT) or even by spontaneous demand (150; 40.9%), even though the hospital in this study is classified as high-complex. The transfer of

patients from other municipalities occurred in 144 (39.2%) of the cases.

Among the major comorbidities, hypertension was predominant, in 229 (62.4%) cases, followed by dyslipidemia (87; 23.7%) and DM (51; 13.9%). With regard to life habits, 114 (31.0%) reported being smokers and 117 (31.9%) were alcoholics.

Electrocardiogram (ECG) and serial cardiac enzymes were performed in all the patients treated. The echocardiogram was performed in 271 (87.4%) cases. Regarding the medical diagnosis, AMI was predominant in 310 (84.5%) of the cases, of which 155 (50.1%) had ST-segment elevation, 42 (13.5%) without supra-elevation of the ST segment, 80 (25.8%) unstable angina, and non-cardiac thoracic algia was the final diagnosis of 33 (10.6%) patients.

Antiplatelet agents were prescribed for 236 (64.3%) patients, of whom 66 (17.9%) were inhibitors of the P2Y12 receptor. Anticoagulants were indicated for 65 (17.8%) visits. Also, nitrates were used in 159 (43.3%) patients and in the diagnosis of chest pain of non-cardiac origin (56.7%). For unstable angina, beta-blockers were prescribed for 61 (16.6%) patients, statins for 61 (16.6%) and opioids for 88 (24%) patients.

Chemical reperfusion therapy with fibrinolytics was necessary in only 4 (1.1%) cases; cardiac catheterization was performed in 240 (65.4%) patients and percutaneous coronary intervention was required for 90 (27.2%) patients.

Finally, of the 367 patients for SCA, 356 (97.0%) remained hospitalized in the hospital, and the others had been under observation for 24 hours and were then discharged from hospital. Of the patients who remained hospitalized, 47 (13.2%) died.

DISCUSSION

Regarding the characterization of the patients, the results are similar to other national and international studies on the predominance of males, marital status referred to as married, age over 60 years and white color[6-8].

Regarding the clinical condition of the patients, most of them had SAH, both in the group with unstable angina and in those with infarction. Such results are similar to other investigations also developed in Brazil and abroad.[5,8-9]

Dyslipidemia was the second risk factor for ACS in the patients of the present investigation. Studies performed in hospitals in the interior of the state of São Paulo and hospitals in Massachusetts have identified that the majority of patients with unstable angina had dyslipidemia[7,9]. In another study that aimed to identify the relationship between the different presentations of ACS and cardiovascular risk factors in hospitalized patients in a school-hospital in the city of São Paulo, it was verified that dyslipidemia was among the major comorbidities of ACS.[10]

When analyzing the lifestyle, it is considered that smoking was present in approximately one-third of those surveyed, but this proportion was lower than that obtained in a study carried out in the city of São Paulo, which verified that 58.5% individuals with ACS hospitalized in a high-complexity hospital were smokers.[11]

It is known that modifying life habits should have the same weight as drug therapy for patients with ACS. A population study developed with 18,809 patients from 41 countries, up to six months after hospitalization for the diagnosis of ACS, showed that patients who had kept smoking and not adhered to diet and physical exercises presented a 3.8 times greater chance of AMI, stroke or death when compared to nonsmokers, those who modified their diet and started physical exercise within six months.[12]

In this sense, professionals' performance is of utmost importance in primary and secondary prevention, considering that attention should be paid to individuals who present risk factors for the development of ACS and other CNCDs.[13]

Developing health actions aimed at population prevention was evidenced in a randomized study developed by nurses, in which the efficacy of an educational program carried out with "reminders" via telephone and e-mail was tested with 98 hypertensive adult patients in a city from Italy. The results indicated that this program was able to significantly improve obesity, modify eating and living habits, uncontrolled hypertension and maintain the ideal level of LDL and total cholesterol.[14]

Authors[15] have stated that in order to present actions aimed at reducing the morbidity and mortality rates in the countries, a more qualified assistance is necessary to control risk factors through frequent patient follow-up as well as improvements in clinical and interventional treatments, because these aspects have been effective in controlling health problems.

