PROGRESS IN MEDICAL SCIENCES, 2020
VOL 4, NO. 1, PAGE 1 – 2
DOI: doi.org/10.47363/PMS/2020(4)122

REVIEW ARTICLE

Open Access

Acute Coronary Syndrome Admissions and Mortality Rate During Covid-19 Pandemic in Gaza

Mohammed habib*, Ahmed albuhisi, mousa abou zor and majed alshounat

Cardiology Department, Alshifa Hospital, Gaza, Palestine

ARTICLE HISTORY

Received Oct 24, 2020
Accepted Oct 31, 2020
Published Nov 11, 2020

ABSTRACT

Background: What is the nature and duration of changes to admissions for different types of acute coronary syndrome (ACS), among patients during coronavirus disease 2019 (COVID-19) pandemic in Gaza?

Methods: The investigators analyzed data on hospital admissions in Gaza for types of ACS from August 25-2020, to October 1, 2020, that were recorded in the Alshifa Hospital Cardiology Department Service Admitted Patient Care database. Admissions were classified as ST-elevation myocardial infarction (STEMI) and non-STEACS and we calculate the diagnostic and percutaneous coronary intervention (PCI) rate.

Results: Hospital admissions for ACS declined from rate of 99 admissions to 40 admission in 2020in this time, a reduction of 60%. During the period of declining admissions, there were reductions in the number of admissions for all types of ACS, including both STEMI and NON-STEACS, but relative and absolute reductions were larger for NSTEMI, (from 73 patients in 2019 to 26 patients in 2020) with a percent reduction of 64% In parallel, reductions were recorded in the STEMI (from 26 patients in 2019 to 14 patients in 2020) percent reduction 46 %, the mortality rate for STEMI patient was 4% in 2019 and 21% in 2020, for non-STEMI patient was 0% in 2019 and 4% in 2020.

The diagnostic coronary angiography decrease from 130 to 31 cases (76%) and PCI decrease from 35 to 18 cases (49%) during this period

Conclusions: We found that significant reduction in the number of patients with ACS who were admitted to the hospital during the pandemic, but increase in mortality rate by 17% in STEMI and 4% in NON-STEACS in Gaza strip

Keywords: ACS, Covid-19, Gaza

Introduction

During coronavirus (Covid-19) pandemic, strict social containment measures have been adopted worldwide, and health care systems have been reorganized to cope with the enormous increase in the numbers of acutely ill patients [1-3]. During this same period, some changes in the pattern of hospital admissions for other conditions have been noted. The aim of the present analysis is to investigate the rate of hospital admissions and mortality rate for acute coronary syndrome (ACS) during the early days of the Covid-19 outbreak in Gaza.

Methods

Study design

In this study, we performed a retrospective analysis of clinical pattern of consecutive patients who were admitted for ACS at alshifa hospital Gaza. The study period was defined as the time between the first confirmed case of Covid-19 in Gaza (25-8-2020) and October 1, 2020. We compared hospitalization and mortality rates between the study period and the previous year (august 25,2019 to October 1, 2019).

Study Outcome

The primary outcome was the overall rate of hospital admissions for ACS. And mortality rate due to ACS.

Result

Of the 139 patients who were hospitalized for ACS during the study period, 102 (73.4%) were males; the mean (±SD) age was 58±11 years. Of these patients, 30 (21.6%) presented with ST-segment elevation myocardial infarction (STEMI). Hospital admissions for ACS declined from rate of 99 admissions in 2019 to 40 admission in 2020in this time, a reduction of 60%. During the period of declining admissions, there were reductions in the number of admissions for all types of ACS, including both STEMI and NON-STEACS, but relative and absolute reductions were larger for NSTEMI, (from 73 patients in 2019 to 26 patients in 2020) with a percent reduction of 64% In parallel, reductions were recorded in the STEMI (from 26 patients in 2019 to 14 patients in 2020) percent reduction 46 %, the mortality rate for

Contact Mohammed habib ✉ Cardiomohammad@yahoo.com 🖃 Cardiology Department, Alshifa Hospital, Gaza, Palestine.

STEMI patient was 4% in 2019 and 21% in 2020, for non-STEMI patient was 0% in 2019 and 4% in 2020.

The diagnostic coronary angiography decrease from 130 to 31 cases (76%) and PCI decrease from 35 to 18 cases (49%) during this period.

