JIDC | THE JOURNAL OF INFECTION IN DEVELOPING COUNTRIES

Coronavirus Pandemic

Proper death certification in the time of the COVID-19 pandemic: Forensic perspective

Milenko Bogdanović[1], Tatjana Atanasijević[1], Vesna Popović[1], Zoran Mihailović[1], Bojana Radnić[1], Tijana Petrović[1], Aleksandra Barać[2]

[1] Institute of Forensic Medicine "Milovan Milovanović", University of Belgrade, Faculty of Medicine, Belgrade, Serbia
[2] Clinic for Infectious and Tropical Diseases, Clinical Centre of Serbia, Belgrade, Serbia

Abstract

It is well known that the quality of death certificates determines the accuracy of public health mortality data. In the light of a pandemic, forensic pathologists must understand the true definition of a COVID-19 death and the requirements for filling out the death certificate, as these are critical for maintaining accurate and trustworthy mortality data. To determine the scope and evolution of the COVID-19 epidemic, accurate death certification is critical. We believe that COVID-19 should be enlisted under part II or section "note" (if it exists in DC form in a particular country) of the DC in all suicide instances and putrefied bodies with positive autopsy swabs for SARS-CoV-2. In addition to our suggestions for the completion of the DC in some COVID-19 instances, we feel that forensic pathologists should follow the WHO criteria for proper DC completion in COVID-19 cases. Better physician education at this stage of the pandemic would increase adherence to existing (WHO and CDC) standards. As a result, forensic pathologists with competence in death certification could help by teaching treating physicians in this area.

Key words: Death certificate; COVID-19; forensic; suicide; putrefaction; autopsy.

J Infect Dev Ctries 2022; 16(6):966-968. doi:10.3855/jidc.16556

(Received 10 March 2022 – Accepted 09 April 2022)

Introduction

In many nations, death certificates (DC) are the major source of official mortality statistics. As a result, we will highlight to emphasize the involvement of forensic pathologists in the right preparation of the death certificate and the definition of the cause of death as a key contribution to the accuracy of mortality statistics during the COVID-19 pandemic in the current work.

In the light of a pandemic, forensic pathologists must understand the true definition of a COVID-19 death and the requirements for filling out the death certificate, as these are critical for maintaining accurate and trustworthy mortality data. To determine the scope and evolution of the COVID-19 epidemic, accurate death certification is critical [1]. It is well recognized that the quality of death certificates determines the accuracy of public health mortality data [1]. The World Health Organization (WHO) defined a death due to COVID-19 as *"death resulting from a clinically compatible illness, in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID disease (e.g., trauma). Accordingly, there should be no period of complete recovery from COVID-19 between the illness and death"*. COVID-19 death should not be linked to another disease (e.g., cancer) and should be counted irrespective of previous conditions suspected of initiating a severe course of COVID-19, according to the international WHO criteria for certification and coding of COVID-19 [2]. Every death certificate, it is well known, requires an etiologically precise (underlying) cause of death to be helpful for public health and mortality surveillance [1,2]. The following are the most important questions: Which disease occurred first, setting off a cascade of events that culminated in death? What is the location in the DC where the COVID-19 diagnosis should be recorded? If forensic pathologists determine that COVID-19 was the direct cause of death in a specific case, the disease should be recorded in section I of the DC. As a result, COVID-19 is the underlying cause and should be recorded in section I of the DC on the lowest line [3].

Despite the WHO and CDC's recommendations for including the COVID-19 diagnosis on death certificates, we'd like to provide a few suggestions