As regards to drug therapies, an increase in the use of drugs with a cardioprotective effect prior to coronary events (statins, angiotensin-

converting enzyme inhibitors, angiotensin II AT-1 blockers and beta-blockers) is responsible for reducing the incidence of death in the population with ACS.[16]

In patients with ACS, the risk of thrombotic complications is very high, so the use of early antiplatelet agents is of fundamental importance to avoid possible complications. Although antithrombotic drugs are essential for the treatment and secondary prevention of ACS, they should be used with caution.[17]

Opioids were also used in the majority of patients diagnosed with AMI of this investigation. Such drugs are recommended for pain relief, anxiety and have adjuvant vasodilator action.[18]

Low molecular weight anticoagulants, especially in the group of patients with AMI with ST segment elevation, are the most commonly used drug [19]. The new guidelines indicate that these drugs have advantages with patients in this clinical condition, both in its administration, and it is also associated with a reduction in clinical events, such as death, recurrent infarction and stroke.[20-1]

In the present study, ECG was requested for all patients. ECG is considered one of the most important tools in ACS, since it allows the identification of two clinical entities, i.e., ACS with and without ST-segment elevation, and thus, different treatment strategies can be adopted.[22]

It is worth mentioning that the ECG alone is, in many situations, insufficient to diagnose myocardial ischemia or infarction due to ST segment deviations that can also be identified in acute pericarditis, left bundle branch block, left ventricular hypertrophy and Brugada syndrome[23].

Combined with the imaging and clinical examinations, it is necessary to perform the biochemical laboratory tests, mostly the enzymatic ones for a definitive diagnosis. Cardiac enzymes, also known as markers of myocardial necrosis, are intended to indicate the death of cardiac muscle cells. In this sense, they are indispensable elements for the definitive diagnosis of AMI.[24]

It is also prudent to perform echocardiography, since it is not an invasive exam, it is inexpensive, which facilitates the diagnosis and prognosis in patients with suspected ACS and acute congestive failure, besides helping to determine the appropriate therapy in patients with arrhythmias.[25]

Percutaneous coronary intervention is the method of choice for restoration of anterograde coronary flow, providing higher reperfusion rates, being 90% and with fibrinolytic agents, 50%[26]. The majority of patients underwent invasive therapy compared to chemical reperfusion with fibrinolytic agents.[27]

In patients with AMI and ST segment elevation, in whom there is a relationship with artery occlusion and ischemia, it is well established that percutaneous coronary intervention performed as soon as possible can reduce the mortality rate.[19,21,28]

The hospital mortality rate from hospitalizations for ACS was high in the present investigation (13.2%), since the average found in other studies ranged from 3.4% to 4.6%.[27,29]

A global national and regional assessment study[30] which compared 79 types of risk factors in risk groups in 188 countries between 1990 and 2013 highlighted the importance of health institutions to develop public policies for the prevention of cardiovascular diseases and to intensify their actions to reduce mortality rates, since environmental, occupational, behavioral and metabolic risk factors were responsible for almost 90% of the years of life adjusted by disability and death.

The present study had as limitations the time of data collection, as well as the fact that the population is restricted to a single service, which makes it difficult to generalize results. Therefore, it is suggested that further research, specially prospective research, be developed to identify how patients are protect themselves and take care of themselves, as well as the factors that interfere with complications and the demand for emergency services.

CONCLUSION

According to the data identified in the present study, the epidemiological profile of the patients affected by ACS presented a mean age of 62.1 years, most of them were male, married and white. There was prevalence of hypertension, and most patients reported making use of alcoholic beverages and tobacco.

As for the medical diagnosis of the patients, the AMI with and without supra of the ST segment predominated. Antiplatelet drugs were used by most patients. Serial cardiac enzymes, ECG and echocardiogram were the most performed tests for patients diagnosed with myocardial infarction. Although most have been discharged from hospital, the mortality rate can be considered high.

The results showed the need to plan interventions that aim to prevent heart

disease, reduce comorbidities and initiate early treatment to reduce the incidence of diseases, promote health and, as a consequence, improve the quality of life of the population and, thus, reduce mortality and costs.

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