Discussion

This report shows a significant decrease in ACS-related hospitalization rates across Alshifa Hospital, in Gaza during the early days of the Covid-19 outbreak and a significant increase in mortality during this period that was not fully explained by Covid-19 cases alone. This observation and data from our study raise the question of whether some patients have died from ACS without seeking medical attention during the Covid-19 pandemic.

Multiple reports from various countries about the decline in ACS admissions during this COVID-19 pandemic [4-11]. we believe this is the first report from Palestine addressing this issue. We also have analyzed the outcome of ACS patients and compared this with previous year admissions. Even in those who attended the hospital, there was a delay in presentation. This delayed presentation was probably responsible for the low LVEF noted in these patients on admission, though rate of cardiogenic shock was increased. The increase in duration of hospital stay and the increase in cardiac medications on discharge could also be attributed to this lower LVEF on admission. Particularly, in STEMI patients, this delayed presentation also has reflected in the decrease in emergency coronary angiography.

Another interesting analysis noted in our study, patients were more reluctant to seek medical attention. However, as time went by either they were little more confident to come to hospital or they would not have tolerated the symptoms and ended up coming to hospital.

Another interesting analysis noted in our study Therefore, to avoid delay in reperfusion, so that we were given more fibrinolytic therapy (FT) in our emergency room. There were also concerns about the availability of personal protective equipment (PPE) and the technique of donning and doffing of PPE by all cardiac catheter laboratory staff.

Several hypotheses have been postulated to explain this decline in admissions for cardiac emergencies. Iatrophobia, which is not very uncommon, cannot be ruled out as a major contributing factor for the decline in admissions for ACS. The fear of getting in contact with COVID-19 infected patients and the risk of infection keeps symptomatic patients from seeking acute medical care or delaying the visit to hospital.

References

[1] Zhou P, Yang XL, Wang XG, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. Nature 2020; 579: 270-273.

[2] Saglietto A, D'Ascenzo F, Zoccai GB, De Ferrari GM. COV-ID-19 in Europe: Lancet 2020: 395:1110-1111.

[3] Grasselli G, Pesenti A, Cecconi M. Critical care utilization for the COVID-19 outbreak in Lombardy, Italy: early experience and forecast during an emergency response. JAMA 2020 March 13 (Epub ahead of print).

[4] Braiteh N, Rehman W, Alom Md, et al. Decrease in acute coronary syndromepresentations during the COVID-19 pandemic in upstate New York .2020;226:147-151.

[5] Metzler B, Siostrzonek P, Binder RK, et al. Decline of acute coronary syndromeadmissions in Austria since the outbreak of COVID-19: the pandemic responsecauses cardiac collateral damage.Eur Heart J. 2020 ;41:1852-1853.

[6] Rattka M, Baumhardt M, Dreyhaupt J, et al. 31 days of COVID-19-cardiac eventsduring restriction of public lifeda comparative study.Clin Res Cardiol. 2020 3:1-7.

[7] Tsioufis K, Chrysohoou C, Kariori M, et al. The mystery of"missing"visits in anemergency cardiology department, in the era of COVID-19.; a time-seriesanalysis in a tertiary Greek General Hospital.Clin Res Cardiol. 2020: 6:1-7.

[8] Rosa SD, Spaccarotella C, Basso C, et al. Societa italiana di Cardiologia and theCCU academy investigators group. Reduction of hospitalizations for myocardialinfarction in Italy in the COVID-19 era.Eur Heart J. 2020 :41:2083-2088.

[9] Tam CF, Cheung KS, Lam S, et al. Impact of coronavirus disease 2019 (COVID-19) outbreak on ST-segment-elevation myocardial infarction care in HongKong, China. Circ Cardiovasc Qual Outcomes. 2020; 13. https://doi.org/10.1161/CIRCOUTCOMES.120.006631. e006631.

[10] Garcia S, Albaghdadi MS, Meraj PM, et al. Reduction in ST-segment elevationcardiac catheterization laboratory activations in the United States duringCOVID-19 pandemic. J Am Coll Cardiol. 2020: 75 :2871-2872.

[11] Said Ashraf, Suleman Ilyas, M Chadi Alraies. Acute coronary syndrome in the time of theCOVID-19 pandemic. Eur Heart J. 2020;41: 2089-2091.