based on our experience during the pandemic. It primarily relates to cases of suicide and putrefied bodies in which the virus has been found. When a person infected with SARS-CoV-2 dies as a result of a trauma, such as in a traffic accident, after falling from a great height, as a murder victim, or as a suicide victim, the question is whether COVID-19 should be enlisted in the DC. The WHO states: "*Persons with COVID-19 may die of other diseases or accidents, such cases are not deaths due to COVID-19 and should not be certified as such. In case you think that COVID-19 aggravated the consequences of the accident, you may report COVID-19 in Part 2"* [3]. If an asymptomatic man shoots himself in the head to commit suicide and a COVID-19 autopsy swab tests positive for SARS-CoV-2, COVID-19 is not recorded on the DC (according to WHO recommendations). In other words, COVID-19 should not be enlisted in DC if it did not cause or contribute to the death. Despite WHO recommendations, we believe COVID-19 should be enlisted in DC in part II or section "note" if it exists in DC form, as is the case in the DC form in the Republic of Serbia, in all cases of suicide. What is the rationale for including COVID-19 in the DC's Part II or section "note"? The presence of SARS-CoV-2 will not just "go missing" in suicide mortality numbers. Instead, they will form an important element of the total number of SARS-CoV-2-infected people's records. Furthermore, that knowledge could be beneficial for future research. The risk of suicide should not be underestimated during the COVID-19 pandemic, and a psychological autopsy will be performed to determine the motivation for the act [4]. This could be crucial for estimating the pandemic's impact on the public's mental health and retrospective examination of the worldwide pandemic state's impact on suicide rates [4]. It is sometimes possible to prove the SARS-CoV-2 in biological samples, even if the body is putrefied [5]. In those circumstances, determining the cause of death (even after pathohistological and toxicological investigations) is difficult (even after excluding violent death), but the information that the person had been infected might certainly be useful. As a result, COVID-19 cannot be claimed as the cause of death in putrefied bodies, but it cannot be ruled out completely. As a result, we propose that COVID-19 be included in part II of DC in putrefied bodies with positive autopsy swabs. Despite the fact that the pandemic is a worldwide issue, many nations have inadequate mechanisms for tracking the number of people who have become ill or died as a result of COVID-19. A faulty data gathering process can also prohibit the pairing of diverse outcomes (e.g., COVID tests before and after death for the same person, multiple tests performed during life, etc.). Furthermore, there are no central autopsy registers in our nation, as there are in many countries, where different searches on the deceased can be performed. As a result, we believe that the death certificate should include information regarding the coronavirus in some instances, even if it is not the cause of death. This provided a wealth of information regarding the infected among the deceased who had been autopsied. Similarly, this knowledge can serve as the foundation for a psychological autopsy and a retrospective evaluation of the virus's link to death (primarily in suicide cases).

We believe that COVID-19 should be enlisted under part II or section “note” (if it exists in DC form in a particular country) of the DC in all suicide instances and putrefied bodies with positive autopsy swabs for SARS-CoV-2. In addition to our suggestions for the completion of the DC in COVID-19 instances, we feel that forensic pathologists should follow the WHO criteria for proper DC completion in COVID-19 cases. Better physician education at this stage of the pandemic would increase adherence to existing (WHO and CDC) standards. As a result, forensic pathologists with competence in death certification could help by teaching treating physicians in this area.

Funding

This research was supported by the Science Fund of the Republic of Serbia, FORACOVID project.

References

1. Gill J, Joseph M (2020) The importance of proper death certification during the COVID-19 pandemic. JAMA 324: 27-28.
2. National Center for Health Statistics (2020) Guidance for certifying deaths due to coronavirus disease 2019 (COVID–19). DHHS publication no. 2020–1126. Available: https://stacks.cdc.gov/view/cdc/86344. Accessed 24 July 2020.
3. World Health Organisation (2020) International guidelines for certification and classification (coding) of COVID-19 as cause of death. Available: https://www.who.int/classifications/icd/Guidelines_Cause_of_Death_COVID-19.pdf. Accessed 20 July 2020.
4. Aquila I, Sacco MA, Ricci C, Gratteri S, Ricci P (2020) Quarantine of the Covid-19 pandemic in suicide: A psychological autopsy. Med Leg J 88: 182-184.
5. Edler C, Schröder AS, Aepfelbacher M, Fitzek A, Heinemann A, Heinrich F, Klein A, Langenwalder F, Lütgehetmann M, Meißner K, Püschel K, Schädler J, Steurer S, Mushumba H, Sperhake JP (2020) Dying with SARS-CoV-2 infection - an autopsy study of the first consecutive 80 cases in Hamburg, Germany. Int J Legal Med 134: 1275-1284.

Corresponding author
Milenko Bogdanović, MD, PhD
Institute of Forensic Medicine "Milovan Milovanovic"
Faculty of Medicine, University of Belgrade,
Deligradska str. 31a, 11000 Belgrade, Serbia
Phone: +381 11 2642582
Fax: +381 11 2641140
E-mail: drbogdanovicm@gmail.com

Conflict of interests: No conflict of interests is declared.