# Massive Transient Increase of Death Due to Out-of-Hospital Cardiac Arrest During COVID-19 Pandemic

UNITED STATES, June 10, 2020 /EINPresswire.com/ -- Paris, France – The incidence of cardiac arrest increased drastically over a six-week period of lockdown during the Covid-19 pandemic. This transient, yet surging, increase in incidence in incidence is in contrast with a stability of out-of-hospital cardiac arrest (OHCA) observed over the last nine years in the Great Paris Area. In addition, the survival rate of those with out-of-hospital cardiac arrest to hospital admission demonstrated a strong decline, leading to a major rise in OHCA-related deaths during the pandemic.

Since May of 2011, the Paris-Sudden Death Expertise Center (Paris-SDEC, founded by Xavier Jouven) has been tracking and systematically collecting data of OHCA incidents in the greater Paris area (6.8 million inhabitants) using a real-time multisource surveillance system. The current study, led by Eloi Marijon and Nicole Karam (Paris-SDEC) in collaboration with Daniel Jost (Paris Fire Brigade), evaluated real time data of OHCA and their survival during a six-week period (March 16-April 26, 2020) during the COVID-19 pandemic. Evidence demonstrated an immense surge in OHCA, with a total of 521 OHCA, creating an alarming incidence of 26.6 arrests per million inhabitants compared to a yearly incidence of 13.4 OHCA per million during the same time-period between 2012 and 2019.

While this surge in OHCA may be partially related to direct COVID-19 deaths, indirect effects of the pandemic are very likely. Those include lockdown, behavioral changes, and pandemic-related health system issues (decrease in the availability of family doctors, overwhelming of emergency medical services and postponement of consultations and scheduled non-urgent procedures...), as well as the fear of COVID-19 contamination of the general population who may have refrained from presenting to the emergency departments, calling emergency medical services and doctors' offices. This indirect effect of the pandemic seems highly prominent, since only one third of the increase occurred in patients with confirmed or suspected with the COVID-19 infection.

In addition to the elevation of OHCA incidence, OHCA burden further increased as the proportion of people with out-of-hospital cardiac arrests admitted alive decreased from 22.8% to 12.8%. Various factors may have contributed to this adverse outcome, including the lower rate of bystander cardiopulmonary resuscitation and public access to automated external defibrillators. A prior study from the Paris-SDEC showed an almost eight-times higher survival rate to hospital discharge of sudden cardiac arrest when bystander CPR was administered. During the pandemic,

OHCA witnesses and emergency responders may have been reluctant to perform cardiopulmonary resuscitation on potentially infected individuals, as cardiopulmonary resuscitation is considered an aerosol generating procedure with significant risk of transmission. Further, OHCA occurred at home where the witnesses present during time of lockdown are most likely to be family members, who are less likely to perform cardiopulmonary resuscitation. Finally, OHCA occurring in hypoxemic patients with COVID-19, and OHCA related to advanced cardiac injury such as in late presenters of acute myocardial infarction, may have lower probability of survival.

Dr. Eloi Marijon remains cautious, “Throughout the past 9 years, we have worked collectively to build the database, evaluate results, and find solutions to reduce the burden and increase survival rates. And it has worked – we have started to see increase in survival. Now, faced with an unprecedent crisis, we see a dramatic increase in incidence with low survival, and we are still trying to better understand and identify the most influential factors”. Dr. Nicole Karam added “We hoped that by launching this alert we would warn other countries who are still dealing with a COVID-19 epidemic, and our own system in case of a second wave, about the indirect mortality associated to COVID-19 pandemic.”

As we continue to find balance within our healthcare facilities and everyday operations during this COVID pandemic, such alarming results show us a tale of lessons learned. This increase in OHCAs highlights the collateral death, not taken into accounts in COVID- 19 deaths statistics, and that should be considered when establishing public health strategies for dealing with the pandemic,” Eloi Marijon reflects on the potential for structural changes under crisis situations.

###

Reference :
Out-of-Hospital Cardiac Arrest During the Covid-19 Pandemic in Paris, France: A Population-Based, observational study
Prof. Eloi Marijon MD; Nicole Karam, MD; Daniel Jost, MD; David Perrot, MD; Benoit Frattini, MD; Clément Derkenne, MD; Ardalan Sharifzadehgan, MD; Victor Waldmann, MD; Frankie Beganton, MS; Kumar Narayanan, MD; Prof. Antoine Lafont, MD; Wulfran Bougouin, MD, Prof. Xavier Jouven, PhD

The Lancet Public Health, May 27, 2020 https://doi.org/10.1016/S2468-2667(20)30117-1

Kaitlyn Greeley
email us here
Centre de Recherche Cardiovasculaire de Paris (Inserm/Univer
+33761598350
Visit us on social media:
Twitter